MAHATMA GANDHI UNIVERSITY
of
MEDICAL SCIENCES & TECHNOLOGY
JAIPUR

Mahatma Gandhi Occupational Therapy College

Syllabus
Bachelor of Occupational Therapy (B. OT) Program
5 years
(4 Years + 1 Year Internship)

Program Code: B.OT26
Duration- 5 Years
(BOT)

2026-2027

Recommended by the BOS in Occupational Therapy at its meeting held on 6th April, 2026, the Faculty of Allied and Healthcare Professions at its meeting held on 28th July 2026 and approved by Academic Council at its meeting held on 3rd August 2026

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NOTICE

1. The university reserves the right to make changes in the syllabus /books/ guidelines, fee-structure or any other information at any time without prior notice the decision of the university shall be binding on all.

2. The jurisdiction of all court cases shall be Jaipur Bench of Hon'ble Rajasthan High Court only.

3. This syllabus is aligned with the NCAHP Curriculum dated 15.10.2025 and Corrigendum dated 20.03.2026. Any subsequent amendments, revisions or corrigenda issued by the NCAHP shall automatically apply to the Rules, Regulations and Syllabus of MGUMST, Jaipur, and implemented accordingly.

References:

1. COMPETENCY BASED CURRICULUM for "OCCUPATIONAL THERAPY, Curriculum of Occupational Therapy_2025v1.pdf
2. Degree nomenclature, duration and admission criteria for B.OT and M.OT, LetterUGC09Jan2026.pdf
3. Controlled continuation, intake increase and opening of approved-curriculum courses, Scanned Image
4. **Consolidated corrections to the Occupational Therapy curriculum,** OT1_27May2026.pdf

1. Title of the Program

Bachelor of Occupational Therapy (BOT) Program- (5 Years Program)

2. Introduction

2.1 Learning Objectives: At the completion of this course, the student should be

1. Able to examine, evaluate, diagnose, plan, execute and document occupational therapy treatment independently or along with a multidisciplinary team.
2. Evaluate patients for impairments and functional limitations and able to execute all routine occupational therapy procedures as per the evaluation
3. Able to operate and maintain Occupational Therapy equipment used in the treatment of patient. Also, able to plan & execute Occupational Therapy treatment independently.
4. Able to provide education about various occupational therapy interventions to the patients and care giver

2.2 Expectations from the future Occupational Therapy graduates

- Coursework entitles independent Occupational Therapy assessment and treatment in any healthcare delivery centers in India by the graduates.
- The coursework is designed to train students to work as independent occupational therapist or in conjunction with a multidisciplinary team to diagnose and treat as per patient's need.
- Course works will develop skill in the graduates for physical/ functional diagnosis, treatment planning, management, administration of Occupational Therapy treatment.
- Occupational Therapist graduate is encouraged to pursue further qualification to attain senior position in the professional field and also to keep abreast with the recent advances, new technology and research. The professional should opt for continuous professional education credits offered by national and international institutes.
- The graduate will be a competent and reflective occupational therapy practitioner who can function safely and effectively while adhering to legal, ethical and professional standards of practice in a multitude of occupational therapy settings for clients across the lifespan and along the continuum of care from wellness and prevention to rehabilitation of dysfunction.
- The graduate will utilize critical inquiry and evidence-based practice to make clinical decisions essential for autonomous practice.
- The graduate will function as an active member of professional and community organizations. The graduate will be a service-oriented advocate dedicated to the promotion and improvement of community health.
- The graduate will demonstrate lifelong commitment to learning and professional development.

2.3 Duration of the Program:

5 years (Including one- year compulsory rotatory internship)

Emphasis should be on the academic content establishing a strong scientific basis and on the application of theory to clinical/reflective practice. Introduction to clinics as observer should be started from 1st year & clinical practice under supervision should be started from 2nd year onwards. This should be on a continuum of rotation from theory to practice over the program.

2.4 Commencement of the course:

The course shall commence not later than 1st September of an academic year

2.5 Number of Academic Hours:

years [40 weeks per year) (39 hr /week x 40 weeks)

Academic Training, excluding internal and university examination, extracurricular activities, Public Holidays and Vacation.

2.6 Teaching Hours:

1560 hours/ year Total of 6240 hours for 4yrs annual pattern

2.7 Elective posting: Minimum 35 hours per week for 4 weeks =140 hours

2.8 Internship (CRI): 01-year (52 WEEKS) full-time rotatory internship program. A minimum of 2016 hours of internship (to be completed in 52 weeks).

2.9 Total hours: 8396 includes teaching (didactic lecture, case study discussion, seminars, small group presentation Practical, Tutorials Laboratory work & Clinical learning in the presence of teacher), Elective posting and CRI.

2.10 Maximum duration of the program: Candidates should complete the Bachelor of Occupational Therapy degree course within a period of ten years from the date of joining in the course.

2.11 Discharge from the Program: If a student admitted to a course of study in an University and for any reason not able to complete the course or qualify for the degree by passing the examinations prescribed within a period comprising twice the duration prescribed in the regulations for the concerned course, he/she will be discharged from the said course, his/her name will be taken off the rolls of the University and he/she will not be permitted to attend classes or appear for any examination conducted by the University thereafter. In respect of courses where internship is prescribed and if a student is for any reason not able to complete the internship within a period comprising twice the duration prescribed in the Regulations for the concerned course, such cases will be placed before a committee to be constituted by the Vice- Chancellor for making appropriate decision on a case-to-case basis, based on individual merits.

Notwithstanding anything contained in the foregoing, the students who fall in the category clause I above and who are in the final year of the respective courses be given one more last and final chance to appear for the University Examination with a condition that if they do not pass the examination even in their last chance, they shall be discharged from the course. The Controller of Examinations will admit such candidate to the University examinations only after their producing an undertaking (as per format given in student's manual) to this effect.

2.12 Vacation: The University may declare a maximum of 30 days of vacation in an academic year to the students. The period(s) of vacation can be decided by the university

2.13 The Continuous CIA (CIA)

The Continuous CIA (CIA) forms the Formative Assessment component of the evaluation system while the end year examination as explained along with the formative assessment will become the summative assessment. Assessments should be completed by the academic staff, based on the compilation of the student's theoretical & clinical performance throughout the training program. To achieve this, all assessment forms and feedback should be included and evaluated. The passing marks for every subject shall be 50% marks in theory and practical separately. If a student fails in practical or theory CIA examinations, he/ she is not eligible to appear university examination. However, the students will be allowed to appear in next academic year university examination after attaining necessary CIA marks in theory and practical.

3. Medium of Instruction

English shall be the medium of instruction for all the subjects of study and for examination of the course.

4. Educational Method:

The teaching methods will adopt competency-based learning for the students. Apart from classroom teaching (contact hours), self-learning will be facilitated to make a graduate a lifelong learner. Harnessing the technological advancements, hybrid or virtual learning by using mannequins, simulators, videos, online classes and other methods will be adopted. The range of educational methods may include case studies, learning with and from recipients of occupational therapy, discussions, skills training, assignments, reflective practice, projects, literature review, experimental learning, problem-based learning, inter-professional learning, lectures, online classes for didactic lectures & clinical training etc.

Modalities to improve the quality of educational methods include peer review of teaching, student feedback, discussion among staff, review meetings, moderation and monitoring processes, advisory and examination boards etc.

5. Eligibility for Admissions

a. Admission to Bachelor of Occupational Therapy course shall be made on the basis of the candidate having appeared for the National Eligibility Entrance Test (NEET).

b. He/she must have passed the Higher Secondary (10+2) or equivalent examination recognized by any Indian board or a duly constituted Board with 50% aggregate marks in Physics, Chemistry and Biology (Botany & Zoology).

c. Candidates who have passed the Senior Secondary school Examination of National Open School with a minimum of English, Physics, Chemistry and Biology (Botany & Zoology) with 50% aggregate marks in Physics, Chemistry and Biology (Botany & Zoology).

d. Candidates who have studied abroad and have passed the equivalent qualification as determined by the Association of Indian Universities will form the guideline to determine the eligibility and must have passed in the subjects of Physics, Chemistry, Biology and English in12th Standard level.

e. He/she has attained the age of 17 years as on date of admission

f. He/she has to furnish medical fitness certificate from a registered medical practitioner at the time of submission of application form, to get admission in Bachelor of Occupational Therapy program.

g. Guidelines regarding admission of Candidate with "Specified Disabilities" under the Rights of Persons with Disabilities Act, 2016 (RPWD Act 2016) with respect to admission in BOT Course.

5.1.1 The "Certificate of Disability" shall be issued in accordance with the Rights of Persons with Disabilities Rules, 2017 notified in the Gazette of India by the Ministry of Social Justice and Empowerment [Department of Empowerment of Persons with Disabilities (Divyangjan)] on 15th June 2017.

5.1.2 The extent of "specified disability" in a person shall be assessed in accordance with the "Guideline for the purpose of assessing the extent of specified disability in a person included under the Right of Persons with Disabilities Act, 2016 (49 of 2016)" notified in the Gazette of India by the Ministry of Social Justice and Empowerment [Department of Empowerment of Persons with Disabilities (Divyangjan)] on 4th January 2018.

5.1.3 The minimum degree of disability should be 40% (Benchmark Disability) in order to be eligible for availing reservation for persons with specified disability.

5.1.4 The term ‘Persons with Disabilities’ (PwD) is to be used instead of the term ‘Handicapped”

5.1.5 Quota/ reservation policy as per the State Government norms to be followed by the State Council as applicable during allotment of seats.

5.1.6 Candidate who fails to attend the Medical Examination on the notified date(s) will forfeit the claim for admission and placement in the waiting list except permitted by the competent authority under special circumstances

h. The name of the student(s) who remain(s) absent from classes for more than 15 days at a stretch after joining the said program without giving any notice will be governed as per the respective University rules.

Admission for Academic Year 2026-2027

** * Considering the logistic issues, the Commission hereby notified vide letter No. z-10tu20261 NCAHP (AHS) dated02.03.2026 that the admission process for Bachelor of Physiotherapy (B.PT) and Bachelor of Occupational Therapy Under-Graduate progralnme's mandatory requirement of appearance in NEET (UG)- 2026 examination be deferred till next academic year 2027-28.*

Candidate must have passed Senior Secondary (10+2) or equivalent with Physics, Chemistry & Biology (or Botany & Zoology) with 50% aggregate with English pass. However, in respect of the candidates belonging to Scheduled Castes, Scheduled Tribes, or Other Backward Classes (NCL), the minimum marks obtained in Physics, Chemistry, and Biology are taken together in the qualifying examination shall be 40% marks instead of 50% marks for Unreserved and General-EWS Candidates. In respect of PwBD/PwD candidates the minimum marks in the qualifying examination in Physics, Chemistry, and Biology (or Botany & Zoology) taken together shall be 40% instead of 50%. English pass required for all categories.

6. Admission Process

Accordingly, the merit list to be prepared on the basis of aggregate marks obtained in Physics, Chemistry and Biology (PCB) in 12th standard examination, with minimum 50% marks i.e. "Candidate must have passed Senior Secondary (10+2) or equivalent with Physics, Chemistry & Biology (or Botany & Zoology) with 50% aggregate with English pass.

However, in respect of the candidates belonging to Scheduled Castes, Scheduled Tribes, or Other Backward C/asses (NCL), the minimum marks obtained in Physics, Chemistry, and Biology are taken together in the qualifying examination shall be 40% marks instead of 50% marks for Unreserved and General-EWS Candidates. ln respect of PwBD/PwD candidates the minimum marks in the qualifying examination in Physics, Chemistry, and Biology (or Botany & Zoology) taken together shall be 40%o instead of 50%. English pass required for all categories".

He/she has completed 17 years of age at the time of admission or will complete that age on or before 31 December of the year of his/her admission to the first year of the Undergraduate Allied and Healthcare Course. Medical fitness certificate is mandatory to submit and it is to be endorsed by Government medical officer.

7. **Reservation Policy**

Reservation policy for admission in under graduate programs shall be as per the State/ Centre Government notices. Foreign students admission process in Under Graduate (UG):

- Foreign national students intending to study UG program in India, shall have to take equivalence certificate of eligibility from respective State Allied and Healthcare Council.
- For Under Graduate admission of foreign national students, merit list will be based on University Entrance Exam.
- Verification of Valid Visa and valid Visa duration of foreign national students, to be verified by respective institution & University before enrolling students for program.
- The admission criteria shall be updated by the Commission from time to time. Admission process shall be conducted by State/Union Territory/University.

8. **Readmission after break of study:**

Candidates having a break of study of five years and above from the date of admission and more than two spells of break will not be considered for readmission

The five years period of break of study shall be calculated from the date of first admission of the candidate to the course for the subsequent spells of break of study. Candidates having break of study shall be considered for re admission provided that they are not subjected to any disciplinary action and no charges are pending or contemplated against them.

All re-admissions of candidates are subjected to the approval of the Vice Chancellor.

The candidates having a break in the study, up to five years shall apply for readmission to the Registrar of this University. The candidates shall be granted exemption in the subjects they have already passed.

9. **Attendance**

A candidate has to secure minimum-

a. 75% attendance in theory subjects

b. 85% in Skills training (practical) for qualifying to appear for the final examination.

c. If the students fail to attain above mentioned percentage of attendance, he/ she is eligible to appear university examination in next academic year after attaining necessary attendance.

d. No relaxation, whatsoever, will be permissible to this rule under any ground including indisposition etc.

10. Commencement of examination:

University examination should be conducted at the end of each academic year. However, two examinations in an academic year are essential and has to be conducted by the university, one Annual/Supplementary examination in an academic year.

Qualifying marks passing in the University examination: 50% marks in theory and practical separately.

11. Promotion criteria

The students will be promoted to next year, only if the number of failed subjects is two or less than two. Students must pass the failed subjects in the supplementary examination before appearing for the final examination of next year, failing which he/she will not be allowed to appear for the preceding year. For example, the student should pass in failed subjects of Ist year, before appearing for 2nd year final examination and before the 3rd year final examination in case of failed subjects of II year and so on.

Only after passing in all the subjects in all years, he/she will be eligible for the internship.

12. Supplementary examination: Supplementary examination conducted as per MGUMST prescribed regulation.

13. Review of answer papers of failed candidates –

As per the regulations prescribed for review of answer papers by the MGUMST University.

14. Re-admission after break of study -

Candidates having a break of study of five years and above from the date of admission and more than two spells of break will not be considered for readmission

The five years period of break of study shall be calculated from the date of first admission of the candidate to the course for the subsequent spells of break of study. Candidates having break of study shall be considered for re admission provided that they are not subjected to any disciplinary action and no charges are pending or contemplated against them.

All re-admissions of candidates are subjected to the approval of the Vice Chancellor.

The candidates having a break in the study, up to five years shall apply for readmission to the Registrar of this University. The candidates shall be granted exemption in the subjects they have already passed.

15. Maximum duration of the program -

Candidates should complete the Bachelor of Occupational Therapy degree course within a period of years from the date of joining in the course.

16. Discharge from the program

If a student admitted to a course of study in an University and for any reason not able to complete the course or qualify for the degree by passing the examinations prescribed within a period comprising twice the duration prescribed in the regulations for the concerned course, he/she will be discharged from the said course, his/her name will be taken off the rolls of the University and he/she will not be permitted to attend classes or appear for any examination conducted by the University thereafter.

In respect of courses where internship is prescribed and if a student is for any reason not able to complete the internship within a period comprising twice the duration prescribed in the Regulations for the concerned course, such cases will be placed before a committee to be constituted by the Vice- Chancellor for making appropriate decision on a case-to-case basis, based on individual merits.

Notwithstanding anything contained in the foregoing, the students who fall in the category clause I above and who are in the final year of the respective courses be given one more last and final chance to appear for the University Examination with a condition that if they do not pass the examination even in their last chance, they shall be discharged from the course. The Controller of Examinations will admit such candidate to the University examinations only after their producing an undertaking (as per format given in student's manual) to this effect.

17. Migration/transfer of candidates -

Vice Chancellor shall have the powers to approve any migration/transfer of candidates up to 2nd year of BOT, deems fit in the Board of Management of the university.

18. Classification of successful candidates -

A successful candidate:

- Who secures 75% and above in the aggregate marks shall be declared to have secured 'FIRST CLASS WITH DISTINCTION' provided he/she passes the whole examination in the FIRST ATTEMPT;
- Who secures above 60% and less than 75% in the aggregate marks and completes the course within the stipulated course period shall be declared to have passed the examinations in the 'FIRST CLASS, provided he/she passes the whole examination in the FIRST ATTEMPT';
- Who secures above 50% and less than 60% in the aggregate marks and completes the course within the stipulated course period shall be declared to have passed the examinations in the 'SECOND CLASS';
- All other successful candidates shall be declared to have PASSED the examinations.

19. Credit, Grading and Transcript

Credit: A unit by which the course work is measured. It determines the number of hours of instructions. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field.

Credits will be assigned on the basis of the lectures (L) / tutorials (T) / Clinical Training (CR) / laboratory work (P) / Research Project (RP) and other forms of learning

L - One credit for one hour lecture per week (1 credit course = 15 hours)

P/T - One credit for every two hours of laboratory or practical (1 credit course = 30 hours)

CR - One credit for every three hours of Clinical training/Clinical rotation/posting (1 credit course = 45 hours)

RP - One credit for every two hours of Research Project per week – Max Credit 20-25 (1 credit course = 30 hours)

Credit Point: It is the product of grade point and number of credits for a course. Calculation of credit (As per national credit framework)

Grade Point: It is a numerical weight allotted to each letter grade on a 10-point scale. Letter Grade: It is an index of the performance of students in a said course.

Grades are denoted by letters O, A+, A, B+, B, C and F.

20. Computation of AGPA and CGPA

The UGC recommends the following procedure to compute the Annual Grade Point Average (AGPA) and Cumulative Grade Point Average (CGPA):

The following procedure should be used to compute the Annual Grade Point Average (AGPA) and Cumulative Grade Point Average (CGPA):

The AGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student

The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the years of a program.

The AGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

Cumulative Grade Point Average (CGPA): It is a measure of overall cumulative performance of a student overall years. The CGPA is the ratio of total credit points secured by a student in various courses in all year and the sum of the total credits of all courses in all the year. It is expressed up to two decimal places.

Letter Grades and Grade Points:

10- point grading system with the following letter grades will imply the performance of the students in said program.

Letter Grade	O	A+	A	B+	B	C	F/RA	AB	I / RC
Grade points	10	9	8	7	6	5	0	0	0

Consolidated Grade Card - BOT Program (only if the student passes in first attempt)

Consolidated Grade Card - BOT Program		
Letter Grade	**%Mark range**	**Grade point**
O (Outstanding)	90-100	10
A+ (Excellent)	80-89	9
A (Very Good)	70-79	8
B+ (Good)	60-69	7
B (Above Average)	55-59	6
C (Average)	50-54	5
F/RA (Fails/Reappear)	Less than 50	0
AB (Absent)		0
In complete(I)		0
Repeat course (RC= **Detained due to shortage of Attendance/ failed in CIA**		0

21. Supervised Clinical training/Fieldwork

It is mandatory to include demonstrations & practical sessions, supervised clinical work, seminars, hands on therapeutic workshops, throughout the course period to train the students for proficiency in Occupational Therapy applications to contribute towards the well-being of clients.

Actual clinical work in clinical settings, all hands-on procedures related to patient care involves patient evaluation, assessment, diagnosis, goal planning, writing, and execution of goals, intervention procedures, patient and family education & documentation of individual patients/clients. Each student is expected to maintain the log book for documentation/record of each patient in every clinical assignment throughout the program & which the respective clinical supervisor should sign regularly.

Fieldwork placement should be of sufficient duration to allow integration of theory with practice. The number of students placed at the clinical fieldwork should be in proportion to the number of available patients. The example of competencies of clinical placement of all the four years is shown in annexures.

22. ELECTIVE MODULE:

Guidelines for Elective module during clinical training for Competency Based Undergraduate Curriculum for Occupational Therapy

INTRODUCTION

Elective can be defined as a brief course made available to the learner during his/her occupational therapy undergraduate study period, where the student can choose from the available options depending upon their interest and career preferences. It is an integral part of Competency Based Education Curriculum. Electives are learning experiences, which are student centric and created in the curriculum itself to provide opportunities for the learner to explore, discover and experience areas or streams of interest in their profession. It provides diverse opportunities to the students apart from the traditional learning process and creates a pathway for exploring and developing new fields of study

Purpose of Electives

Customization: Elective courses allow students to tailor their educational experience to their interests, strengths, and career goals.

Diversification: Elective courses help students develop a well-rounded education by exposing them to a variety of subjects beyond their major or core requirements.

Specialization: Elective courses can also allow students to delve deeper into specific topics within their field of study.

Flexibility: Elective courses provide students to choose courses that fit their interests, learning style.

Personal growth: Elective courses can help students develop new skills, discover new passions, and grow both academically and personally.

Objectives

To provide an opportunity, where an undergraduate occupational therapy student can explore their interest in specialty areas, by working in hospital/ community setting. To help the student in identifying his/her future career path by direct experiences in diverse areas as well as selecting their specialty areas in post graduate program. A direct individual experience will help in developing self- directed learning skills.

Guidelines for the formation of electives structure

i. One month is designated for 2 elective fieldwork (2 weeks) after completion of the 3rd year University examination during the vacation period and before completion of 4th year University examinations.

ii. It is mandatory for learners to do an elective. The elective time should not be used to make up for missed clinical postings, shortage of attendance or other purposes.

iii. Elective 1 shall be done in any one of the areas relating to OT in musculoskeletal, Neurology, paediatrics area.

iv. Elective 2 shall be done in any one of the areas relating to mental health, community-based rehabilitation, geriatrics, onco-rehabilitation and cardio- pulmonary rehabilitation. Both electives will be from a list of electives developed and available in the institution.

v. Institutions will develop their own electives with the supervisor's name, and the number of students in each elective based on the institution's available infrastructure and allocate electives to the students accordingly.

vi. The student must submit a log book based on both the electives. Attendance in the electives should be minimum 85% and submission of log book maintained during elective postings is required for eligibility to appear in the 4^{th} year university examination.

vii. The salient features of each Elective and their differences are summarised in Table 4.2.

Table 4.2: Salient features of Elective 1 and Elective 2

	Elective 1	Elective 2
When	3rd year University examination during the vacation period and before completion of 4th year University examinations.	3rd year University examination during the vacation period and before completion of 4th year University examinations.
Duration	2 weeks	2 weeks
Focus of electives	OT in Musculoskeletal, Neurology and Pediatrics field	Mental health, community-based rehabilitation, geriatrics, Onco-rehabilitation.
Nature of learning	Supervised Experiential Immersive Self-directed	Supervised Experiential Immersive Self-directed
Regular clinical postings	Will not be offered	Will not be offered
Attendance	Mandatory 85% attendance is required as a prerequisite to appear 4th year University examinations.	Mandatory 85% attendance is required as a prerequisite to appear 4th year University examinations.
Assessment	Formative Record of activities in log Book to be submitted as prerequisite to appear 4th year University examinations.	Formative Record of activities in log Book to be submitted as prerequisite to appear 4th year University examinations.
External institution in same city /Other city/ other state	To be decided by Institute	To be decided by Institute

Planning the Learning Experience

a. The first step in the process is to plan the learning experience and having the diversity of electives, there will be some variation in the content, style and degree of learning.
b. Steps for the institution to plan the elective modules:
c. An identified preceptor responsible for guiding the student
d. A pre-published timetable of activities identified for the learner during the elective\
e. List of learning resources for the learner to be used during the elective provision to be part of the team to obtain an immersive learning experience
f. A well defined formative assessment with appropriate requirements for log book entry program evaluation by the stakeholders.
g. Prerequisites, if any, to be completed before offering the elective by the institute

Identifying Learning Experiences

a. To ensure that there is an immersive learning experience and greater attention to the learner, each preceptor identified must be alloted with only a minimum number of students. Therefore, it is important to identify a sufficient number of preceptors and resources in the institute.
b. Students-initiated to select the elective posting from an external institute may be permitted as long as they do not violate institutional rules with prior permission from the respective University.
c. Examples of learning experiences for each of elective 1 and elective 2 in the template are found in Annexure 4.
d. Examples of elective 1 and elective 2 are provided in Table 4.3

Example of Elective 1 and Elective 2

Elective 1	Elective 2
Hemophilia Management	Barrier free environment (accessibility)
Sports Rehabilitation	Community-Based Rehabilitation
Cognitive Perceptual Rehabilitation	Day care center
PreSchool and School OT	Geri care
Diabetic Foot care	Virtual Reality
Advanced Pre-prosthetic and Prosthetic Management	Aqua Therapy
Early Intervention	Robotics
Sensory Integration Therapy	Driving Rehabilitation
Neurodevelopmental Therapy	Assistive Technology
Back School	Deaddiction
Hand therapy	Obesity Management
OT in Neonatology	Stress Management
Trauma care	Oncology Rehabilitation
Ergonomics in Hospital Set-Up	cardio-pulmonary rehabilitation

Student Counselling and Allocation of Electives

The list of available learning experiences for each elective and the names of preceptors for each should be available to students on the institutional notice board at least three months before the commencement of the electives. A process for submitting applications for both electives with choices should be made available to the students. Written information on each learning experience must be available for students to examine and make an informed choice.

A counselling session with faculty mentors to help students choose electives is desirable. Students must also be made aware of the rules regarding attendance, work schedule, documentation and assessment requirements for each elective. The allocation of electives may be done based on student choice and availability of faculty who have been identified to be in-charge of the electives posting.

External Institutions

The need to provide a broad diverse experience for students, institutions should have MOU with external institutions within the country to accommodate students for undertaking an elective experience in both elective 1 and elective 2.

There should not be any conflict with the rules and policies of the University Also institute preceptor or faculty who can liaise with the external preceptor will help to solve problems and ensure smooth conduct of the elective.

Student Safety and Security:

During the Internal/external elective posting, safety and security of the student is of utmost importance. It must be made clear to the preceptors by the college authorities that students need to be supervised and must not be involved in patient care as the responsible health provider.

Assessment

Assessment will be formative. Attendance of not less than 85% and successful completion and the submission of logbook is a requirement for the student to become eligible to appear for the 4th year University examination.

Assessment elements could include participation in clinic/OPD, case records, submission of assignments, reflection on learning, preparation of presentations, design and participation in patient education programs, fabrication of splints etc whichever is appropriate.

Elective Evaluation

Provision for evaluation of the program based on information from all stakeholders should be made in order to evaluate the effectiveness of the elective posting and need for modifications and improvement.

23. Compulsory Rotatory Internship (CRI)

Introduction:

After completing the 4 academic years of the program, 52 weeks (1year) full-time CRI is mandatory. Internship shall be part of the curriculum of the Bachelor of Occupational Therapy and shall be called “Compulsory Rotatory Internship”.

Eligibility:

Those candidates declared to have passed the final year examination in all subjects will be eligible for CRI which should be done in any of the medical colleges/district hospitals/rehabilitation centres recognized by the affiliated university, shall be presumed to be training centres for the purpose of Internship.

Duration:

- Total duration- One year or twelve months (52 weeks which includes public holidays and causal leave)
- The intern shall have to work minimum 42 hours per week.
- Total number of clinical hours = 2016 hours
- Total number of credits allotted= 45 credits
- Maximum of 26 weeks may be allowed for the externship if opted by the student

Stipend:

- Occupational Therapy interns should be paid a stipend during the internship at par with medical/dental interns.
- The title during placement of internship would be Occupational Therapy “B.OT. Intern”

Objectives and skill-based outcome:

- To enhance skills of the students in OT evaluation, assessment, diagnosis, clinical reasoning, judgment, programme planning, intervention, outcome of intervention, follow up, referral, and documentation pertaining to all the dysfunctions and impairments learnt throughout the curriculum of four years.
- To acquire following: safety regulations regarding self and others throughout the occupational therapy process; identify safety hazards and implement safety procedures
- Effective interaction with members involved in the Occupational Therapy practice like client, family & also make liaison with other professionals (Rehab Team)
- Learn to improve their presentation and communication skills
- Learn research-related skills through research related activities

- Demonstrate knowledge of various services covered under the various health insurance plans, Employee's state insurance corporation schemes, and community-based health insurance schemes for below poverty line clients and hospital-based health discount cards.
- Document occupational therapy services to ensure accountability of services provided and record treatment outcomes objectively.
- Understand the application of the occupational therapy consultative process with individual clients, groups, organizations or communities.
- Discharging the client from occupational therapy services when outcomes have been met which may involve summarizing outcomes, making appropriate referrals or recommendations & plan others discharge needs after discussing with the clinical OT supervisor.
- Develops, builds, and maintains rapport, trust, and ethical professional relationships through effective communication.
- Establishes and maintains inter-professional relationships, which foster effective client-cantered collaboration.
- Understand the principles of continuous quality improvement.
- Be able to carry out the daily/weekly Quality Control (QC) checks.
- Be able to review the literature & present it in the journal club.
- Be able to suggest implementation of research findings.
- Be able to suggest/ initiate topics for Occupational Therapy research
- Be able to interpret, apply, and disseminate information as a member of the Occupational Therapy team.
- Emphasis will be laid on practical applications of theoretical concepts in the form of clinical reasoning, and its application to the treatment situations to guide clinical decision making from evaluation. The CRI should cover all clinical areas concerned with Occupational therapy for inpatient and outpatient services. The student will work under the supervision of the clinical supervisors, and is expected to be involved in all aspects of the occupational therapy process: referral, assessment, intervention, reimbursement, billing and documentation.

Areas of Clinical placement during CRI:

- During the period of internship, the student shall be posted in rotation in the OPD & IPD facilities of the clinical departments of the hospitals of the institution/university.
- The hospitals must have separate Occupational Therapy department with qualified and registered Occupational Therapy professionals under NCAHP.

Distribution of assignment period throughout the internship of 52 weeks:

S No	Departments of Occupational Therapy	Period
1	Orthopedics & sports clinic	8 weeks
2	Psychiatry	8 weeks
3	Neuro & Neurosurgery	8 weeks
4	Pediatrics & Neonatology	8 weeks
5	Burns, Hand & Plastic Surgery	6 weeks
6	Community based Rehabilitation	8 weeks
7	Oncology	2 weeks
8	General Medicine	2 weeks
9	General Surgery	2 weeks
10	Cardio- Pulmonary rehabilitation	

Responsibilities during CRI:

Students must engage in practice/ skill-based learning of professional conduct. Their learning outcomes must be maintained in the form of logbooks, case studies, Short Research project and symposium and semi

Documentation

Initial Assessment Documentation: An intern must document the following information:

- Based on SOAP format
- Subjective examination (symptomatic)
- Objective examination (measurable, observable)
- Action/Analysis (interpretation of current condition/intervention provided)
- Plan of action
- Written or verbal feedback to the client or caregivers
- Agreement to treatment plan by the patient or "person responsible"
- Discharge plan

Progress Documentation:

It may include the following information:

- Any individual intervention should be documented in SOAP format (including response to intervention/s using outcome measures)
- Oral consent is obtained and documented when there is a significant change in treatment/ treatment options/ status
- Written consent obtained for designated invasive procedures Change in status or events that may affect discharge plans/goals
- Documented consultation with key clinical team members

Evaluation of interns:

Formative assessment will be done based on their satisfactory attendance, performance in the clinical areas/ short term research project, submission of the logbook, and presentation during symposium/seminar/case presentation.

The internship assessment weightage will be based on the following criteria:

- ✓ Log book -40%
- ✓ Presentation during Symposium/Seminar/case presentation – 30%
- ✓ Project work -20%
- ✓ Attendance- 10%

Evaluation of Interns During Each Clinical Posting:

S. No.	Description	Satisfactory/ Unsatisfactory
1	Attendance	
2	Discipline and general behavior in the Department	
3	Approach to patients	
4	Inquisitiveness regarding the subject	
5	Knowledge about evaluation of conditions	
6	Knowledge about various therapeutic modalities	
7	Knowledge about actual application of therapeutic skills	

24. Competency-based Undergraduate Curriculum in Occupational Therapy

Practical Competencies for the Occupational Therapy Graduate

The Foundational Elements of Practice

- Adheres strictly to the Code of Ethics regulation by NCAHP.
- Ensures compliance with safety regulations and accurately reports incidents.
- Demonstrates a commitment to safety by proactively assessing risks and implementing preventive measures during Occupational Therapy intervention, ensuring the well-being of all individuals involved.

Clinical Competencies for the Occupational Therapy Graduate:
Assessment and analysis

- Adequately supports the evaluation process using a clear and logical rationale that considers client information, contexts, theories, frames of reference, and/or practice models.
- Acquires adequate and essential information from pertinent sources during the assessment procedure.
- Utilizes appropriate screening and assessment tools based on diverse factors. The client's occupational profile and occupational performance are determined by conducting interviews and utilizing other appropriate evaluation methods.
- Acknowledges that assessment involves evaluating and analyzing client factors and contexts that either facilitate or impede occupational performance.
- The accurate and efficient administration of assessments and surveys, both standardized and non-standardized, is conducted to ensure the validity and reliability of the findings.
- Modifies evaluation procedures based on client factors and contexts.
- Analyzes & interprets the client's strengths and challenges in occupational performance.
- Employs systematic methods to record the client's occupational performance for clear, accurate, and concise synthesis and documentation of the evaluation process and results

Intervention

- The therapist effectively presents a coherent and rational justification for the intervention process, drawing upon evaluation findings, contextual factors, theories, frames of reference, practice models, and evidence.
- Formulates a client-centered plan that is accurate and appropriate based on the evaluation results, contexts, theories, frames of reference, and/or practice models.
- Decisions regarding interventions are based on research, evidences and relevant resources

- The individual chooses interventions that prioritize the client's needs and are based on their occupation, aiming to motivate and challenge them towards achieving predetermined goals that align with desired outcomes.
- Executes intervention plans that are client-centered and emphasize the importance of occupation.
- Selects and, when necessary, adjusts the intervention strategy in order to attain predetermined objectives that align with the desired outcomes.
- Modifications are made to the task and/or environment in order to enhance the client's performance.
- Modifies the intervention plan and a determination is made regarding the need to continue or discontinue services based on the client's status.
- Documentation is used to illustrate the effectiveness of interventions by capturing the client's response to services.

Quality & Patient safety

- Ensure that information is recorded in accordance with the latest laws, rules, ordinances, and customs of the State of India.
- Participate in systematic initiatives for quality assurance and improvement.
- Contribute to and/or engage in research and development within registered areas of expertise.
- Ensuring the safety of intervention recommendations and informing individuals about potential hazards, when necessary, is a crucial aspect of accountability.
- Establishes a safe environment for individuals, their families, and others, while also ensuring the proper upkeep of equipment used in occupational therapy treatments.
- Takes responsibility entails recognizing and documenting hazards and occurrences in healthcare and welfare settings, and subsequently undertaking actions to protect the safety and security of individuals.

Management of Occupational Therapy Services

- The individual exhibits the capacity to collaborate with others and delegate suitable tasks, while retaining overall responsibility for treatment, as evidenced by practical application or discussion.
- Exhibits understanding of costs and funding systems associated with occupational therapy services, including federal, state, third party, and private payers, through practice or discussion.
- The individual displays a strong understanding of the organization. Meets the

productivity standards or volume of work that occupational therapy students are expected to achieve.

- Provide supervision for students participating in occupational therapy training.
- Offer advisory support to official authorities, commercial enterprises, nonprofit organizations, and non-governmental entities.

Communication and Professional Behaviors

- Exhibits the ability to communicate clearly and effectively, using both verbal and nonverbal methods.
- Guarantees the production of documentation that is both clear and precise.
- Engages in collaboration with fieldwork educator(s) to optimize the learning experience. e.g how one can initiate communication, seek feedback on performance, and identify their own strengths and challenges.
- The professional takes responsibility for developing professional competence by actively pursuing learning opportunities and collaborating with fieldwork educators and other professionals.
- Demonstrates the ability to promptly and constructively address feedback received.
- Demonstrates consistent adherence to acceptable work behaviors.
- Showcases proficient time management skills.
- Manages relationships effectively through therapeutic use of self and adjusts approach to meet the needs of clients and others.
- Demonstrates respect for diversity factors of others. Examples: culture, socioeconomic status, beliefs, identity

Sustainable Development

Ensure the sustainable utilization of the existing resources in regards to the economy, society, and environment.

Disasters & crisis

- Engages in the activities conducted by specialized organizations established in response to significant accidents and disasters.
- Adapt their activities to the unique circumstances that arise during crises and catastrophic situations.
- Conducts risk assessments to identify potential crises and disasters that may affect vulnerable individuals, and implement measures to minimize the impact on their ability to engage in activities and participate.

Digital competencies

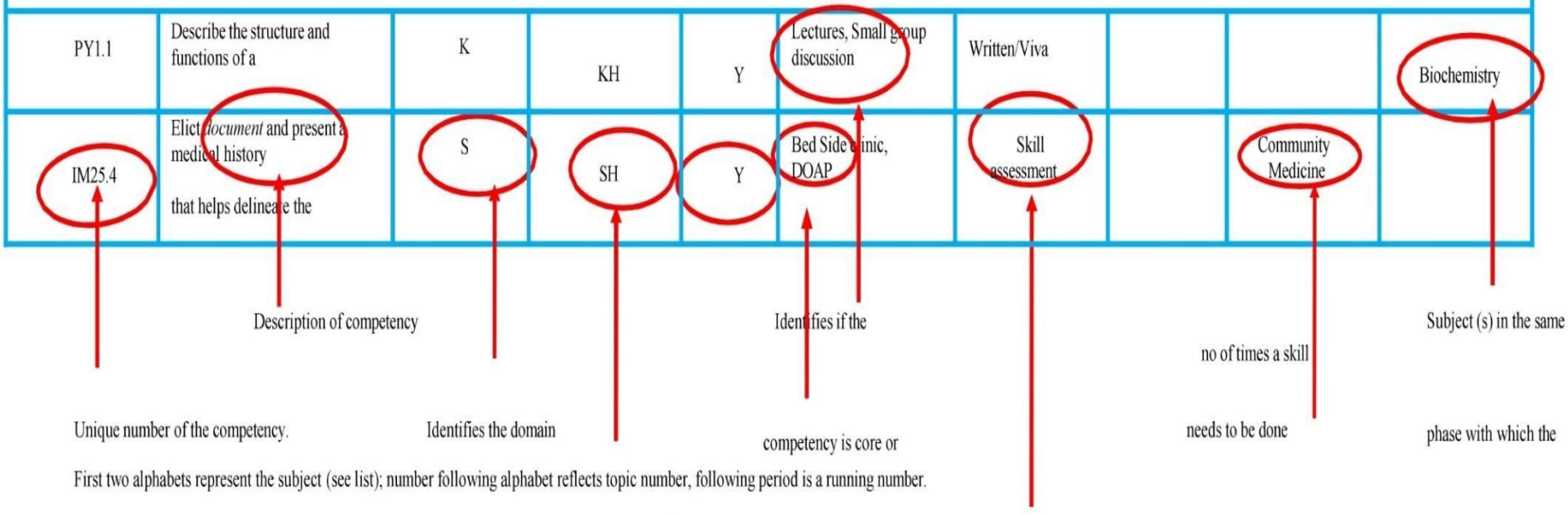
- Utilize digital platforms to conduct research, communicate, and engage professionally.
- Modify activities in accordance with the changes brought about by digitization in society.
- Highlight the opportunities and risks associated with digitalization for individual, group, and community engagement.
- Engage in the progression of digital systems, tools, and services that are significant to the profession.

Course-wise outcome:

It contains core course-wise outcomes so called “sub-competencies” that must be achieved at the end of instruction in that subject. These are organized in tables. The core course outcomes are in the first part. Outcomes (competencies) in each course are grouped according to topics number-wise. It is important to review the individual course outcomes (competencies) in the light of the topic outcomes as a whole. For each competency outlined the learning domains (Knowledge, Skill, Attitude, and Communication) are identified. The expected level of achievement in that subject is identified as – [knows (K), knows how (KH), shows how (SH), perform (P)]. As a rule, ‘perform’ indicates independent performance without supervision and is required rarely in the pre-internship period. The outcome is a core (Y - must achieve) or a non-core (N - desirable) outcome. Suggested learning and assessment methods (these are suggestions) and explanation of the terms used are given under the section “definitions used in this document”. Last two columns indicate subjects within the same phase and other phases with which the topic can be taught - together - aligned (temporal coordination), shared, correlated or nested.

Section 3- understanding the competency table

A	B	C	D	E	F	G	H	I	J
No.	Competencies	Domain	K/KH/SH/P	Core	Suggested Teaching Learning Method	Suggested Assessment method	No. required tocertify (P)	Vertical Integration	Horizontal Integration
Physiology									
Summary Name of Topic: General Physiology Number of Competencies: (08)									
PY1.1	Describe the structure and functions of a	K	KH	Y	Lectures, Small group discussion	Written/Viva			Biochemistry
IM25.4	Elicit *document* and present a medical history that helps delineate the	S	SH	Y	Bed Side clinic, DOAP	Skill assessment		Community Medicine	



illustrative purposes only and should not be compared with the same in curriculum documents

Domains of Learning

K	Knowledge
S	Skill
A	Attitude
C	Communication

Levels of Competencies

K	Knows	A knowledge attribute - Usually enumerates or describes
KH	Knows how	A higher level of knowledge - is able to discuss or analyze
S	Shows	A skill attribute: is able to identify or demonstrate the steps
SH	Shows how	A skill attribute: is able to interpret/ demonstrate a complex procedure requiring thought, knowledge and behavior
P	Performs (Under supervision or independently)	Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results

Definitions used

Section 4: Definitions used	
Lecture	Any instructional large group methodincluding traditional lecture and interactive lecture
Small group discussion	Any instructional method involving small groups of students in an appropriate learning context
DOAP (Demonstration- Observation - Assistance - Performance)	A practical session that allows the student to observe a demonstration, assist the performer, perform in a simulated environment, perform under supervision or perform independently
Skill Assessment	A session that assesses the skill of the student including those in the practical laboratory, skills lab, skills station that uses mannequins/ paper case/simulated patients/real patients as the context demand
Core(Y)	A competency that is necessary in order to complete the requirements of the subject (traditional must know)
Non -core(N)	A competency that is optional in order to complete the requirements of the subject (traditional nice (good) to know/ desirable to know)
National Guidelines	Health programs as relevant to the competency that are part of the National Health Program

24.1 Scheme of examination:

24.1.1 Setting Question Paper will be done Section A and Section B (where ever applicable) in the Syllabus of annual pattern.

24.1.2 The examination of NUE Subjects will be at the college level and the students' needs to pass the college level examination with minimum 50% scoring before appearing for the University Examination. The marks/ grades of NUE subjects will not be added with University Marks but will be reflected in the Marks Sheet given by the University

24.1.3 Regular periodic examinations shall be conducted throughout the course. There shall be not less than 4 internal exams in annual pattern. Day to day records, attendance and log book should be given importance in CIA.

24.1.4 Learners must secure at least 50% marks of the total marks (theory and practical separately) for CIA in a particular subject in order to be eligible for appearing at the final University examination of that subject

24.2 CIA (IA):

The final CIA marks shall be an average of all internal exams as below:

Annual Pattern

For 100 marks course-

Institute have to conduct 2 periodical continuous CIA, one model examinations and converted into 30 marks for CIA.

For 50 marks course

Institute have to conduct 2 periodical continuous CIA, one model examinations and converted into 15 marks for CIA.

University Examination:

Mandatory 50% passing marks in theory and practical separately (practical = practical/clinical + viva)

(Theory= theory paper(s) only)

Continuous CIA (CIA) marks are not to be added to marks of the University examination and should be shown separately in the grade card.

Scheme of examination for 50 Marks Course

Written		**Eligibility/Passing Marks**		**Practicals**		**Eligibility/Passing Marks**	
CIA	University exam	CIA	University exam	CIA	University exam	CIA	University exam
25	50	13	25	25	50	13	25

The CIA will be based on the following criteria

Theory			**Practical/Viva**		
Written	Attendance Quiz/ Seminar/ Logbook/ Open book test/ Surprise test/ Capstone project, etc	Total	Practical	Clinical attendance/ Assignments/ Journals/Clinical Training card/Capstone Project/ Case presentations, etc	Total
15	10	25	15	10	25

For a candidate who fails in a subject(s), his/ her marks of CIA will be carried forward

Scheme of examination for 100 Marks Course

Written		**Eligibility/Passing Marks**		**Practical**		**Eligibility/Passing Marks**	
CIA	University exam	CIA	University exam	CIA	University exam	CIA	University exam
50	100	25	50	50	100	25	50

The CIA will be based on the following criteria

Theory			**Practical/Viva**		
Written	Attendance Quiz/ Seminar/ Logbook/ Open book test/ Surprise test/ Capstone project, etc	Total	Practical	Clinical attendance/ Assignments/ Journals/Clinical Training card/Capstone Project/ Case presentations, etc	Total
30	20	50	30	20	50

For a candidate who fails in a university examination, his/ her marks of CIA will be carried forward

The results of CIA should be displayed on the notice board within 2 weeks of the test. Universities shall guide the colleges regarding formulating policies for remedial measures for students who are either not able to score qualifying marks or have missed on some assessments due to any reason.

Summative assessment consists of University examinations. Each theory paper and practical will have 100 marks or 50 marks. It is mandatory to secure 50% marks in theory and practical separately (practical = practical/ clinical + viva) [theory=theory paper(s) only] is required to pass in the university examination.

Examiners:

All the examiners, paper setters, theory examination answer books evaluators, Internal and External Examiners for Practical examinations shall be recommended by principal of the college and finally appointed by the Vice chancellor of the University.

- Masters degree (MOT) with 2 years of teaching/research experience for occupational therapy core papers and for medical papers the examiner should have 2 years of teaching/clinical experience after doing post- graduate qualification in the relevant/ broad specialty

Designing of question paper

Designing of question paper should take into consideration all levels of knowledge domain e.g. Bloom's taxonomy of cognitive domain. Use appropriate verbs for the questions at each level to assess higher levels of learning. An example is given below in Table. Use combination of various types of questions e.g. structured essays (Long Answer Questions - LAQ), Short Answers Questions (SAQ) and objective type questions (e.g. Multiple Choice Questions - MCQ). Marks for each part should be indicated separately. MCQ should not have more than 20% weightage

Scheme of Marks for University Theory exam 100 Marks

MCQs, Short answer questions, Brief answer questions and Long answer Questions S

Scheme of Marks for University Theory exam 50 Marks
MCQs, Short answer questions, Brief answer questions.

The question paper should be evenly distributed to cover all the sections appropriately from competencies. The blueprint grid can help the paper setters to balance the question papers in content related aspects as depicted below in Table. Moderation of theory question paper by subject expert may be arranged by Universities.

Weightage

Bloom's Taxonomy helps educators create learning goals that cover a range of skills, from basic recall to critical thinking and problem-solving. The six hierarchical levels representing cognitive skills are depicted with their weighted percentage for effective learning experience for effective learning experience for Occupational Therapy students as described below in the table:

"Weightage of levels of taxonomy for effective learning experiences for BOT Graduates

Level	Total
Remember	20%
Understands	20%
Analyze	20%
Application	20%
Evaluate	10%
Create	10%

The blueprint grid question format is in Annexure 1.
Model Question paper (For Reference only) Annexure 2
For designing question paper may be take guidance from Annexure 3 regarding Course outcome

PRACTICAL/CLINICAL EXAMINATION

Include assessment in the psychomotor and affective domain. Assessment of clinical and procedural skills should be based on direct observations by the examiners.

Assessment tools like case presentations, Objective Structured Clinical Examination (OSPE OSCE and/or Objective Structured Practical Examination (OSPE) and Directly Observed Procedural Skills (DOPS) should be employed using checklists.\

Practical/clinical examinations will be conducted in the laboratories and /or hospital wards/ OPD. Viva/oral examination should assess the approach to patient management, emergencies, and attitudinal, ethical, and professional values.

Practical examination should be conducted by pair of examiners (one internal from same university and one external from another university) only and not by a single examiner / examiners of same university

Summative assessment (For Universities)

Summative assessment consists of university examinations for various subjects is given in Table 4.19.

Distribution of marks for various courses in University Examination (Annual Pattern)

Phase of Course	Written Theory - Total	Practical / Orals/ Clinicals	Pass Criteria
I BOT			
Human Anatomy	100	100	C**IA:** It is mandatory to secure 50% marks in theory and practical separately (practical = practical/ clinical + viva) [theory=theory paper(s) only]
Human Physiology	100	100	
Biochemistry	50	-	
Fundamentals of OT I	100	100	
Fundamentals of OT II	100	100	
English & Communication Skills (NUE)	50	-	

Environmental Sciences(NUE)	50	-	is required to appear in the university examination. **University examination:** It is mandatory to secure 50% marks in theory and practical separately (practical = practical/ clinical + viva) [theory=theory paper(s) only] is required to pass in the university examination.
II BOT			
Pharmacology	50	-	
Pathology & Microbiology	100	-	
Psychology	100		
OT Diagnostics & Practice I	100	100	
OT Diagnostics & Practice II	100	100	
Biomechanics & Kinesiology	100	100	
First Aid & Emergency (NUE)	50	-	
Computer Sciences (NUE)	50	-	
III BOT			
Medicine & Cardiovascular Medicine	100	-	
Neurology & Pediatrics	100	-	
Occupational Therapy in Medical Conditions	100	100	
Work Physiology & Ergonomics	100		
Surgery & Orthopedics	100	-	
Psychiatry	50	-	
Occupational Therapy in Surgical Condition	100	100	
Research Methodology & Biostatistics	50	-	
IV BOT			
Occupational Therapy in Musculoskeletal Condition	100	100	
Occupational Therapy Services and Management	50	-	
Community Medicine , Public Health & Sociology	50	-	
Community Occupational Therapy and Rehabilitation	100	-	
Occupational Therapy practice in Psychiatry	100	100	
Occupational Therapy in Paediatric Conditions	100	100	

Occupational Therapy in neurological Conditions	100	100

Competency-based undergraduate curriculum in Bachelors of Occupational Therapy

BOT I

*NUE- Non university Examination
(Must be conducted by the OT institution before annual university exams)

First year BOT (FY BOT): Subject wise teaching hours, credits & Exam Marks distribution									
Sr. No.	**Course Code**	**Subject**	**Total teaching hours**			**Credits**			**Total Credits**	**Marks Distribution**
			Theory	**Practical/demo/ lab Work**	**Clinical**	**Theory**	**Practical/demo/ lab work**	**Clinical**		
1	AN	Human Anatomy	180	120		12	4		16	Theory-100 Practical-100
2	PI	Human Physiology	180	120		12	4		16	Theory-100 Practical-100
3	BC	Biochemistry	45	--		3			03	Theory- 50
4	FOT I	Fundamentals of Occupational Therapy I	90	120		6	4		10	Theory-100 Practical-100
5	FOT II	Fundamentals of Occupational Therapy II	90	120		6	4		10	Theory-100 Practical-100
6	ENCS	English & Communication Skills – NUE	30	30		2	1		3	Theory-50 NUE

First year BOT (FY BOT): Subject wise teaching hours, credits & Exam Marks distribution										
Sr. No.	**Course Code**	**Subject**	**Total teaching hours**			**Credits**			**Total Credits**	**Marks Distribution**
			Theory	**Practical/demo/ lab Work**	**Clinical**	**Theory**	**Practical/demo/ lab work**	**Clinical**		
7	EVS	Environmental Sciences- NUE	45	-		3	-		3	Theory-50 NUE
8		Supervised Clinical training/Field work			360			8		
Total no. of Teaching hours / Year =1560									69	
Total Marks										850

Human Anatomy

COURSE DESCRIPTION: For first year BOT students this course gives the detail knowledge about the cells, different systems such as musculoskeletal, cardiovascular, pulmonary, digestive, Nervous also the functional anatomy of various systems

COURSE GOALS: Give the detailed knowledge of Human structure, body functions, anatomical orientation of different systems. The knowledge about cardiovascular & circulatory system, cell functions, the detail skeletal system & muscular system

COURSE OBJECTIVES

KNOWLEDGE

Student will be able to

1. Gain knowledge of human body's structure and function
2. Understand normal anatomical position, various planes, relation, comparison, laterality & movement in our body
3. Know different types of cells and describe their functions
4. Describe the major components of the skeletal system and describe their functions, different types of bones and provide an example of each type
5. Learn and identify the major components of the integumentary system and their functions.
6. Differentiate types of bones and provide an example of each type.
7. Learn and identify the three types of muscle and the muscular system's functions.
8. Learn and identify the major components of the digestive, circulatory, respiratory, endocrine, reproductive & urinary system and their functions.
9. Learn and explain the major components of the nervous system and their functions

Skill

1. Identify or recognize various muscle tissues, bones and organs of the body
2. Identify the parts of the brain and other organs of the body.

3. Recognize the importance of an in-depth knowledge of the topics consistent with a proper medical education.
4. Identify the fundamental role of a proper theoretic knowledge of the subject in the clinical practice.
5. Identify the possible use of the acknowledged skills in the future career.
6. Assess the importance of the acquired knowledge in the overall medical education process.

Attitude

1. Knowledge of anatomy will help to communicate with the clients and peers efficiently

Scheme of examination for University Practical exam 100 Marks

Spots-Identification of soft parts **(heart, RS, Circulatary system, Neuro system) & living Anatomy**	**Spots- Bones (Upper & lower limbs, Vertebral Column, Thorax),** **Viva Voce**	**Presentation & Communication skills**	**Total**
40 marks	**40 marks**	**20 marks**	**100 marks**

Competency table: Human Anatomy

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
HUMAN ANATOMY								
TOPIC: ANATOMICAL TERMINOLOGY NUMBER OF COMPETENCIES: (2)								
AN 1.1	Demonstrate normal anatomical position, various planes, relation, comparison, laterality & movement in our body	K, S	SH	Y	Lecture, DOAP session	Written/ Viva voce/skills assessment		
AN 1.2	Describe composition of bone and bone marrow	K	KH	Y	Lecture	Written/ Viva voce		
TOPIC: GENERAL FEATURES OF BONES & JOINTS NUMBER OF COMPETENCIES: (6)								
AN 2.1	Describe parts, blood and nerve supply of a long bone	K	K	Y	Lecture	Written		
AN 2.2	Enumerate laws of ossification	K	K	Y	Lecture	Written		
AN 2.3	Enumerate special features of a sesamoid bone	K	K, KH	Y	Lecture, DOAP	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 2.4	Describe various types of cartilage with its structure & distribution in body	K	K		Lecture, DOAP	Written		
AN 2.5	Describe various joints with subtypes and examples	K	K, KH		Lecture, DOAP	Written		
AN 2.6	Explain the concept of nerve supply of joints & Hilton's law	K	K, KH		Lecture, DOAP	Written		
TOPIC: GENERAL FEATURES OF MUSCLE NUMBER OF COMPETENCIES: (2)								
AN 3.1	Classify muscle tissue according to structure & action	K	KH	Y	Lecture	Written, Viva voce		
AN 3.2	Enumerate parts of skeletal muscle and differentiate between tendons and aponeuroses with examples	K	KH	Y	Lecture	Written, Viva voce		
TOPIC: GENERAL FEATURES OF SKIN AND FASCIA NUMBER OF COMPETENCIES: (3)								
AN 4.1	Describe different types of skin & dermatomes in body	K	KH	N	Lecture, DOAP session	Written	OTDP II	
AN 4.2	Describe structure & function of skin with its appendages	K	H	Y	Lecture, DOAP session	Written, Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 4.3	Describe superficial fascia along with fat distribution in body	K	KH	Y	Lecture, DOAP session	Written, Viva voce		
Topic: General features of the cardiovascular system & Circulatory system Number of competencies: (9)								
AN 5.1	Differentiate between blood vascular and lymphatic system	K	KH	Y	Lecture	Written, Viva voce		
AN 5.2	Differentiate between pulmonary and systemic circulation	K	KH	Y	Lecture	Written, Viva voce		
AN 5.3	List general differences between arteries & veins	K	KH	Y	Lecture	Written, Viva voce		
AN 5.4	Explain functional difference between elastic, muscular arteries and arterioles	K	KH	Y	Lecture	Written, Viva voce		
AN 5.5	Describe portal system giving examples	K	KH	Y	Lecture	Written, Viva voce		
AN 5.6	Describe the concept of anastomoses and collateral circulation with significance of end-arteries	K	KH	Y	Lecture	Written, Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 5.7	Explain function of meta-arterioles, precapillary sphincters, arterio-venous anastomoses	K	KH	N	Lecture	Written		
AN 5.8	Define thrombosis, infarction & aneurysm	K	KH	N	Lecture	Written		
AN 5.9	Describe the types of circulation and its importance, classification of vessels (anatomical and physiological) Structure of blood vessels. Factors affecting venous return. anastomosis, end arterie. Pulmonary and systemic circulation, define portal circulation with examples							
Topic: General Features of lymphatic system Number of competencies: (3)								
AN 6.1	List the components and functions of the lymphatic system	K	KH	N	Lecture	Written		
AN 6.2	Describe structure of lymph capillaries & mechanism of lymph circulation	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 6.3	Explain the concept of lymphoedema and spread of tumors via lymphatics and venous system	K	KH	N	Lecture	Written		
Features of individual bones (Upper Limb) **Number of competencies: (6)**								
AN 7.1	Identify the given bone, its side, important features & keep it in anatomical position	K, S	SH	Y	DOAP session	Viva voce, Practicals/, OSPE		
AN 7.2	Identify & describe joints formed by the given bone	K, S	SH	Y	Lecture, DOAP session	Viva voce		
AN 7.3	Enumerate peculiarities of clavicle	K	KH	Y	Lecture, DOAP session	Viva voce		
AN 7.4	Demonstrate important muscle attachment on the given bone	K, S	SH	Y	Practical, DOAP session, Small group teaching	Viva voce, Practicals	Orthopaedics	
AN 7.5	Identify and name various bones in articulated hand, Specify the parts of metacarpals and phalanges and enumerate the peculiarities of pisiform	K, S	SH	Y	Practical, DOAP session, Small group teaching	Viva voce, Practicals		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 7.6	Describe scaphoid fracture and explain the anatomical basis of avascularnecrosis	K	KH	N	DOAP session	Viva voce		
Topic: Upper Limb regions-Shoulder, Axilla, Arm No of Competencies -20								
AN 8.1	Describe attachment, nerve supply & action of pectoralis major and pectoralis minor	K	KH	Y	Lecture, Practical	Written	Biomechanics & Kinesiology	FOT I
AN 8.2	Breast: Describe the location, extent, deep relations, structure, age changes, blood supply, lymphatic drainage, microanatomy and applied anatomy of breast	K	KH	Y	Practical, Lecture	Written, Viva voce		
AN 8.3	Describe development of breast	K	KH	N	Lecture	Written		
AN 8.4	Identify & describe boundaries and contents of axilla	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP Session	Written, Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 8.5	Identify, describe and demonstrate the origin, extent, course, parts, relations and branches of axillary artery & tributaries of vein	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.6	Describe, identify and demonstrate formation, branches, relations, area of supply of branches, course and relations of terminal branches of brachial plexus	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.7	Explain variations in formation of brachial plexus	K	KH	Y	Practical, Lecture	Written, Viva voce		
AN 8.8	Explain the anatomical basis of clinical features of Erb's palsy and Klumpke's paralysis	K	KH	N	Lecture	Written		
AN 8.9	Explain anatomical basis of enlarged axillary lymph nodes	K	KH	N	Lecture	Written		
AN 8.10	Describe, identify and demonstrate the position, attachment, nerve supply and actions of trapezius and latissimus dorsi	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP Session	Written, Viva voce, skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 8.11	Describe the arterial anastomosis around the scapula and mention the boundaries of triangle of auscultation	K	KH	N	Lecture	Written		
AN 8.12	Describe and identify the deltoid and rotator cuff muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.13	Describe & demonstrate attachment of serratus anterior with its action	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 8.14	Describe and demonstrate shoulder joint for– type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 8.15	Explain anatomical basis of Injury to axillary nerve during intramuscular injections	K	KH	N	Lecture	Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 8.16	Describe and demonstrate muscle groups of upper arm with emphasis on biceps and triceps brachii	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.17	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels in arm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.18	Describe the anatomical basis of Saturday night paralysis	K	KH	Y	Practical, Lecture	Written, Viva voce	Plastic surgery, OTSC, Orthopedics	
AN 8.19	Identify & describe boundaries and contents of cubital fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment		
AN 8.20	Describe the anastomosis around the elbow joint	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Upper limb regions -Forearm & Hand No of competencies -21								
AN 9.1	Describe and demonstrate important muscle groups of ventral forearm with attachments, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.2	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of forearm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.3	Identify & describe flexor retinaculum with its attachments	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.4	Explain anatomical basis of carpal tunnel syndrome	K	KH	Y	Lecture			
AN 9.5	Identify & describe small muscles of hand. Also describe movements of thumb and muscles involved	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 9.6	Describe & demonstrate movements of thumb and muscles involved	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.7	Identify & describe course and branches of important blood vessels and nerves in hand	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.8	Describe anatomical basis of Claw hand	K	KH	Y	Lecture			
AN 9.9	Identify & describe fibrous flexor sheaths, ulnar bursa, radial bursa and digital synovial sheaths	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.10	Identify, describe and demonstrate important muscle groups of dorsal forearm with attachments, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 9.11	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of forearm	K/S	SH	Y	Practical, Lecture, Small group discussion DOAP session			
AN 9.12	Describe the anatomical basis of Wrist drop	K	KH	Y	Lecture			
AN 9.13	Identify & describe compartments deep to extensor retinaculum	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.14	Identify & describe extensor expansion formation	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.15	Describe and explain Fascia of upper limb and compartments, veins of upper limb and its lymphatic drainage	K	KH	Y	Lecture			
AN 9.16	Describe dermatomes of upper limb	K	KH	N	Lecture			

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 9.17	Identify & describe the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, blood and nerve supply of elbow joint, proximal and distal radio- ulnar joints, wrist joint & first carpometacarpal joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
AN 9.18	Describe Sternoclavicular joint, Acromioclavicular joint, Carpometacarpal joints & Metacarpophalangeal joint	K	KH	N	Lecture			
AN 9.19	Identify the bones and joints of upper limb seen in anteroposterior and lateral view radiographs of shoulder region, arm, elbow, forearm and hand	K/S	SH	Y	Practical, Small group discussion, DOAP session			
AN 9.20	Identify & demonstrate important bony landmarks of upper limb: Jugular notch, sternal angle, acromial angle, spine of the scapula, vertebral level of the medial end, Inferior angle of the scapula	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 9.21	Identify & demonstrate surface projection of: Cephalic and basilic vein, Palpation of Brachial artery, Radial artery, Testing of muscles: Trapezius, pectoralis major, serratus anterior, latissimus dorsi, deltoid, biceps brachii, Brachioradialis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session			
Topic – Thoracic cage No of Competencies-7								
AN 10.1	Identify and describe the salient features of sternum, typical rib, Ist rib and typical thoracic vertebra	K/S	SH	Y	Lecture, DOAP sessi0n	Viva voce/ skill assessment	Orthopedics	
AN 10.2	Identify & describe the features of 2nd, 11th and 12th ribs, 1st, 11th and 12ththoracic vertebrae	K/S	SH	N	Lecture, DOAP session	Viva voce/ skill assessment		
AN 10.3	Describe & demonstrate the boundaries of thoracic inlet, cavity and outlet	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 10.4	Describe & demonstrate extent, attachments, direction of fibres, nerve supply and actions of intercostal muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 10.5	Describe & demonstrate mechanics and types of respiration	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 10.6	Describe costochondral and interconal joints	K	KH	N	Lecture	Written		
AN 10.7	Mention boundaries and contents of the superior, anterior, middle and posterior mediastinum	K	KH	Y	Practical, Lecture	Written/ Viva voce		
Topic – Heart , pericardium, Mediastinum No of Competencies-7								
AN 11.1	Describe & demonstrate subdivisions, sinuses in pericardium, blood supply and nerve supply of pericardium	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment	Medicine, OTMC	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 11.2	Describe & demonstrate external and internal features of each chamber of heart	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 11.3	Describe & demonstrate origin, course and branches of coronary arteries	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/OSPE		
AN 11.4	Describe anatomical basis of ischemic heart disease	K	KH	Y	Lecture	Written/ Viva voce		
AN 11.5	Describe & demonstrate the formation, course, tributaries and termination of coronary sinus	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/OSPE		
AN 11.6	Mention the parts, position and arterial supply of the conducting system of heart	K	KH	Y	Lecture	Written		
AN 11.7	Describe & demonstrate the external appearance, relations, blood supply, nerve supply, lymphatic drainage and applied anatomy of esophagus	K/S	SH	Y	Practical, Lecture, DOAP session	Written/ Viva voce/OSPE		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic Lungs &Trachea No of Competencies-6								
AN 12.1	Mention the blood supply, lymphatic drainage and nerve supply of pleura, extent of pleura and describe the pleural recesses and their applied anatomy	K	KH	Y	Practical, Lecture	Written/ Viva voce		Medicine, OTMC
AN 12.2	Identify side, external features and relations of structures which form root of lung & bronchial tree and their clinical correlate	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/OSPE		
AN 12.3	Describe a bronchopulmonary segment	K	KH	Y	Lecture	Written/ Viva voce		
AN 12.4	Identify phrenic nerve & Describe its formation & distribution	K/S	SH	Y	Lecture, Practical	Written/ Viva voce		
AN 12.5	Mention the blood supply, lymphatic drainage and nerve supply of lungs	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 12.6	Describe the extent, length, relations, blood supply, lymphatic drainage and nerve supply of trachea	K	KH	N	Lecture	Written		
Topic: Radiological Anatomy Number of competencies: 2								
AN 13.1	Understand Various imaging techniques with Principles of plain radiograms and CT scan, Ultrasonography,	K	KH	N	Lecture	Written		
AN 13.2	Bones and joints seen in AP and lateral view radiographs of shoulder, elbow, wrist joints & hand	K	KH	N	Lecture	Written	Orthopaedics	
Features of individual bones (Lower Limb) No of Competencies-3								
AN 14.1	Identify the given bone, its side, important features & keep it in anatomical position	K/S	SH	Y	DOAP session	Viva voce		
AN 14.2	Identify & describe joints formed by the given bone	K/S	SH	Y	Lecture, DOAP session	Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 14.3	Describe the importance of ossification of lower end of femur & upper end of tibia	K	KH	Y	Lecture	Viva voce/ Practical	Medicine, Orthopedics	
Topic-- Lower limb Region - Thigh No of competencies - 11								
AN 15.1	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the hip joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 15.2	Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of anterior, medial & gluteal region of thigh	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 15.3	Describe and demonstrate major muscles with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 15.4	Describe and demonstrate boundaries, floor, roof and contents of femoral triangle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP	Written/ Viva voce/skill assessment		
AN 15.5	Describe anatomical basis of sciatic nerve injury during gluteal intramuscular injections	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		
AN 15.6	Explain the anatomical basis of Trendelenburg sign	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		
AN 15.7	Describe and demonstrate the hamstrings group of muscles with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 15.8	Describe and demonstrate the boundaries, roof, floor, contents and relations of popliteal fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP Session	Written/ Viva voce/skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 15.9	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the hip joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 15.10	Describe anatomical basis of complications of fracture neck of femur	K	KH	N	Lecture	Written/ Viva voce		
AN 15.11	Describe dislocation of hip joint and surgical hip replacement	K	KH	N	Lecture	Written/ Viva voce		
Topic - Lower limb Region -Knee, Leg & Foot No of competencies - 16								
AN 16.1	Describe and demonstrate major muscles of anterolateral compartment ofleg with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment	Orthopedics	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 16.2	Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of leg	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 16.3	Explain the anatomical basis of foot drop	K	KH	Y	Lecture,	Written/ Viva voce	OTSC, Surgery	
AN 16.4	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the knee joint	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 16.5	Explain the anatomical basis of locking and unlocking of the knee joint	K	KH	Y	Small Group teaching	Written/ Viva voce		
AN 16.6	Describe knee joint injuries with its applied anatomy	K	KH	N	Lecture	Written/ Viva voce		
AN 16.7	Explain anatomical basis of Osteoarthritis	K	KH	N	Lecture	Written/ Viva voce	Orthopaedics ,OTSC	
AN 16.8	Explain the anatomical basis of rupture of calcaneal tendon	K	KH	N	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 16.9	Describe factors maintaining importance arches of the foot with its importance	K	KH	Y	Lecture	Written/ Viva voce		
AN 16.10	Explain the anatomical basis of Flat foot & Club foot	K	KH	N	Lecture	Written/ Viva voce		
AN 16.11	Explain the anatomical basis of Metatarsalgia & Plantar fasciitis	K	KH	N	Lecture	Written/ Viva voce		
AN 16.12	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply of tibiofibular and ankle joint	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 16.13	Describe the subtalar and transverse tarsal joints	K	KH	N	Lecture	Written/ Viva voce		
AN 16.14	Describe and demonstrate Fascia lata, Venous drainage, Lymphatic drainage, Retinacula & Dermatomes of lower limb	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/OSPE		
AN 16.15	Explain anatomical basis of varicose veins and deep vein thrombosis	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 16.16	Identify & demonstrate important bony landmarks of lower limb: -Vertebral levels of highest point of iliac crest, posterior superior iliac spines, iliac tubercle, pubic tubercle, ischial tuberosity, adductor tubercle, -Tibial tuberosity, head of fibula, -Medial and lateral malleoli, Condyles of femur and tibia, sustentaculum tali, tuberosity of fifth metatarsal, tuberosity of the navicular	K/S	SH	Y	Practical, Lecture, Small group discussion	Viva voce/ OSPE		
Topic--Face, Scalp, neck No of Competencies-13								
AN 17.1	Demonstrate anatomical position of skull, Identify and locate individual skull bones in skull	K/S	SH	Y	Lecture,	Viva voce/ skill assessment	Medicine ,Surgery	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 17.2	Describe features of typical and atypical cervical vertebrae (atlas and axis)	K/S	SH	Y	Lecture,	Viva voce/ skill assessment		
AN 17.3	Describe the features of the 7th cervical vertebra	K/S	SH	N	DOAP session	Viva voce		
AN 17.4	Describe & demonstrate muscles of facial expression and their nerve supply	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 17.5	Describe sensory innervation of face	K	KH	Y	Practical, Lecture	Written/ Viva voce		
AN 17.6	Describe & demonstrate origin /formation, course, branches /tributaries of facial vessels	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 17.7	Describe & demonstrate branches of facial nerve with distribution	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment OSPE		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 17.8	Identify superficial muscles of face, their nerve supply and actions of facial muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 17.9	Explain the anatomical basis of facial nerve palsy	K	KH	Y	Lecture	Written		
AN 17.10	Describe & demonstrate attachments, nerve supply, relations and actions of sternocleidomastoid	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 17.11	Explain anatomical basis of Erb's & Klumpke's palsy	K	KH	Y	Lecture	Written	Surgery, OTSC	
AN 17.12	Explain anatomical basis of wry neck	K	KH	N	Lecture	Written		
AN 17.13	Describe & demonstrate attachments of 1) inferior belly of omohyoid, 2) scalenus anterior, 3) scalenus medius & 4) levator scapulae	K/S	SH	N	Lecture, Practical	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic-Facial region No of Competencies-10								
AN 18.1	Describe & identify extra ocular muscles of eyeball	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment	Surgery	
AN 18.2	Describe & demonstrate nerves and vessels in the orbit	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 18.3	Describe anatomical basis of Horner's syndrome	K	KH	N	Lecture	Written		
AN 18.4	Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus	K	KH	Y	Lecture	Written		
AN 18.5	Describe & demonstrate attachments, direction of fibres, nerve supply and actions of muscles of mastication	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 18.6	Describe & demonstrate articulating surface, type & movements of temporomandibular joint	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 18.7	Explain the clinical significance of pterygoid venous plexus	K	KH	Y	Lecture	Written		
AN 18.8	Describe the features of dislocation of temporomandibular joint	K	KH	N	Lecture	Written		
AN 18.9	Describe & demonstrate the morphology, relations and nerve supply of submandibular salivary gland & submandibular ganglion	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/		
AN 18.10	Describe the basis of formation of submandibular stones	K	KH	N	Lecture	Written		
Topic-Vertebral column, Spinal Cord No of Competencies - 17								
AN 18.1	Describe the parts, extent, attachments, modifications of deep cervical fascia	K	KH	Y	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 18.2	Describe & demonstrate location, parts, borders, surfaces, relations & blood supply of thyroid gland	K/S	KH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce		
AN 18.3	Demonstrate & describe the origin, parts, course & branches subclavian artery	K/S	KH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/	Surgery, Orthopedics	
AN 18.4	Describe & demonstrate origin, course, relations, tributaries and termination of internal jugular & brachiocephalic veins	K/S	SH	Y	Practical, Lecture, Small group discussion	Written/ Viva voce/		
AN 18.5	Describe the course and branches of IX, X, XI & XII nerve in the neck	K	KH	Y	Lecture	Written		
AN 18.6	Describe the anatomically relevant clinical features of Thyroid swellings	K	KH	N	Lecture	Written		
AN 18.7	Describe the clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib	K	KH		Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 18.8	Describe the contents of the vertebral canal	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 18.9	Describe the boundaries and contents of Suboccipital triangle	K	KH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment		
AN 18.10	Describe the curvatures of the vertebral column	K	KH	Y	Lecture	Written/ Viva voce		
AN 18.11	Describe & demonstrate the type, articular ends, ligaments and movements of Intervertebral joints, Sacroiliac joints & Pubic symphysis	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voc/eOSPE		
AN 18.12	Explain the anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida	K	KH	N	Lecture	Written		
AN 18.13	Identify external features of spinal cord	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/	OTOC, OTNC	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 18.14	Describe extent of spinal cord in child & adult with its clinical implication	K	KH	Y	Lecture	Written/ Viva voce		
AN 18.15	Draw & label transverse section of spinal cord at mid- cervical & mid- thoracic level	K	KH	Y	Lecture	Written/ Viva voce		
AN 18.16	Enumerate ascending & descending tracts at mid thoracic level of spinal cord	K	KH	Y	Lecture	Written/ Viva voce		
AN 18.17	Describe anatomical basis of syringomyelia	K	KH	N	Lecture	Written	OTNC, Neurology	
Topic- Brain No of Competencies- 21								
AN 19.1	Identify external features of medulla oblongata	K/S	SH	Y	Lecture, AP session	itten/ Viva voce	Neurology, OTNC	
AN 19.2	Describe transverse section of medulla oblongata at the level of 1) Pyramidal decussation, 2) Sensory decussation 3) ION	K	KH	Y	Lecture	itten/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 19.3	Enumerate cranial nerve nuclei in medulla oblongata with their functional group	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.4	Describe anatomical basis & effects of medial & lateral medullary syndrome	K	KH	N	Lecture	Written		
AN 19.5	Identify external features of pons	K/S	SH	Y	Lecture, DOAP session	Written/ Viva voce/		
AN 19.6	Draw & label transverse section of pons at the upper and lower level	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.7	Enumerate cranial nerve nuclei in pons with their functional group	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.8	Describe & demonstrate external & internal features of cerebellum	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP	Written/ Viva voce/		
AN 19.9	Describe connections of Cerebellar cortex and intracerebellar nuclei	K	KH	Y	Lecture	Written/ Viva voce/		
AN 19.10	Describe anatomical basis of cerebellar dysfunction	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 19.11	Identify external & internal features of midbrain	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 19.12	Describe internal features of midbrain at the level of superior & inferior colliculus	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.13	Describe anatomical basis & effects of Benedikt's and Weber's syndrome	K	KH	N	Lecture	Written		
AN 19.14	Enumerate cranial nerve nuclei with its functional component	K	KH	Y	Lecture	Written/ Viva voce	Neurology, OTNC	
AN 19.15	Describe & demonstrate surfaces, sulci, gyri, poles, & functional areas of cerebral hemisphere	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 19.16	Describe the white matter of cerebrum	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.17	Enumerate parts & major connections of basal ganglia & limbic lobe	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 19.18	Describe boundaries, parts, gross relations, major nuclei and connections of dorsal thalamus, hypothalamus, epithalamus, Meta thalamus and subthalamus	K	KH	Y	Lecture	Written/ Viva voce		
AN 19.19	Describe & identify formation, branches & major areas of distribution of circle of Willis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 19.20	Describe & demonstrate parts, boundaries & features of IIIrd, IVth & lateral ventricle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 19.21	Describe anatomical basis of congenital hydrocephalus	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: : Abdominal cavity Number of competencies: 4								
AN 20.1	Describe boundaries and recesses of Lesser & Greater sac	K	KH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce	Surgery	
AN 20.2	Describe & identify the origin, course, important relations and branches of Abdominal aorta, Coeliac trunk, Superior mesenteric, Inferior mesenteric & Common iliac artery	K	KH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
AN 20.3	Describe important nerve plexuses of posterior abdominal wall, describe the abdominal muscles in different layers	K	KH	N	Lecture	Written		
AN 20.4	Describe & demonstrate the attachments, openings, nerve supply &action of the thoracoabdominal diaphragm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Perenial Region ,Sacral Plexus Number of competencies: 8								
AN 21.1	Describe the (position, features, important eritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of) important male & female pelvic viscera	K	KH	Y	Practical, Lecture, Small group discuss	Written/ Viva voce/		
AN 21.2	Desccribe the origin, course, important relations and branches of internal iliac artery	K	H	Y	Practical, Lecture, Small group discussion	Written/ Viva voce		
AN 21.3	Describe the branches of sacral plexus	K	KH	Y	Lecture	Written		
AN 21.4	Describe the neurological basis of Automatic bladder	K	KH	N	Lecture	Written		
AN 21.5	Describe the superficial & deep perineal pouch (boundaries and contents)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voc		
AN 21.6	Describe & identify Perineal body	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
AN 21.7	Describe Perineal membrane in male & female	K/S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/		
AN 21.8	Explain the anatomical basis of Perineal tear, Episiotomy, Perianal abscess and Anal fissure	K	KH	N	Lecture	Written		
Topic: Larynx, Eyes,hearing & organs of equilibrium Number of competencies: 4								
AN 22.1	Describe the morphology, identify structure of the wall, nerve supply, blood supply and actions of intrinsic and extrinsic muscles of the larynx	K/S	SH	Y	Practical, Lecture, Small group discussion	Written/ Viva voce		OTSC
AN 22.2	Describe the anatomy of ear	K	KH	N	Lecture	Written		
AN 22.3	Describe anatomy of eyes & muscles	K	KH	N	Lecture	Written		
AN 22.4	Explain the anatomical basis of hypoglossal nerve palsy	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Radiological Anatomy Number of competencies: 2								
AN 23.1	Understand Various imaging techniques with Principles of plain radiograms and CT scan, Ultrasonography,	K	KH	N	Lecture	Written	orthopaedics	
AN 23.2	. Bones and joints seen in AP and lateral view radiographs of hip, knee, ankle joints and foot	K	KH	N	Lecture	Written		
Topic: Applied Anatomy Number of competencies: 3								
AN 24.1	**Muscles Describe** Classification, each type: structure, ultrastructure, function, applied anatomy	K	KH	N	Lecture	Written		
AN 24.2	**Nervous Tissue** Describe structure, coverings, functions of Peripheral nerve&. Ganglia:	K	KH	N	Lecture	Written		
AN 24.3	**Skin** Describe Types: features of skin with examples and functions, cells, appendages	K	KH	N	Lecture	Written		

Reference Book

S. No.	Name of the Book	Edition
	Gross Anatomy	
1.	B. D. Chaurasia's Human Anatomy. Volume: 1, 2, 3, 4	8th
2.	Vishram Singh's Textbook of Anatomy. Volume: 1, 2, 3	3rd
3.	Vishram Singh's Textbook of Neuroanatomy	4th
4.	B. D. Chaurasia's General Anatomy	6th
5.	Netter's Human Anatomy Atlas	7th
6.	Grant's Human Anatomy Atlas	13th
7.	Vishram Singh's General Anatomy	
8.	Gray's Anatomy for Students	
	Histology	
9.	Histology Text and Atlas. Brijesh Kumar	2nd
	Surface Anatomy and Radiology	
10.	Surface and Radiological Anatomy. A. Halim	3rd
11.	Cunninghams Practical Anatomy	

HUMAN PHYSIOLOGY

COURSE DESCRIPTION

An overall goal of this course is to enable students to understand the role of molecules, cells, tissues, organs, and organ systems (endocrine, nervous, muscular and immune systems) in human health and disease. This class focuses on understanding physiology –the functioning of a living organism and its component parts. This requires going beyond memorization of facts to acquire an understanding of how and why the body functions the way it does, and what happens when it does not function properly.

COURSE OBJECTIVES

A. KNOWLEDGE

1. Understanding of the physiology and basic regulatory concepts related to the functioning of life processes
2. Understand the functions of important physiological systems including the cardio- respiratory, renal, reproductive and metabolic systems;
3. Define homeostasis and explain how homeostatic mechanisms normally maintain a constant interior milieu.
4. State the functions of each organ system of the body, explain the mechanisms by which each functions, and relate the functions and the anatomy and histology of each organ system.
5. Understand and demonstrate the interrelations of the organ systems to each other
6. Predict and explain the integrated responses of the organ systems of the body to physiological and pathological stresses.
7. Understand physiology of the neuromuscular system, particularly the regulation of strength and velocity of a contraction by muscle receptors interacting with the nervous system.
8. Understand the function of the cardiovascular, circulatory and respiratory systems at rest and during exercise, and their adaptations to training.
9. Explain the pathophysiology of common diseases related to the organ systems of the body receptors interacting with the nervous system.
10. Understand the function of the cardiovascular, circulatory and respiratory systems at rest and during exercise, and their adaptations to training.
11. Explain the pathophysiology of common diseases related to the organ systems of the body.

B. SKILL

1. Perform, analyse and report on experiments and observations in physiology
2. Recognise and identify principal tissue structures.
3. Identify different blood cells in a film, and indicate the identifying features of each type of leukocyte.
4. Clinically examine the Cardiovascular and respiratory system and record BP and pulse at rest and in different postures

C. ATTITUTE

1. Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients and colleagues.
2. Demonstrate ability to apply newly gained knowledge.

Examination scheme

Scheme of examination for University Practical exam 100 Marks

Spots- Identification	Clinical Examination- CVS, Pulse, BP, PNF, CNS & Viva Voce	Presentation & Communication skills	Total
40marks	40 marks	20marks	100 marks

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
HUMAN PHYSIOLOGY								
Topic: General Physiology **Number of competencies: 7**								
PI 1.1	Introduction to Physiology, Organization of Human Body	K/S	SH	Y	Lecture, DOAP session	Written/ Viva voce		Biochemistry
PI 1.2	Compartments of Body Fluid	K	KH	Y	Lecture	Written/ Viva voce		
PI 1.3	Homeostasis and Biofeedback Mechanism	K	KH	Y	Lecture	Written/ Viva voce		
PI 1.4	Cell Physiology	K	KH	Y	Lecture	Written/ Viva voce		
PI 1.5	Cell Membrane and Concept of Membrane Potentials	K	KH	Y	Lecture	Written/ Viva voce		
PI 1.6	Transport Across Cell Membrane	K	KH	Y	Lecture	Written/ Viva voce		
PI 1.7	Concept of Osmolar and Tonicity Units	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Hematology		**Number of competencies: (10)**						
PI 2.1	Describe the composition and functions of blood components	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Pathology	
PI 2.2	Discuss the origin, forms, variations and functions of plasma proteins	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 2.3	Describe and discuss the synthesis and functions of Hemoglobin and explain its breakdown. Describe variants of hemoglobin	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 2.4	Describe RBC formation (erythropoiesis & its regulation) and its functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 2.5	Describe different types immunity and its regulation	K	KH	Y	Lecture, Small discussion	Written/Viva voce		
PI 2.6	Describe WBC formation (granulopoiesis) and its regulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 2.7	Describe the physiological basis of hemostasis and, anticoagulants. Describe bleeding & clotting disorders (Hemophilia, purpura)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 2.8	Describe different blood groups and discuss the clinical importance of blood grouping, blood banking and transfusion	K	KH	Y	Lecture, Small group discussion, ECE- Visit to blood bank	Written/Viva voce		
PI 2.9	Define and classify different types of immunity. Describe the development of immunity and its regulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 2.10	Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT	K	KH	Y	Lecture, DOAP sessions	Practical/OSPE/ Viv a voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Cardiovascular Physiology (CVS) Number of competencies: 13								
PI 3.1	Classify muscle tissue according to structure & action	K	KH	Y	Lecture	Written/ Viva voce	Medicine, OTM C	
PI 3.2	Enumerate parts of skeletal muscle and differentiate between tendons and aponeuroses with examples	K	KH	Y	Lecture	Written/ Viva voce		
PI 3.3	Describe the functional anatomy of heart including chambers, sounds; and Pacemaker tissue and conducting system.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.4	Describe the properties of cardiac muscle including its morphology, electrical, mechanical and metabolic functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.5	Discuss the events occurring during the cardiac cycle	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.6	Describe generation, conduction of cardiac impulse	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 3.7	Describe and discuss hemodynamics of circulatory system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.8	Describe and discuss local and systemic cardiovascular regulatory mechanisms	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.9	Describe the factors affecting heart rate, regulation of cardiac output& blood pressure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.10	Describe & discuss regional circulation including microcirculation, lymphatic circulation, coronary, cerebral, capillary, skin foetal pulmonary and splanchnic circulation,	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 3.11	Describe the patho-physiology of shock, syncope and heart failure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 3.12	Record blood pressure & pulse at rest and in different grades of exercise and postures in a volunteer or simulated environment	S	SH	Y	DOAP sessions	Practical/OSPE/ Viva voce		
PI 3.13	Describe interpretation of normal ECG in a volunteer or simulated environment	K	KH	Y	Lecture, DOAP sessions	Practical/OSPE/ Viva voce		
Topic: Respiratory Physiology Number of competencies (7)								
PI 4.1	Describe the functional anatomy of respiratory tract	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP II, OTMC, Medicine	
PI 4.2	Describe the mechanics of normal respiration, pressure changes during ventilation, lung volume and capacities, alveolar, Surface tension, compliance, airway resistance, ventilation, V/P ratio, diffusion capacity of lungs	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 4.3	Describe and discuss the transport of respiratory gases: Oxygen and Carbon dioxide	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 4.4	Describe and discuss the physiology of high altitude and deep-sea diving	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 4.5	Describe and discuss the pathophysiology of dyspnoea, hypoxia, cyanosis asphyxia; drowning, periodic breathing	K	KH	Y	Lecture, Small group discussion	Written/Vivavoce		
PI 4.6	Describe and discuss lung function tests & their clinical significance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 4.7	Demonstrate the correct technique to perform & interpret Spirometry	S	SH	Y	DOAP sessions	Skill assessment/ Viva voce		
Topic: Renal Physiology Number of competencies: (6)								
PI 5.1	Describe structure and function of kidney	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Medicine, OTMC	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 5.2	Describe the structure and functions of juxta glomerular apparatus and role of renin-angiotensin system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 5.3	Describe the mechanism of urine formation involving processes of filtration, tubular reabsorption & secretion; concentration and diluting mechanism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 5.4	Describe & discuss the significance & implication of Renal clearance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 5.5	Describe the renal regulation of fluid and electrolytes & acid-base balance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 5.6	Describe the innervations of urinary bladder, physiology of micturition and its abnormalities	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Endocrine Physiology Number of competencies: (6)								
PI 6.1	Describe the physiology of bone and calcium metabolism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 6.2	Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of pituitary gland, thyroid gland, parathyroid gland, adrenal gland, pancreas and hypothalamus	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 6.3	Describe the physiology of Thymus & Pineal Gland	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 6.4	Describe function tests: Thyroid gland; Adrenal cortex, Adrenal medulla and pancreas	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 6.5	Describe the metabolic and endocrine consequences of obesity & metabolic syndrome, Stress response. Outline the psychiatry component pertaining to metabolic syndrome.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 6.6	Describe & differentiate the mechanism of action of steroid, protein and amine hormones	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
Topic: Muscle Physiology **No of Competencies: 15**								
PI 7.1	Describe the structure and functions of a neuron and neuroglia; Discuss Nerve Growth Factor & Other growth factors/cytokines	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.2	Describe the types, functions & properties of nerve fibers	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP I, OTSC, OTMC, OTOC, OTNC	FOT I
PI 7.3	Describe the degeneration and regeneration in peripheral nerves	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP I, OTSC, OTMC, OTOC, OTNC	FOT I

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 7.4	Describe the structure of neuro-muscular junction and transmission of impulses	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP I, OTSC, OTMC, OTOC, OTNC	FOT I
PI 7..5	Discuss the action of neuro-muscular blocking agents	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.6	Describe the Pathophysiology of Myasthenia gravis	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Medicine, OTNC	
PI 7.7	Describe the different types of muscle fibers and their structure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.8	Describe action potential and its properties in different muscle types (skeletal & smooth)	K	KH	Y	Lecture, Small Group discussion	Written/Viva voce		
PI 7.9	Describe the molecular basis of muscle contraction in skeletal and in smooth muscles	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.10	Describe the mode of muscle contraction (Isometric and isotonic)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		FOT I, OTDP I
PI 7.11	Explain energy source and muscle metabolism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 7.12	Explain the gradation of muscular activity	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.13	Describe muscular dystrophy: myopathies	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 7.14	Perform Ergography	S	SH	Y	DOAP sessions	Practical/OSPE/ Viva voce		
PI 7.15	Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters	S	SH	Y	DOAP sessions	Practical/OSPE/ Viva voce	Work physiology, OTMC	FOT I
Topic: Physiology of digestive system			**No of Competencies: (8)**					
PI 8.1	Describe the structure and functions of digestive system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.2	Describe the composition, mechanism of secretion, functions, and regulation of saliva, gastric, pancreatic, intestinal juices and bile secretion	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 8.3	Describe GIT movements, regulation and functions. Describe defecation reflex. Explain role of dietary fibre.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.4	Describe the physiology of digestion and absorption of nutrients	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.5	Describe the source of GIT hormones, their regulation and functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.6	Describe the Gut-Brain Axis	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.7	Describe & discuss the structure and functions of liver and gallbladder	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 8.8	Describe & discuss gastric function tests, pancreatic exocrine function tests & liver function tests	K	KH	Y	Lecture, Small group discussion, Demonstration Esophageal Manometry & endoscopy	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Reproductive Physiology		**No of competencies: 5**						
PI 9.1	Describe and discuss sex determination; sex differentiation and their abnormities and outline psychiatry and practical implication of sex determination.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Orthopedics
PI 9.2	Describe and discuss puberty: onset, progression, stages; early and delayed puberty and outline adolescent clinical and psychological association.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 9.3	Describe male reproductive system: functions of testis and control of spermatogenesis & factors modifying it and outline its association with psychiatric illness	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 9.4	Describe female reproductive system: (a) functions of ovary and its control; (b) menstrual cycle - hormonal, uterine and ovarian changes	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 9.5	Describe and discuss the physiological effects of sex hormones	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
Topic: Neuro physiology			**No of competencies: 17**					
PI 10.1	Describe and discuss the organization of nervous system							
PI 10.2	Describe and discuss the functions and properties of synapse, reflex, receptors							
PI 10.3	Describe and discuss somatic sensations & sensory tracts							

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 10.4	Describe and discuss motor tracts, mechanism of maintenance of tone, control of body movements, posture and equilibrium & vestibular apparatus							
PI 10.5	Describe and discuss structure and functions of reticular activating system, autonomic nervous system (ANS)							
PI 10.6	Describe and discuss Spinal cord, its functions, lesion & sensory disturbances							
PI 10.7	Describe and discuss functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system and their abnormalities							
PI 10.8	Describe and discuss behavioral and EEG characteristics during sleep and mechanism responsible for its production							

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 10.9	Describe and discuss the physiological basis of memory, learning and speech							
PI 10.10	Describe and discuss chemical transmission in the nervous system.(Outline the psychiatry element).							
PI 10.11	Demonstrate the correct clinical examination of the nervous system: Higher functions, sensory system, motor system, reflexes, cranial nerves in a normal volunteer or simulated environment							
PI 10.12	Identify normal EEG forms							
PI 10.13	Describe and discuss perception of smell and taste sensation							
PI 10.14	Describe and discuss patho-physiology of altered smell and taste sensation							

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 10.15	Describe and discuss functional anatomy of ear and auditory pathways & physiology of hearing							
PI 10.16	Describe and discuss functional anatomy of eye, physiology of image formation, physiology of vision including colour vision, refractive errors, colour blindness, physiology of pupil and light reflex							
PI 10.17	Describe and discuss the physiological basis of lesion in visual pathway							
Topic: Cardiorespiratory Physiology **No of Competencies: 9**								
PI 11.1	Describe and discuss mechanism of temperature regulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 11.2	Describe and discuss adaptation to altered temperature (heat and cold)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 11.3	Describe and discuss cardio-respiratory and metabolic adjustments during exercise; physical training effects	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 11.4	Discuss & compare Cardio respiratory changes in exercise (isometric and isotonic) with that in the resting state and under different environmental conditions (heat and cold)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
PI 11.5	Describe physiology of Infancy	K	KH	N	Lecture, Small group discussion	Written/Viva voce		
PI 11.6	Interpret growth charts	K	KH	N	Small group teaching	Practical/OSPE/ Vivavoce		
PI 11.7	Interpret anthropometric assessment of infants	K	KH	N	Small group teaching	Practical/OSPE/ Vivavoce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PI 11.8	Discuss the physiological effects of meditation	K	KH	N	Lecture, Small group discussion	Written/Viva voce		
PI 11.9	Describe and discuss physiology of aging; free radicals and antioxidants	K	KH	N	Lecture, Small group discussion	Written/Viva voce		

REFERENCE BOOKS:

1. Text book on Medical Physiology – Guyton
2. Textbook of Physiology – A K Jain .
3. Review of Medical Physiology – Ganong
4. Samson & Wright‟s Applied Physiology

BIOCHEMISTRY

COURSE DESCRIPTION:

Biochemistry, the study of biological phenomena at cellular and molecular level, is studied to gain knowledge about the principles that govern complex biological systems. The primary objective of this course is to give students a solid foundation in biochemical processes, to develop analytical, technical and critical thinking skills and to make them scientifically literate.

COURSE OBJECTIVES

At the end of first year BOTH students will be able to

A. KNOWLEDGE:

1. Explain the scientific basis for an understanding of the mechanisms of metabolic and functional disturbances
2. Gain knowledge and understand the principles that govern the structures of macromolecules and their participation in molecular recognition
3. Understand molecular and functional organization of cell and its subcellular components
4. Provide concept of enzymes
5. Describe the chemistry, metabolism of Carbohydrates, lipids and proteins and its related disorders
6. Understand the Integration and homeostasis of various metabolism
7. Understand the metabolism of Purines, Pyrimidines, Minerals and its related disorders
8. Understand the process of Acid- base and Water- Electrolyte balance and imbalance
9. Recognize the Biochemical role of vitamins and manifestations of its deficiencies

Competency Table: Biochemistry

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BIOCHEMISTRY								
Topic: : Fundamental Unit of Life: The Cell and Chemistry of Biomolecules (Carbohydrates, Lipids, Proteins, Nucleic Acids) Number of competencies: (6)								
BC 1.1	Describe Plasma membrane; structure and function	K	SH	Y	Lecture	Written/ Viva voce	Pathology, Microbiology	
BC 1.2	Understand Function of intracellular organelle in brief (no structural details)	K	KH	Y	Lecture	Written/Viva voce		
BC 1.3	Define & explain the Classification (with proper examples) and their functions	K	KH	Y	Lecture	Written/ Viva voce		
BC 1.4	Define& explain the Various ways of Classification (with proper examples) proteins, amino acids, peptides & their biochemical importance, Denaturation, coagulation, isoelectric pH and its significance	K	KH	Y	Lecture	Written/ Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BC 1.5	Definition, Class Define & explain the ification (with proper examples) and functions of Lipids and fatty acids.	K	KH	Y	Lecture	Written/ Viva voce		
BC 1.6	Describe Structure & functions of DNA, RNA, Nucleotides & their biological importance	K	KH	Y	Lecture	Written/ Viva voce		
Topic: Enzymes Number of competencies: (4)								
BC 2.1	Describe Classification of enzymes, Factors affecting enzyme activity.	k	K	Y	Lecture	Written		
BC 2.2	Enumerate Enzyme inhibitors (kinetic is not required)	K	K	Y	Lecture	Written		
BC 2.3	Describe Diagnostic clinical importance of enzymes & Isoenzymes	K	K, KH	Y	Lecture, DOAP	Written		
BC 2.4	Diagnostic uses of enzymes	K	K, KH		Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Biological Oxidation Mechanism of Hormone Action and Metabolism of Carbohydrate, Lipid, Protein and Nucleic Acid No of Competencies -19								
BC 3.1	Describe the Electron transport chain	K	KH	Y	Lecture, Practical	Written		FOT II
BC 3.2	Describe Substrate level & oxidative phosphorylation	K	KH	Y	Practical, Lecture	Written/ Viva voce		
BC 3.3	Definition, Describe Classification OF Enzymes	K	KH	N	Lecture	Written		
BC 3.4	Describe Mechanism of hormone action	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment		
BC 3.5	Describe Biochemical aspects of digestion and absorption of carbohydrates	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP	Written/ Viva		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BC 3.6	Describe Glycolysis (Aerobic and Anaerobic)	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/		
BC 3.7	Describe Glycogen metabolism, its regulation and glycogen storage diseases	K	KH	Y	Practical, Lecture	Written/ Viva voce		
BC 3.8	Explain Gluconeogenesis-Cori's cycle, HMP shunt and its significance	K	KH	N	Lecture	Written		
BC 3.9	Explain: Blood glucose regulation, Lactose intolerance and Diabetes mellitus	K	KH	N	Lecture	Written		
BC 3.10	Describe Biochemical aspects of digestion and absorption of proteins	K	KH	Y	Lecture,	Written/ Viva voce/		
BC 3.11	Describe Fate of amino acids in the body (deamination, Transamination, transmethylation), fates of ammonia and urea cycle & disorders	K	KH	N	Lecture	Written		
BC 3.12	Describe Biochemical aspects of digestion and absorption of lipids	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BC 3.13	Describe Beta oxidation of fatty acids and its energetics Ketogenesis, ketolysis & ketosis	K	KH	N	Lecture	Written		
BC 3.14	Describe Cholesterol and its importance (No biosynthesis y	K	KH	N	Lecture	Written		
BC 3.15	Explain Classification and functions of Lipoproteins	K	KH	N	Lecture	Viva voce		
BC 3.16	Describe Fates of- acetyl CoA and glycerol	K	KH	N	Lecture	Written		
BC 3.17	Describe Catabolism of purines and related disorders	K	KH	N	Lecture	Written		
BC 3.18	Describe Lipid Profile- Triacylglycerol, cholesterol (HDL, LDL & VLDL)	K	KH	Y	Lecture	Written/ Viva voce	Pathology, Microbiology	
BC 3.19	Describe. Catabolism of purines and related disorders	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Vitamins, Mineral & Nutrition **No of competencies - 13**								
BC 4.1	Describe Classification, sources, functions and RDA of fat soluble and Water-soluble vitamins.	K	KH	N	Lecture	Written		
BC 4.2	Describe Active forms & metabolic role, deficiency manifestations	K	K	N	Lecture	Written		
BC 4.3	Describe Co-enzyme firms of vitamin B-complex group	K	K	N	Lecture	Written		
BC 4.4	Explain Hypervitaminosis	K	KH	Y	Lecture	Written/ Viva voce		
BC 4.5	Describe Calcium and Phosphorous: Sources, RDA, functions and disorders	K	K	N	Lecture	Written		
BC 4.6	Describe Trace elements: Iron, Manganese, Selenium, Zinc & Fluoride	K	K	N	Lecture	Written		
BC 4.7	Describe Importance of nutrition	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BC 4.8	Describe Calorimetry, Respiratory Quotient and its significance	K	K	Y	Lecture	Written/ Viva voce		
BC 4.9	Describe Energy requirement with reference to age and sex	K	KH	N	Lecture	Written		Physiology
BC 4.10	Describe Thermogenesis and specific dynamic action	K	KH	N	Lecture	Written		
BC 4.11	Discuss the Balance diet for normal adult and role of fibres in diet	K	KH	N	Lecture	Written		
BC 4.12	Describe Nitrogen balance and its significance.	K	K	Y	Lecture	Written/ Viva voce		
BC 4.13	Describe Protein energy malnutrition (Kwashiorkor & Marasmus)	K	K	N	Lecture	Written		
Topic: Acid Base and Water Electrolyte Balance and Imbalance **No of competencies -6**								
BC 5.1	Describe Sodium, Potassium and their importance in body	K	KH	N	Lecture	Written	Microbiology	
BC 5.2	Describe Balance & imbalance of Water, Electrolytes	K	KH	N	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BC 5.3	Describe Balance & imbalance of Water, Electrolytes	K	KH	N	Lecture	Written		
BC 5.4	Describe Liver function tests and Renal function tests	K	KH	N	Lecture	Written		
BC 5.6	Describe Relevance of blood levels of glucose, urea, calcium, phosphorus and uric acid	K	KH	N	Lecture	Written		
Topic – Muscle Contraction and Connective Tissue No of Competencies- 4								
BC 6.1	Enumerate Contractile elements	K	KH	Y	Lecture	Written		Physiology
BC 6.2	Describe Biochemical events during contraction	K	KH	Y	Lecture	Written		
BC 6.3	Describe Energy metabolism in skeletal and cardiac muscles	K	KH	Y	Lecture	Written		
BC 6.4	Describe Biochemistry of connective tissue	K	KH	Y	Lecture	Written/ Viva voce		

Reference Books:

1. Essentials of Biochemistry, 1st Edition: Dr. Pankaja Naik
2. Essentials of Biochemistry 7th Edition: Dr. D M Vasudeva
3. Biochemistry 2012 Edition: Dr. U Satyanarayan
4. Review of Biochemistry (24th edition) – Harpar

FUNDAMENTALS OF OCCUPATIONAL THERAPY - I

Course description:

This course gives an introduction to the foundational concepts of Occupational Therapy. This course introduces students to the professional standards, ethical principles, and documentation in occupational therapy practice. It also gives an overview of the Occupation Therapy process, its frameworks, components – OTPF, Rehabilitation Philosophy, methods of assessment of ROM & muscle strength

Goal:

The primary goal of a first-year occupational therapy program is to lay the foundational knowledge and skills necessary for students to become competent and ethical occupational therapy practitioners. The program encourages students to progress through their education with a solid understanding of the profession and the skills needed to begin their journey as occupational therapy professionals

Objectives:

A. Knowledge

At the end of the first year, the student should be able to

1. Remember and understand conceptual foundations of ethics and documentation
2. Understand the therapeutic relationship among the rehabilitation team members, the patient and the therapist.
3. Understand the assessment methods to improve participation in social and community life
4. Understand use of therapeutic activity and apply knowledge of activity analysis to choose appropriate activity for therapeutic use
5. Understand the principles & application of ROM ,muscle strength assessment ,its importance in Occupational Therapy

B. Skills

At the end of the first year, the student should be able to

1. Analyse various Therapeutic activities & match them with clients demands for participation in daily skills
2. Demonstrate assessment skills for ROM & muscle strength
3. Attitude
4. Demonstrate understanding of respect and empathy in conduct with patients

Scheme of examination for University Practical exam 100 Marks

Activity Analysis (any two from adjunctive, enabling, purposeful & occupation based activities) & Viva Voce	Assessment of Range of Motion Upper extremity & Lower Extremity (on normal subjects) & Viva Voce	Gross Muscle testing (On Normal subjects Upper & Lower extremity) & Viva Voce	Presentation & communication skills	Total
20 marks	40 marks	20 marks	20 marks	100 marks

Competency Table: FUNDAMENTALS OF OCCUPATIONAL THERAPY - I

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FUNDAMENTALS OF OCCUPATIONAL THERAPY – I									
Topic: Introduction to Occupation, Occupational Science and Occupational Therapy **Number of Competencies: 8** **Number of procedures for certification: (NIL)**									
FOTI 1.1	Define and describe occupation, theory of occupation and evolutionary traits.	K/C	K	Y	Lecture	Written			
FOTI 1.2	Enumerate and describe dimensions of occupation.	K	K/KH	Y	Lecture	Written			
FOTI 1.3	Enumerate and describe forms of occupation.	K	K/KH	Y	Lecture	Written			
FOTI 1.4	Explain the need to understand occupation.	K	K	N	Lecture	Written			
FOTI 1.5	Understand the philosophy and concept of occupation.	K	K	Y	Lecture	Written			
FOTI 1.6	Explain therapeutic application of occupation.	K/C	K/KH	Y	Lecture	Written			
FOTI 1.7	Explain occupational science and application of its theory to occupational therapy.	K/C	K/KH	Y	Lecture	Written			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 1.8	Define and explain the scope of occupational therapy.	K/A/C	K	Y	Lecture	Written			
Topic: History & Evolution of Occupational Therapy **Number of Competencies:8** **Number of procedures for certification: (NIL)**									
FOTI 2.1	Describe the Historical Context of Occupational Therapy Across the World	K	K	Y	Lecture	Written/ Viva-Voce			
FOTI 2.2	Explain the influences on Evolution of Occupational Therapy	K	K/KH	Y	Lecture	Written			
FOTI 2.3	Explain Rehabilitation philosophy	K	K	Y	Lecture	Written			
FOTI 2.4	Describe Principles of Physical Medicine and Rehabilitation	K	K/KH	Y	Lecture	Written			
FOTI 2.5	Enlist International /National/State Organizations of Occupational Therapy	K	K	Y	Lecture	Written			
FOTI 2.6	Describe how Professional Organizations Supports Professional Development and Enlist Benefits of Professional Associations	K/A/C	K	Y	Lecture	Written/ Viva-Voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 2.7	Historical Context of Occupational Therapy in India Including State Council and NCAHP (National Commission for Allied & Healthcare professions)	K	K	Y	Lecture	Written			
FOTI 2.8	Describe composition and Functions of NCAHP, SCAHP	K	K	Y	Lecture	Written			
Topic: Human Development and Maturation **Number of competencies: 4** **Number of procedures for certification: (NIL)**									
FOTI 3.1	Define and describe importance of knowledge of human development.	K/C	K	Y	Lecture	Written			
FOTI 3.2	Describe aspects of human development.	K/C	K	Y	Lecture	Written			
FOTI 3.3	Describe factors influencing human growth and development.	K/C	K	Y	Lecture	Written			
FOTI 3.4	Describe general principles of human development and specific principles of maturation.	K/C	K	Y	Lecture	Written			Anatomy

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Principles and Methods of Assessments **Number of Competencies: 18** **Number of procedures for certification: (NIL)**									
FOTI 4.1	Define active, passive, and functional range of motion (ROM), total active and total passive motion.	K/C	K	Y	Lecture	Written			
FOTI 4.2	Describe various methods of range of motion evaluation.	K/C	K	Y	Lecture	Written			
FOTI 4.3	Enlist the purposes of measuring joint range of motion	K/C	K	Y	Lecture	Written			
FOTI 4.4	Enlist precautions for and contraindications to joint Measurement Understand and recognize norms of joint range of motion of various	K/C	K	Y	Lecture	Written			
FOTI 4.5	joints of upper extremity, lower extremity and spine and end feels for each motion and describe how to establish ROM norms for clients with bilateral as well as unilateral involvement.	K/C	K	Y	Lecture	Written			
FOTI 4.6	Describe various types of goniometers and parts of goniometers.	K/C	K	Y	Lecture	Written			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 4.7	Evaluate range of motion of the upper extremity joints using a goniometer based on joint range of motion principles and procedures on normal individuals and patients.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 4.8	Evaluate range of motion of the lower extremity joints using a goniometer based on joint range of motion principles and procedures on normal individuals and patients.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 4.9	Evaluate range of motion of the spinal joints using a goniometer, inclinometer and tape method based on joint range of motion principles and procedures on normal individuals and patients	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 4.10	Understand evaluation of range of motion of the temporomandibular joint using a goniometer, and tape method based on joint range of motion principles and procedures on normal individuals.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 4.11	Define types of muscle contractions, types of muscle strength and muscle power.	K/C	K	Y	Lecture	Written			
FOTI 4.12	Enlist the steps of the manual muscle test procedure in correct order and describe the limitations of the procedure.	K/C	K	Y	Lecture	Written			
FOTI 4.13	Enumerate and explain the various muscle strength grading systems	K/S/A/C	K	Y	Lecture	Written			
FOTI 4.14	Perform/administer a manual muscle test to evaluate strength of the upper extremity group muscles based on manual muscle test principles and procedures on normal person.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 4.15	Perform/administer a manual muscle test to evaluate strength of the lower extremity group muscles based on manual muscle test principles and procedures on normal person.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 4.16	Perform/administer a manual muscle test to evaluate strength of the spine group muscles based on manual muscle test principles and procedures on normal person.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 4.17	Define and explain muscle endurance and general endurance or aerobic capacity.	K/C	K	Y	Lecture	Written			
FOTI 4.18	Perform/administer a muscle endurance test based on the principles and procedures on normal person.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
Topic: Therapeutic Exercises Number of Competencies: 8 Number of procedures for certification: (NIL)									
FOTI 5.1	Explain principles of therapeutic exercises.	K/C	K	Y	Lecture	Written			
FOTI 5.2	Enumerate purposes and indications of therapeutic exercises.	K/C	K	Y	Lecture	Written			
FOTI 5.3	Enumerate precautions and contraindications of therapeutic exercises.	K/C	K	Y	Lecture	Written			
FOTI 5.4	Determine pre-requisites of prescriptions of therapeutic exercises.	K/C	K	Y	Lecture	Written			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 5.5	Define, classify, differentiate and demonstrate types of therapeutic exercises and give examples of its application to activities.	K/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 5.6	Describe treatment goals and enlist therapeutic activities for patients who have problems with range of motion and flexibility.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 5.7	Describe treatment goals and enlist therapeutic activities for patients who have problems with muscle strength.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
FOTI 5.8	Describe treatment goals and enlist therapeutic activities for patients who have problems with muscle and general endurance.	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical			
Topic: Activity Analysis Number of Competencies: 4 Number of procedures for certification: (NIL)									
FOTI 6.1	Explain principles of activity analysis with respect to biomechanical, sensory motor & socio-cultural aspects including the criteria for selection of an activity for a client.	K/C/A	K	Y	Lecture	Written			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 6.2	Determine grading of occupations/activities/tasks to challenge the person's abilities to improve performance.	K/S/A/C	K/KH/SH	Y	Lecture, DOAP	Written, Practical			
FOTI 6.3	Determine adaptation of occupations/activities/tasks to increase their therapeutic value or to bring them within the capability of a person.	K/S/A/C	K/KH/SH	Y	Lecture, DOAP	Written, Practical			
FOTI 6.4	Administer, demonstrate and explain activity analysis of any adjunctive activities, enabling activities (occupation-as-means), purposeful activities (occupation-as- end) and occupation.	K/S/A/C	K/KH/SH	Y	Lecture, DOAP	Written, Practical			
Topic: Media, Methods and Therapeutic and Physical Agent Modalities **Number of Competencies: 4** **Number of procedures for certification: (NIL)**									
FOTI 7.1	Define media, methods and modalities.	K/C	K	Y	Lecture	Written			
FOTI 7.2	Describe the phases of tissue healing.	K/C	K	Y	Lecture	Written			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOTI 7.3	Describe the appropriate indications, precautions and contraindications for use of superficial thermal agents, deep thermal agents, and electrotherapeutic agents (Physical agent modalities are used only as an adjunct to Occupational Therapy only)	K/C	K	Y	Lecture	Written			
FOTI 7.4	Enlist the role of physical agent modalities in occupational therapy practice. (Physical agent modalities are used only as an adjunct to Occupational Therapy only)	K/C	K	Y	Lecture	Written			

Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedel lCrepeau, Ellen S. Cohn, Barbara A. Boyt Schell.
2. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby
3. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins
4. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone
5. Introduction to Occupational Therapy by Hussey Subonis, Chafea O Brien

ENGLISH & COMMUNICATION SKILLS

Course Description:

This course gives a brief overview of understanding of the importance of grammar for writing & speaking of English language.& communication skills in Occupational Therapy practice, Gives the guidelines for developing communication skills for professional

Goal:

The primary goal of delivering the effective communication & English speaking & writing for the first year Occupational Therapy under graduate aware about the effective communication skills & need for addressing them.

Objectives:

Knowledge

At the end of the first year, the student should be able to

1. Converse & write the texts/ documents in English
2. Remember and understand the importance and process of communication
3. Explain education and career skills, planning, decision making and organization, culture and etiquette.
4. Describe the method of creating a first impression and explain the way of introduction & presentation of self (physical appearance) at the university and during academic meetings and conferences.
5. Enlist online and offline meeting etiquette Scheme of Examination:

Total Theory Marks: 50 (Non university Exam) MCQs, Short answer questions, Brief answer questions

Competency Table: English & Communication Skills

Codr No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods
English & Communication Skills						
Topic No 1	**English Language** **No of Competencies:2**					
ENCS 1.1	Understand English Language Grammar & Converse in English	K/SA/C	k/KH/ SH/P	Y	Lecture/Small group discussion	Written, Viva Voce/Group Assignment
ENCS 1.2	Explain & demonstrate the different methods of writing like letters, E- mails, report, case study, collecting the patient data etc. Basic compositions, journals, with a focus on paragraph form and organization.	K/S/A/C	K/KH/SH/P	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment

Codr No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods
Topic No 2	**Concept, Purpose & Process of Communication skills**		**No of Cometencies:9**			
ENCS 2.1	Enlist the importance and process of communication.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.2	Enumerate the Barriers to effective communication.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.3	Differentiate between verbal and non-verbal communication.	K/S/A/C	K/KH/SH	Y	Lecture/ Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.4	Define types of and describe communication skills and etiquettes.	K/S/A/C	K/KH/SH/P	Y	Lecture/ Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.5	Describe purpose of communication skills and define roles of varied stakeholders of communication.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment

Codr No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods
ENCS 2.6	Define and explain the concept of self-care, self-development, self- appraisal, goal setting and time management.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.7	Enlist the goals of education and career skills, planning, decision making and organization, culture and etiquette.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.8	Define and describe the concept of group discussion and team skills, interpersonal and intrapersonal people skills.	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 2.9	Understand the process of preserving documents in hard and soft copy [In various National portals e.g. Digi locker]	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment

Codr No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching Learning Methods	Assessment Methods
Topic 3	**Behaviors & Methods of Communication**		**No of Competencies:3**			
ENCS 3.1	Define and classify behaviours and describe the concept of behaviour training.	K/S/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 3.2	Define and describe the method of creating a first impression and explain the way of introduction & presentation of self (physical appearance) at the university and during academic meetings and conferences.	K/S/A/C	K/KH/SH/P	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment
ENCS 3.3	Understand how to exhibit professionalism in social settings. Describe and enlist online and offline meeting etiquette.	K/S/A/C	K/KH/SH/P	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment

Reference Books:

1. Cole K. Crystal clear communication. 2nd ed. Chennai: East West Books, 2001.
2. Taylor G. English conversation practice. New Delhi: Tata Mc Graw Hill Publishing Company; 2001.
3. Thomas EB. The most common mistakes in English. New Delhi: Tata Mc Graw Hill Publishing Company; 2001.
4. English for all (Beginners to advanced)

FUNDAMENTALS OF OCCUPATIONAL THERAPY - II

Course description:

This course gives an introduction to the foundational concepts of Occupational Therapy. This course introduces students to the professional standards, ethical principles, and documentation in occupational therapy practice. It also gives an overview of the Occupation Therapy process, its frameworks, components – Activities of daily living, Work, hand functions and hand splinting.\

Goal:

The primary goal of a first-year occupational therapy program is to lay the foundational knowledge and skills necessary for students to become competent and ethical occupational therapy practitioners. The program encourages students to progress through their education with a solid understanding of the profession and the skills needed to begin their journey as occupational therapy professionals.

Objectives:

A. **Knowledge**

At the end of the first year, the student should be able to

1. remember and understand conceptual foundations of ethics and documentation
2. understand the therapeutic relationship between the patient and the therapist.
3. understand the role of activities of daily living for maintaining health, well-being, and participation in social and community life
4. understand concept of work and work evaluation and apply knowledge for return to work when dealing with clients in the forthcoming years
5. understand the basic hand functions and assessment tools used
6. identify equipment, material, and tools used in occupational therapy practice
7. understand basics of hand splint making.

B. **Skills**

At the end of the first year, the student should be able to

1. Analyse various jobs with respect to psychological and physical demands
2. Demonstrate making a paper pattern of commonly used hand splints by applying the principles of splint making.

C. **Attitude**

At the end of the first year, the student should be able to

1. Demonstrate understanding of respect and empathy in conduct with patients

Scheme of examination for University Practical exam

Job Analysis (Any of any two from Heavy, moderate, Light, sedentary jobs) & Viva Voce	Identification of Splint Tools, Materials & equipments) (Spots any 4) & Viva Voce	Splints Paper Patterns & Viva Voce	Presentation & communication skills	Total
20 marks	40 marks	20 marks	20 marks	100 marks

Competency Table: FUNDAMENTALS OF OCCUPATIONAL THERAPY – II

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FUNDAMENTALS OF OCCUPATIONAL THERAPY - II									
Topic: Code of Ethics and Conduct in Occupational Therapy **Number of Competencies: 5** **Number of procedures for certification: (NIL)**									
FOT-II 1.1	Define the terms ethics, morality and moral reasoning	K	K	Y	Lecture	Written, viva			
FOT-II 1.2	Discuss ethical implications of trends in healthcare and Occupational therapy practice	K, A	K/KH	Y	Lecture, Small group discussion, Role play	Written, viva			
FOT-II 1.3	Enumerate the ethical theories and principles that apply to clinical practice of occupational therapy	K	K	Y	Lecture	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOT-II 1.4	Enumerate the code of ethics and the principles of National Commission of Allied & Healthcare Professions (NCAHP)	K	K	Y	Lecture	Written			
FOT-II 1.5	Outline the ethical elements of the therapeutic relationship between client and Therapist	K, A	KH	Y	Lecture, Small group discussion, Role play	Written, viva			
Topic : Uniform Terminology and Occupational Therapy Practice Framework Number of Competencies:4 Number of procedures for certification : (NIL)									
FOT-II 2.1	Describe historical overview of uniform terminology	K	K	Y	Lecture	Written			
FOT-II 2.2	Describe the evolution of the occupational therapy practice framework (OTPF)	K	K	Y	Lecture	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOT-II 2.3	Describe Domains (Occupations, Contexts, Performance Patterns, Performance Skills & Client Factors) and Practice (Evaluation, Intervention & Outcomes) of OTPF	K	K/KH	Y	Lecture	Written, viva			
FOT-II 2.4	Give brief overview of ICF	K	K	Y	Lecture	Written, viva			
Topic : Overview of the Occupational Therapy process and outcome Number of competencies: 2 Number of procedures for certification : (NIL)									
FOT-II 3.1	Describe Occupational therapy as a process and enumerate its components	K	K/KH	Y	Lecture	Written, viva			
FOT-II 3.2	Describe the evaluation related to Occupational profile, occupational performance and targeted outcomes	K	K/KH	Y	Lecture	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic : Documentation of Occupational Therapy Services Number of Competencies: 3 Number of procedures for certification : (NIL)									
FOT-II 4.1	Describe the terms Screening, Evaluation and Assessment	K	K	Y	Lecture	Written, viva			
FOT-II 4.2	Differentiate standardised, non standardised, subjective and objective assessments	K	K/ KH	Y	Lecture	Written, viva			
FOT-II 4.3	Understand purpose and types of documentation	K	K	Y	Lecture	Written , viva			
Topic : Activities of Daily Living Number of Competencies: 4 Number of procedures for certification : (NIL)									
FOT-II 5.1	Define and classify activities of daily living (ADL)	K	K	Y	Lecture	Written, viva			
FOT-II 5.2	Discuss ADL evaluation and describe various scales used in evaluation of both basic and instrumental ADL	K	K/KH	Y	Lecture, DOAP, CASE STUDY	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOT-II 5.3	Discuss and understand principles and Specific Techniques in ADL Training for: Weakness, Low Endurance, Limited Range of Motion, Inco-ordination, Loss of Use of One Side of the Body, Limited Vision, Decreased Sensation, Access to Home, Community and Workplace	K	K/ KH	Y	Lecture, demonstration	Written, viva			
FOT-II 5.4	Define Adaptation and explain its process	K	K	Y	Lecture,	Written, viva			
Topic : Return to Work **Number of Competencies: 5** **Number of procedures for certification : (NIL)**									
FOT-II 6.1	Define and classify work	K	K	Y	Lecture	Written, viva			
FOT-II 6.2	Understand and describe Work Evaluations & its assessment tools –	K	K/KH	Y	Lecture, Tutorial, Small Group discussion Demonstration	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOT-II 6.3	Define Prevocational Testing and Training and describe work conditioning and work hardening	K	K/KH	Y	Lecture, small group discussion	Written, viva			
FOT-II 6.4	Enumerate assessment needs and components of job analysis	K	K/KH	Y	Lecture	Written, viva			
FOT-II 6.5	Understand and explain job analysis of Tailoring, carpentry, Driving, data entry on computers	K/S	K/KH/SH	Y	Lecture, Tutorial, Demonstration	Written, viva			
Topic : Hand Functions & its Evaluation Methods Number of Competencies: 4 Number of procedures for certification : (NIL)									
FOT-II 7.1	Define and classify normal hand functions	K	KH	Y	Lecture	Written, viva			
FOT-II 7.2	Describe resting and functional position of the hand	K	KH	Y	Lecture, Demonstrate	Written, viva			
FOT-II 7.3	Describe various assessment methods for hand functions	K/S	K/KH/SH	Y	Lecture, DOAP	Written, viva, DOP			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
FOT-II 7.4	Define oedema and describe its assessment by various methods	K/S	K/KH/SH	Y	Lecture, DOAP	Written, viva, DOP			
Topic: Tools, Equipment and Materials Used in Splint Fabrication Number of Competencies: 4 Number of procedures for certification: (NIL)									
FOT-II 8.1	Identify and explain the types, components, therapeutic values & demonstrate the uses of various tools used in fabrication of splints	K/S	K/KH/SH	Y	Lecture, demonstration	Written, OSPE, spots			
FOT-II 8.2	Identify and explain the uses of various equipment used in fabrication of splints	K/S	K/KH/SH	Y	Lecture, demonstration	Written, OSPE, spots			
FOT-II 8.3	Identify and explain the uses of various materials used in fabrication of splints	K/S	K/KH/SH	Y	Lecture, demonstration	Written, OSPE, spots			
FOT-II 8.4	understand and apply its knowledge in use, storage and maintenance of tools and equipments	K	K/KH	Y	Lecture, demonstration	Written, viva			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic : Introduction to Hand Splinting Number of Competencies:6 **Number of procedures for certification : (NIL)**									
FOT-II 9.1	Define & classify hand splints	K	KH	Y	Lecture,	Written, viva			
FOT-II 9.2	Explain the various characteristics of splint fabrication materials	K	KH	Y	Lecture,	Written, viva			
FOT-II 9.3	Enumerate the indications and therapeutic uses of hand splints	K	KH	Y	Lecture	Written, viva			
FOT-II 9.4	Describe the various principles of hand splints	K	KH	Y	Lecture,	Written, viva			
FOT-II 9.5	Demonstrate the fitting and the check out of hand splints	K/S	KH/SH	Y	Lecture, demonstration	Written, viva			
FOT-II 9.6	Prepare the paper model of following splints – finger gutter , functional hand splint, short opponens, radial bar cock up, dynamic extension outrigger splint.	K/S	KH/SH	Y	DOAP	DOP, Practical			

Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedel Crepeau, Ellen S. Cohn, Barbara A. Boyt Schell.
2. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby
3. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins
4. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone
5. Therapeutic Exercise by John V. Basmajian& Steven L. Wolf. Published by Williams & Wilkins
6. Therapeutic Exercise, Foundation & Techniques by Carolyn Kisner & Lynn Allen Colby. Published by F. A. Davis Company
7. Muscle Testing & Function by F.P. Kendall
8. Daniel's &Worthingham's Muscle Testing.
9. Measurement of Joint Motion: A guide to goniometry by C.C. Norkin & D. J. White
10. Principle of Exercise Therapy by Dena Gardiner

ENVIRONMENTAL SCIENCES

Course Description:

This course gives a brief overview of understanding of the effects of climate change on the natural systems and processes on earth, need for substantive environmental laws and growing public awareness of a need for action in addressing environmental problems

Goal:

The primary goal of environmental sciences is to make the first year Occupational Therapy under graduate aware about the environmental problems and need for action in addressing them.

Objectives:

A. Knowledge

At the end of the first year, the student should be able to

1. Remember and understand the ecological and biological concepts of environment
2. Explain forms of energy, effects of climate change and conservation methods as relating to green house gas emissions
3. Understand and be aware about the policy and governance and ethics related to environment

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Vertical Integration	Horizontal Integration
ENVIRONMENTAL SCIENCES								
Topic: Introduction to Ecology and Biology Number of Competencies: 8								
EVS 1.1	Explain the concepts of ecosystems and ecology	K	K	Y	Lecture	Written		
EVS 1.2	Describe Biotic and abiotic components of ecosystem and the Interactions between populations and communities in an ecosystem	K	KH	N	Lecture	Written		
EVS 1.3	Describe cycling and importance of essential and nonessential chemicals in biosphere	K	KH	Y	Lecture	Written		
EVS 1.4	Describe the two main kingdoms of Biology i.e. plant and animal kingdoms	K	K	Y	Lecture	Written		
EVS 1.5	Discuss the functioning of basic unit of life i.e. cell	K	K	Y	Lecture	Written		
EVS 1.6	Enumerate Principles of Biological diversity	K	K	Y	Lecture	Written		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Vertical Integration	Horizontal Integration
EVS 1.7	Enumerate causes and consequences of biodiversity loss	K	K	Y	Lecture	Written		
EVS 1.8	Explain established and emerging conservation actions and measures.	K	KH	Y	Lecture	Written		
Topic : Energy, Climate change, Economics and Environment Number of Competencies: 8 certification : (NIL)								
EVS 2.1	Enumerate the various forms of energy	K	K	Y	Lecture	Written		
EVS 2.2	Describe the effect of the various forms of energy on the climate of the planet	K	KH	Y	Lecture	Written		
EVS 2.3	Explain economics of energy use	K	K	Y	Lecture	Written		
EVS 2.4	Enumerate the factors that determine the climate of our planet	K	K	Y	Lecture	Written		
EVS 2.5	Explain the natural variability and variations in climate due to anthropogenic causes	K	KH	Y	Lecture	Written		
EVS 2.6	Discuss the policies related to climate change	K	K	Y	Lecture	Written		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching - Learning Methods	Assessment Methods	Vertical Integration	Horizontal Integration
EVS 2.7	Describe Procedures, tools and technique for Environmental Impact Assessment (EIA)	K	K	Y	Lecture	Written		
EVS 2.8	Explain the Concepts of carbon accounting & carbon footprint and greenhouse gas emission	K	KH	Y	Lecture	Written		
Topic : Policy and Governance Number of Competencies: 4 Number of procedures for certification : (NIL)								
EVS 3.1	Explain the concept of Environmental Law and Governance	K	K	Y	Lecture	Written		
EVS 3.2	Describe Formulation of Environmental Policy, and its Implementation and Evaluation	K	KH	Y	Lecture	Written		
EVS 3.3	Explain Environmental Ethics and Justice	K	KH	Y	Lecture	Written		
EVS 3.4	Describe role of research in conservation science	K	KH	N	Lecture	Written		

Reference and Recommended Books

1. Sustainable Environmental Science by Sahu DD. New India Publishing Agency
2. Textbook of Environmental Sciences by Shivashanmugam P. New India Publishing Agency

II BOT ANNUAL PATTERN

Sr. No.	Course Code	Subject	Total Teaching Hours/Semester			Credits			Marks (University Examination)
			Theory	Practical/ Demo/ Lab work	Clinical	Theory	Practical/Demo/ Lab work	Clinical	Total
1	PM	Pathology & Microbiology	90	--	--	6		--	Theory-100
2	PH	pharmacology	45	--	--	3		--	Theory-50
3	PSY	Psychology	90	-	--	6	-		Theory-100
4	BMK	Biomechanics & Kinesiology	90	120	--	6	4		Theory-100 Practical-100
5	OTDP I	Occupational Therapy Diagnostic & practice I	90	120	--	6	4		Theory-100 Practical-100
6	OTDP II	Occupational Therapy Diagnostic & practice II	90	120	--	6	4		Theory-100 Practical-100
7	COMP	Computer Sciences	30	30		2	1		Theory-50 (NUE)

Sr. No.	Course Code	Subject	Total Teaching Hours/Semester			Credits			Marks (University Examination)
			Theory	Practical/ Demo/ Lab work	Clinical	Theory	Practical/Demo/ Lab work	Clinical	Total
8	FAE	First aid & Emergency Care	30	30		2	1		Theory-50(NUE)
9		Supervised Clinical Training / Field Work			585			13	

Total Hours	1560				
Total Credits		64			
Total Marks					850

"NUE-- Non University Examinations (Must be conducted by the OT institution before annual university exams) "

Pathology and Micro biology

COURSE DESCRIPTION:

This course follows the basic subjects of Anatomy, Physiology, and Biochemistry and it forms a vital link between pre-clinical subjects and clinical subjects. Pathology involves the study of cause and mechanism of diseases. The knowledge and understanding of pathology of diseases is essential to institute appropriate treatment or suggest preventive measures to the patent. Particular. effort is made in this course to avoid burdening of the student

GOAL:

Give the concept of cell injury and changes in relation towards the pathological effects of infectious and non-infectious diseases and understand the disease process, the clinical significance (with special emphasis on musculoskeletal, neuro pathological and cardio respiratory system). Utilize concepts on microbiology, diagnosis of infections and immunology. Identify structure and features of disease-causing bacteria and viruses.

COURSE OBJECTIVES:

Knowledge

I. Describe etiology pathogenesis and clinico-pathological co-relation of common infectious and non-infectious disease.
II. Describe the changes in cells after cell injury and its healing process.
III. Describe the normal and altered in different organ system in different disease and their clinical significance.
IV. Understand the common hematological disorders and investigations necessary to diagnose them.
V. Understand in brief about the hematological disease and their resultant effects on the human body.
VI. Describe process of diseases, diagnosis of it and the role of immunity.
VII. Define characteristics of the micro-organisms causing diseases..

Setting Question Paper will be done as per Section A (Pathology) and Section B (Microbiology) , 50 Marks allotted to each section

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PATHOLOGY									
Topic: Introduction to Pathology		**Number of competencies: (02)**				**Number of procedures that require certification: (NIL)**			
PM 1.1	Describe the role of a pathologist in diagnosis and management of disease	K	K	Y	Departmental orientation	Written/ Viva voce			
PM 1.2	Enumerate common definitions and terms used in Pathology	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Cell Injury and Adaptation		**Number of competencies: (07)**				**Number of procedures that require certification: (NIL)**			
PM 2.1	Demonstrate knowledge of the causes, mechanisms, types and effects of cell injury and their clinical significance	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 2.2	Describe the etiology of cell injury. Distinguish between reversible-irreversible injury: mechanisms; morphology of cell injury	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 2.3	Intracellular accumulation of fats, proteins, carbohydrates, pigments	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 2.4	Describe and discuss Cell death- types, mechanisms, necrosis, apoptosis (basic as contrasted with necrosis), autolysis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 2.5	Describe and discuss pathologic calcifications, gangrene.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 2.6	Describe and discuss cellular adaptations: atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 2.7	Describe and discuss the mechanisms of cellular aging and apoptosis.	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			
Topic: Amyloidosis Number of competencies: (01) Number of procedures that require certification: (NIL)									
PM 3.1	Describe the pathogenesis and pathology of amyloidosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Inflammation Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 4.1	Define and describe the general features of acute and chronic Inflammation including stimuli, vascular and cellular events	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 4.2	Enumerate and describe the mediators of acute inflammation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 4.3	Define and describe chronic inflammation including causes, types, non-specific and granulomatous; and enumerate examples of each	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Healing and repair		**Number of competencies: (01)**			**Number of procedures that require certification: (NIL)**				
PM 5.1	Define and describe the process of repair and regeneration including wound healing and its types	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
Topic: Hemodynamic disorders		**Number of competencies: (06)**			**Number of procedures that require certification: (NIL)**				
PM 6.1	Define and describe edema, its types, pathogenesis and clinical correlations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 6.2	Define and describe hyperaemia, congestion, haemorrhage	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 6.3	Define and describe shock, its pathogenesis and its stages	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 6.4	Define and describe normal haemostasis and the etiopathogenesis and consequences of thrombosis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 6.5	Define and describe embolism and its causes and common types	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 6.6	Define and describe Ischaemia/infarction its types, etiology, morphologic changes and clinical effects	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Neoplastic disorders		**Number of competencies: (05)**				**Number of procedures that require certification: (NIL)**			
PM 7.1	Define and classify neoplasia. Describe the characteristics of neoplasia including gross, microscopy, biologic, behaviour and spread. Differentiate between benign from malignant neoplasm	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 7.2	Describe the molecular basis of cancer	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 7.3	Enumerate carcinogens and describe the process of carcinogenesis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 7.4	Describe the effects of tumor on the host including paraneoplastic syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 7.5	Describe immunology and the immune response to cancer	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Microbiology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Immunopathology and AIDS **Number of competencies: (07)** **Number of procedures that require certification: (NIL)**									
PM 8.1	Describe the principles and mechanisms involved in immunity	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
PM 8.2	Describe the mechanism of hypersensitivity reactions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PM 8.3	Describe the HLA system and the immune principles involved in transplant and mechanism of transplant rejection	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PM 8.4	Define autoimmunity. Enumerate autoimmune disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 8.5	Define and describe the pathogenesis of systemic Lupus Erythematosus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 8.6	Define and describe the pathogenesis and pathology of HIV and AIDS	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 8.7	Define and describe the pathogenesis of other common autoimmune diseases	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Infections and Infestations Number of competencies: (04) Number of procedures that require certification: (NIL)									
PM 9.1	Define and describe the pathogenesis and pathology of malaria	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 9.2	Define and describe the pathogenesis and pathology of cysticercosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 9.3	Define and describe the pathogenesis and pathology of leprosy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 9.4	Define and describe the pathogenesis and pathology of common bacterial, viral, protozoal and helminthic diseases	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
Topic: Genetic and paediatric diseases Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 10.1	Describe the pathogenesis and features of common cytogenetic abnormalities and mutation in childhood.	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 10.2	Describe the pathogenesis and pathology of tumour and tumour-like conditions in infancy and childhood	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PM 10.3	Describe the pathogenesis of common storage disorders in infancy and childhood	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
Topic: Environmental and nutritional diseases Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 11.1	Enumerate and describe the pathogenesis of disorders causedby air pollution, tobacco and alcohol	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Community Medicine
PM 11.2	Describe the pathogenesis of disorders caused by proteincalorie malnutrition and starvation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Pediatrics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 11.3	Describe the pathogenesis of obesity and its consequences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Introduction to haematology Number of competencies: (05) Number of procedures that require certification: (NIL)									
PM 12.1	Describe haematopoiesis and extramedullary haematopoiesis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 12.2	Describe the role of anticoagulants in haematology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 12.3	Define and classify anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 12.4	Enumerate and describe the investigation of anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 12.5	Perform, Identify and describe the peripheral blood picture in anaemia	S	SH	Y	DOAP session	Skill assessment		General Medicine	
Topic: Microcytic anaemia		**Number of competencies: (02)**				**Number of procedures that require certification: (NIL)**			
PM 13.1	Describe iron metabolism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PM 13.2	Describe the etiology, investigations and differential diagnosis of microcytic hypochromic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Macrocytic anemia		**Number of competencies:(04)**				**Number of procedures that require certification: (NIL)**			
PM 14.1	Describe the metabolism of Vitamin B12 and the etiology and pathogenesis of B12 deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 14.2	Describe laboratory investigations of macrocytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 14.3	Identify and describe the peripheral blood picture of macrocytic anemia.	S	SH	Y	DOAP session	Skill assessment			
PM 14.4	Enumerate the differences and describe the etiology and distinguishing features of megaloblastic and non-megaloblastic macrocytic anemia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Haemolytic anemia Number of competencies: (05) Number of procedures that require certification: (NIL)									
PM 15.1	Define and classify haemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PM 15.2	Describe the pathogenesis and clinical features and hematologic indices of haemolytic anemia.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 15.3	Describe the pathogenesis, features, hematologic indices and peripheral blood picture of sickle cell anemia and thalassemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PM 15.4	Describe the etiology pathogenesis, hematologic indices and peripheral blood picture of Acquired haemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PM 15.5	Describe the peripheral blood picture in different haemolytic anemias	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Aplastic anemia Number of competencies: (01) Number of procedures that require certification: (NIL)									
PM 16.1	Enumerate the etiology, pathogenesis and findings in aplastic anemia	K	K	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Leukocyte disorders Number of competencies: (02) Number of procedures that require certification: (NIL)									
PM 17.1	Enumerate and describe the causes of leucocytosis leukopenia lymphocytosis and leukemoid reactions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 17.2	Describe the etiology, genetics, pathogenesis classification, features, hematologic features of acute and chronic leukaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Lymph node and spleen Number of competencies: (04) Number of procedures that require certification: (NIL)									
PM 18.1	Enumerate the causes and describe the differentiating features of lymphadenopathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 18.2	Describe the pathogenesis and pathology of tuberculous lymphadenitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 18.3	Describe and discuss the pathogenesis, pathology and the differentiating features of Hodgkin's and non-Hodgkin's lymphoma	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 18.4	Enumerate and differentiate the causes of splenomegaly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
Topic: Haemorrhagic disorders Number of competencies: (04) Number of procedures that require certification: (NIL)									
PM 19.1	Describe normal haemostasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 19.2	Classify and describe the etiology, pathogenesis and pathology of vascular and platelet disorders including ITP and haemophilia's	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 19.3	Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of disseminated intravascular coagulation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 19.4	Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of Vitamin K deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Blood banking and transfusion Number of competencies: (05) Number of procedures that require certification: (NIL)									
PM 20.1	Classify and describe blood group systems (ABO and RH)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 20.2	Enumerate blood components and describe their clinical uses	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 20.3	Enumerate and describe infections transmitted by blood transfusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PM 20.4	Describe transfusion reactions and enumerate the steps in the investigation of a transfusion reaction	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 20.5	Enumerate the indications and describe the principles and procedure of autologous transfusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Clinical Pathology Number of competencies: (01) Number of procedures that require certification: (NIL)									
PM 21.1	Describe abnormal findings in body fluids in various disease states	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Gastrointestinal Tract Number of competencies: (06) Number of procedures that require certification: (NIL)									
PM 22.1	Describe the etiology, pathogenesis, pathology and clinical features of oral cancers	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Dentistry	
PM 22.2	Describe the etiology, pathogenesis, pathology, microbiology, clinical and microscopic features of peptic ulcer disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 22.3	Describe and etiology and pathogenesis and pathologic features of carcinoma of the stomach	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 22.4	Describe and etiology and pathogenesis and pathologic features of Tuberculosis of the intestine	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 22.5	Describe and etiology and pathogenesis and pathologic and distinguishing features of Inflammatory bowel disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 22.6	Describe and etiology and pathogenesis and pathologic and distinguishing features of carcinoma of the colon	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
Topic: Hepatobiliary system Number of competencies: (05) Number of procedures that require certification: (NIL)									
PM 23.1	Describe bilirubin metabolism, enumerate the etiology and pathogenesis of jaundice, distinguish between direct and indirect hyperbilirubinemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 23.2	Describe the pathophysiology and pathologic changes seen in hepatic failure and their clinical manifestations, complications and consequences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
PM 23.3	Describe the etiology and pathogenesis of viral and toxic hepatitis: distinguish the causes of hepatitis based on the clinical and laboratory features. Describe the pathology, complications and consequences of hepatitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 23.4	Describe the pathophysiology, pathology and progression of alcoholic liver disease including cirrhosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 23.5	Describe the etiology, pathogenesis and complications of portal hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
Topic: Respiratory system Number of competencies: (07) Number of procedures that require certification: (NIL)									
PM 24.1	Define and describe the etiology, types, pathogenesis, stages, morphology and complications of pneumonia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 24.2	Describe the etiology, gross and microscopic appearance and complications of lung abscess	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 24.3	Define and describe the etiology, types, pathogenesis, stages, morphology and complications and evaluation of Obstructive airway disease (OAD) and bronchiectasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	Microbiology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 24.4	Define and describe the etiology, types, pathogenesis, stages, morphology microscopic appearance and complications of tuberculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 24.5	Define and describe the etiology, types, exposure, environmental influence, pathogenesis, stages, morphology, microscopic appearance and complications of Occupational lung disease	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine, Community Medicine	
PM 24.6	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, stages, morphology, microscopic appearance, metastases and complications of tumors of the lung and pleura	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 24.7	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, morphology, microscopic appearance and complications of mesothelioma	K	KH	N	Lecture, Small group discussion	Written / Viva voce		General Medicine, Community Medicine	
Topic: Cardiovascular system Number of competencies: (09) Number of procedures that require certification: (NIL)									
PM 25.1	Distinguish arteriosclerosis from atherosclerosis. Describe the pathogenesis and pathology of various causes and types of arteriosclerosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 25.2	Describe the etiology, dynamics, pathology types and complications of aneurysms including aortic aneurysms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 25.3	Describe the etiology, types, stages pathophysiology, pathology and complications of heart failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Physiology	
PM 25.4	Describe the etiology, pathophysiology, pathology, gross and microscopic features, criteria and complications of rheumatic fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 25.5	Describe the epidemiology, risk factors, etiology, pathophysiology, pathology, presentations, gross and microscopic features, diagnostic tests and complications of ischemic heart disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 25.6	Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PM 25.7	Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of pericarditis and pericardial effusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 25.8	Classify and describe the etiology, types, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of cardiomyopathies	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Physiology	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 25.9	Describe the etiology, pathophysiology, pathology features and complications of syphilis on the cardiovascular system	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
Topic: Urinary Tract Number of competencies: (16) Number of procedures that require certification: (NIL)									
PM 26.1	Describe the normal histology of the kidney	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 26.2	Define, classify and distinguish the clinical syndromes and describe the etiology, pathogenesis, pathology, morphology, clinical and laboratory and urinary findings, complications of renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 26.3	Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings, progression and complications of acute renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.4	Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings progression and complications of chronic renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 26.5	Define and classify glomerular diseases. Enumerate and describe the etiology, pathogenesis, mechanisms of glomerular injury, pathology, distinguishing features and clinical manifestations of glomerulonephritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 26.6	Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of IgA nephropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.7	Enumerate and describe the findings in. glomerular manifestations of systemic disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 26.8	Enumerate and classify diseases affecting the tubular interstitium	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.9	Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of acute tubular necrosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.10	Describe the etiology, pathogenesis, pathology, laboratory findings, distinguishing features progression and complications of acute and chronic pyelonephritis and reflux nephropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 26.11	Define classify & describe the etiology, pathogenesis pathology, laboratory, urinary findings, distinguishing features progression and complications of vascular disease of the Kidney	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.12	Define classify & describe the genetics, inheritance, etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features, progression and complications of cystic disease of the kidney	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 26.13	Define classify and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features progression and complications of renal stone disease and obstructive uropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 26.14	Classify and describe the etiology, genetics, pathogenesis, pathology, presenting features, progression and spread of renal tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PM 26.15	Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of thrombotic angiopathies	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 26.16	Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of urothelial tumors	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Male & Female Genital system Number of competencies male: (05) **Number of procedures that require certification: (NIL)** **a) Male Genital system**									
PM 27.1	Classify testicular tumors and describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of testicular tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 27.2	Describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the penis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 27.3	Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, urologic findings & diagnostic tests of benign prostatic hyperplasia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 27.4	Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the prostate	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PM 27.5	Describe the etiology, pathogenesis, pathology and progression of prostatitis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Male & Female Genital system Number of competencies female: (09) **Number of procedures that require certification: (NIL)** **b) Female Genital system**									
PM 27.1	Describe the epidemiology, pathogenesis, etiology, pathology, screening, diagnosis and progression of carcinoma of the cervix	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PM 27.2	Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the endometrium	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PM 27.3	Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the leiomyomas and leiomyosarcomas	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 27.4	Classify and describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of ovarian tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PM 27.5	Describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of gestational trophoblastic neoplasms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynecology	
PM 27.6	Describe the etiology and morphologic features of cervicitis.	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynecology	
PM 27.7	Describe the etiology, hormonal dependence, features and morphology of endometriosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 27.8	Describe the etiology and morphologic features of adenomyosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PM 27.9	Describe the etiology, hormonal dependence and morphology of endometrial hyperplasia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
Topic: Breast Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 28.1	Classify and describe the types, etiology, pathogenesis, pathology and hormonal dependency of benign breast disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, General Surgery	
PM 28.2	Classify and describe the epidemiology, pathogenesis, classification, morphology, prognostic factors, hormonal dependency, staging and spread of carcinoma of the breast	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 28.3	Enumerate and describe the etiology, hormonal dependency and pathogenesis of gynecomastia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics, General Medicine	
Topic: Endocrine system Number of competencies: (09) Number of procedures that require certification: (NIL)									
PM 29.1	Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine,	
PM 29.2	Describe the etiology, cause, iodine dependency, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 29.3	Describe the etiology, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis/ hypothyroidism	K	KH	Y	Lecture, Small group	Written/ Viva voce		Physiology, General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 29.4	Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features, complications and progression of diabetes mellitus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 29.5	Describe the etiology, genetics, pathogenesis, manifestations, laboratory and morphologic features of hyperparathyroidism	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 29.6	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications and metastases of pancreatic cancer	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 29.7	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of adrenal insufficiency	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 29.8	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of Cushing's syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PM 29.9	Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Bone and soft tissue Number of competencies: (05) Number of procedures that require certification: (NIL)									
PM 30.1	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Orthopaedics	Microbiology
PM 30.2	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of bone tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Orthopaedics	
PM 30.3	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of soft tissue tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Orthopaedics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 30.4	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of Paget's disease of the bone	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Orthopaedics	
PM 30.5	Classify and describe the etiology, immunology, pathogenesis, manifestations, radiologic and laboratory features, diagnostic criteria and complications of rheumatoid arthritis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Skin Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 31.1	Describe the risk factors pathogenesis, pathology and natural history of squamous cell carcinoma of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 31.2	Describe the risk factors pathogenesis, pathology and natural history of basal cell carcinoma of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	
PM 31.3	Describe the distinguishing features between a nevus and melanoma. Describe the etiology, pathogenesis, risk factors morphology clinical features and metastases of melanoma	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	
Topic: Central Nervous System Number of competencies: (02) Number of procedures that require certification: (NIL)									
PM 32.1	Describe the etiology, types and pathogenesis, differentiating factors, CSF findings in meningitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 32.2	Classify and describe the etiology, genetics, pathogenesis, pathology, presentation sequelae and complications of CNS tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
Topic: Eye Number of competencies: (01) Number of procedures that require certification: (NIL)									
PM 33.1	Describe the etiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Ophthalmology	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
MICROBIOLOGY									
Topic: General Microbiology and Immunity Number of competencies: (10) **Number of procedures that require certification: (NIL)**									
PM 34.1	Describe the different causative agents of Infectious diseases, the methods used in their detection, and discuss the role of microbes in health and disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 34.2	Describe the epidemiological basis of common infectious diseases	K	KH	Y	Lecture	Written/ Viva voce			Community Medicine
PM 34.3	Classify and describe the different methods of sterilization and disinfection. Discuss the application of the different methods in the laboratory, in clinical and surgical practice	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 34.4	Choose the most appropriate method of sterilization and disinfection to be used in specific situations in the laboratory, in clinical and surgical practice	K	KH	Y	Small group discussion, Case discussion	Written/Viva voce/OSPE		General Surgery	
PM 34.5	Describe the mechanisms of drug resistance, and the methods of antimicrobial susceptibility testing and monitoring of antimicrobial therapy	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			Pharmacology
PM 34.6	Describe the immunological mechanisms in health	K	KH	Y	Lecture	Written/ Viva voce			Pathology
PM 34.7	Describe the mechanisms of immunity and response of the host immune system to infections	K	KH	Y	Lecture	Written/ Viva voce		Pediatrics	Pathology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 34.8	Discuss the immunological basis of vaccines and describe the Universal Immunisation schedule	K	KH	Y	Lecture	Written/ Viva voce		Paediatrics	
PM 34.9	Describe the immunological mechanisms in immunological disorder (hypersensitivity, autoimmune disorders and immunodeficiency states) and discuss the laboratory methods used in detection.	K	KH	Y	Lecture	Written/ Viva voce		Paediatrics	
PM 34.10	Describe the immunological mechanisms of transplantation and tumor immunity	K	KH	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: CVS and Blood Number of competencies: (06) Number of procedures that require certification: (NIL)									
PM 35.1	Describe the etiologic agents in rheumatic fever and their diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
PM 35.2	Describe the classification etio- pathogenesis, clinical features and discuss the diagnostic modalities of Infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
PM 35.3	List the common microbial agents causing anemia. Describe the morphology, mode of infection and discuss the pathogenesis, clinical course, diagnosis and prevention and treatment of the common microbial agents causing Anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 35.4	Describe the etio-pathogenesis and discuss the clinical evolution and the laboratory diagnosis of kalaazar, malaria, filariasis and other common parasites prevalent in India	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
PM 35.5	Identify the causative agent of malaria and filariasis	K	SH	Y	DOAP session	Skill assessment		General Medicine	
PM 35.6	Describe the epidemiology, the etio-pathogenesis, evolution complications, opportunistic infections, diagnosis, prevention and the principles of management of HIV	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Gastrointestinal and hepatobiliary system Number of competencies: (06) Number of procedures that require certification: (NIL)									
PM 36.1	Enumerate the microbial agents causing diarrhea and dysentery. Describe the epidemiology, morphology, pathogenesis, clinical features and diagnostic modalities of these agents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Paediatrics	Pathology
PM 36.2	Describe the enteric fever pathogens and discuss the evolution of the clinical course and the laboratory diagnosis of the diseases caused by them	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
PM 36.3	Enumerate the causative agents of food poisoning and discuss the pathogenesis, clinical course and laboratory diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 36.4	Describe the etio-pathogenesis of Acid peptic disease (APD) and the clinical course. Discuss the diagnosis and management of the causative agent of APD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
PM 36.5	Describe the epidemiology, the etio-pathogenesis and discuss the viral markers in the evolution of Viral hepatitis. Discuss the modalities in the diagnosis and prevention of viral hepatitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
PM 36.6	Choose the appropriate laboratory test in the diagnosis of viral hepatitis with emphasis on viral markers	K	KH	Y	Small group discussion, Case discussion	Written/ Viva voce/ OSPE		General Medicine	Pathology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Musculoskeletal system skin and soft tissue infections Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 37.1	Enumerate the microbial agents causing anaerobic infections. Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of anaerobic infections	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PM 37.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of bone & joint infections	K	KH	Y	Lecture	Written/ Viva voce		Orthopaedics	
PM 37.3	Describe the etio-pathogenesis of infections of skin and soft tissue and discuss the clinical course and the laboratory diagnosis	K	KH	Y	Lecture	Written/ Viva voce		Dermatology, Venereology & Leprosy, General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Central Nervous System Infections Number of competencies: (02) Number of procedures that require certification: (NIL)									
PM 38.1	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of meningitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Pathology
PM 38.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of encephalitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Pathology
Topic: Genitourinary & Sexually transmitted infections Number of competencies: (03) Number of procedures that require certification: (NIL)									
PM 40.1	Describe the etio-pathogenesis and discuss the laboratory diagnosis of infections of genitourinary system	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 40.2	Describe the etio-pathogenesis and discuss the laboratory diagnosis of sexually transmitted infections. Recommend preventive measures	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy, Obstetrics & Gynaecology	
PM 40.3	Describe the etio-pathogenesis, clinical features, the appropriate method for specimen collection, and discuss the laboratory diagnosis of Urinary tract infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Zoonotic diseases and miscellaneous Number of competencies: (09) Number of procedures that require certification: (NIL									
PM 41.1	Enumerate the microbial agents and their vectors causing Zoonotic diseases. Describe the morphology, mode of transmission, pathogenesis and discuss the clinical course, laboratory diagnosis and prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PM 41.2	Describe the etio-pathogenesis of opportunistic infections (OI) and discuss the factors contributing to the occurrence of OI, and the laboratory diagnosis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Pathology
PM 41.3	Describe the role of oncogenic viruses in the evolution of virus associated malignancy	K	KH	Y	Lecture	Written		General Medicine	Pathology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 41.4	Describe the etiologic agents of emerging Infectious diseases. Discuss the clinical course and diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
PM 41.5	Define Healthcare Associated Infections (HAI) and enumerate the types. Discuss the factors that contribute to the development of HAI and the methods for prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
PM 41.6	Describe the basics of Infection control	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Community Medicine
PM 41.7	Describe the methods used and significance of assessing the microbial contamination of food, water and air	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PM 41.8	Discuss the appropriate method of collection of samples in the performance of laboratory tests in the detection of microbial agents causing infectious diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM 41.9	Describe the National Health Programs in the prevention of common infectious disease (for information purpose only as taught in CM)	K	K	Y	Lecture	Written/ Viva voce			Community Medicine

Recommended Books

PATHOLOGY

1. Text book of Pathology –Harsh Mohan
2. Basic Pathology-Robbins
3. Pathologic Basis of Disease – Robbins and Cotran
4. . General Pathology – Bhende

MICROBIOLOGY

1. Concise Textbook of Microbiology –Ananthnarayan
2. Concise Textbook of Microbiology –C.P. Baweja
3. Textbook of Microbiology –Nagoba
4. Text books of Microbiology – R. Ananthnarayan& C.K. Jayrampanikar

PHARMACOLOGY

Course Description: This course introduces the student to basic pharmacology of common drugs used, their importance in the overall treatment including Occupational Therapy. The student after completing the course will be able to understand the general principles of drug action and the handling of drugs by the body. The student will be aware of the contribution of both drug and Occupational Therapy factors in the outcome of treatment. Details of chemistry of molecules should be avoided.

Goals:

Second year Occupational Therapy student to acquire knowledge on action of pharmacokinetics and pharmacodynamics. The students to acquire knowledge on blood, behavioral and cardiovascular pharmacology.:

Course Objectives

KNOWLEDGE *Student will be* able to

I. Describe the concepts of pharmacology (including pharmacokinetics and pharmacodynamics) of commonly used drugs. (K)
II. Discuss the effects of commonly used drugs on body function. Know different types of cells and describe their functions
III. Discuss the therapeutic and adverse effects, contraindications, and precautions for commonly used drugs. (KH)
IV. Discuss the pharmacological effects of drugs used in the management pain, inflammatory, cardio-vascular, respiratory, neurological and oncological disorders.
V. Explain the effect of commonly prescribed on exercise and movement. (KH)
VI. Identify the red and yellow flags for Occupational Therapy prescription based on the pharmacological effect of commonly prescribed drugs. (KH)

COMPETENCY TABLE: PHARMACOLOGY

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
PHARMACOLOGY									
Topic: General Pharmacology		**Number of competencies: (07)**				**Number of procedures that require certification: (NIL)**			
PH 1.1	Describe Sources of drugs, Routes of drug administration, Distribution of drugs,	K	K	Y	Lecture	Written/ Viva voce			
PH 1.2	Discuss Metabolism and Excretion of drugs Pharmacokinetics, Pharmacodynamics, Factors modifying drug response, adverse effects.	K	KH	Y	Lecture	Written/ Viva voce			
PH 1.3	Define and, Classify drugs. Inflammatory/Immune Diseases	K	K	Y	Lecture	Written/ Viva voce			
PH 1.4	Describe Non-narcotic Analgesics and Nonsteroidal Anti-Inflammatory Drugs: Acetaminophen, NSAIDs, Aspirin, non-aspirin NSAIDs, drug Inter-actions with NSAIDs	K	KH	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
PH 1.5	Discuss Pharmacological Uses of Glucocorticoids, adverse effects, Physiologic Use of Glucocorticoids	K	KH	Y	Lecture	Written/ Viva voce		Physiology	
PH 1.6	Discuss Drugs Used in Treatment of Arthritic Diseases: Rheumatoid Arthritis, Osteoarthritis, Gout	K	K	Y	Lecture	Written/ Viva voce			
PH 1.7	Discuss Drugs Used in the Treatment of Neuromuscular Immune/Inflammatory Diseases: Myasthenia gravis, Idiopathic Inflammatory Myopathies, systemic lupus Erythematous, Scleroderma, Demyelinating Disease	K	K	Y	Lecture	Written/ Viva voce			
Topic: Autonomic Nervous System Number Of Competencies: (07) **Number Of Procedures That Require Certification: (Nil)**									
PH 2.1	Describe General considerations – The Sympathetic and Parasympathetic Systems, Receptors, Somatic Nervous System.	K	K	Y	Lecture	Written/ Viva voce			
PH 2.2	Discuss cholinergic and Anti-Cholinergic drugs, Adrenergic and Adrenergic blocking drugs, Peripheral muscle relaxants.	K	K	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
PH 2.3	Describe Drugs used in the treatment of heart failure: Digitalis, Diuretics, Vasodilators, ACE inhibitors	K	K	Y	Lecture	Written/ Viva voce			
PH 2.4	Describe Antihypertensive Drugs: Diuretics, Beta Blockers, Calcium Channel Blockers, ACE Inhibitors, Central Acting Alpha Agonists, Peripheral Alpha Antagonists, Direct acting Vasodilators.	K	KH	Y	Lecture	Written/ Viva voce			
PH 2.5	Describe Antiarrhythmic Drugs	K	K	Y	Lecture	Written/ Viva voce			
PH 2.6	Discuss the Drugs used in the treatment of vascular disease and tissue ischemia: Vascular Disease, Hemostasis Lipid- Lowering agents, Antithrom- botics, Anticoagulants and Thrombolytics	K	KH	Y	Lecture	Written/ Viva voce			
PH 2.7	Discuss the Drugs used in the treatment of ischemic heart disease – Nitrates, Beta- Blockers, Calcium Channel Blockers, Cerebral Ischemia, Peripheral Vascular Disease	K	KH	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
Topic: Neuropharmacology Number Of Competencies: (13) Number of Procedures That Require Certification: (Nil)									
PH 3.1	Discuss Sedative-Hypnotic Drugs: Barbiturates, Benzodiazepines	K	K	Y	Lecture	Written/ Viva voce			
PH 3.2	Describe Antianxiety Drugs: Benzodiazepines, Other Anxiolytics	K	K	Y	Lecture	Written/ Viva voce			
PH 3.3	Discuss Drugs Used in Treatment of Mood Disorders: Monoamine Oxidase Inhibitors, Tricyclic Antidepressants, Atypical Antidepressants, Lithium	K	K	Y	Lecture	Written/ Viva voce			
PH 3.4	Describe Antipsychotic drugs.	K	K	Y	Lecture	Written/ Viva voce			
PH 3.5	Disorders of Movement								
PH 3.6	Discuss Drugs used in Treatment of Parkinson ’s disease.	K	KH	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
PH 3.7	Describe Antiepileptic Drugs	K	K	Y	Lecture	Written/ Viva voce			
PH 3.8	Discuss Spasticity and Skeletal Muscle Relaxants.	K	K	Y	Lecture	Written/ Viva voce			
PH 3.9	Discuss respiratory pharmacology and drugs used in treatment of obstructive airway diseases, allergies rhinitis	K	KH	Y	Lecture	Written/ Viva voce			
PH 3.10	Describe Gastrointestinal Pharmacology and drugs used in Peptic Ulcer Disease	K	K	Y	Lecture	Written/ Viva voce			
PH 3.11	Describe Hormones and drugs affecting endocrine functions Used in Treatment of Diabetes Mellitus: Insulin, Oral Hypoglycemic. Geriatrics -	K	KH	Y	Lecture	Written/ Viva voce		Physiology	
PH 3.12	Discuss the adverse effects of special concern in the Elderly, Dementia, and Postural hypotension.	K	K	Y	Lecture	Written/ Viva voce			

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
PH 3.13	Describe chemotherapeutic agents.	K	K	Y	Lecture	Written/ Viva voce			

Recommended Books: PHARMACOLOGY

1. Pharmacology for Physiotherapy –Padmaja Udaykumar
2. Pharmacology for Physiotherapist –H. L. Sharma, K. K. Sharma
3. Essentials of Medical Pharmacology – K. D. Tripathi
4. Pharmacology and Pharmacotherapeutics – Dr. R S Satoskar, Dr. Nirmala N. Rege, Dr. S. D. Bhandari

PSYCHOLOGY

Course Description: This course will develop the basic knowledge of elements of psychology along with the normal development of a human being through life span and the psychological, behavioral condition in school children. The course will develop the basic knowledge about psychological issues related to various health conditions, work and sports. This course will also develop the basic knowledge of various types of abnormal behavior. This course also develops the utilization and importance of Psychology with respect to Occupational Therapy treatment.

Goal: The broad goal to teach the second year BOT students the psychological development of human being through life span. They understand the elementary principles of behavior for applying in the therapeutic environment. They will have proficiency based on written evaluation.

They understand abnormal behaviors signs & symptoms, probable psychosocial problems & psychological management without the pharmacological intervention. They understand the application of experimental psychology & principles of psychosocial management in the industrial setups' psychology

OBJECTIVES:

A. KNOWLEDGE:

At the end of second BOT the student will be able to:

i. Describe the Fields of Psychology, Schools of thoughts related to Psychology
ii. Explain the terms attention, perception, motivation.
iii. Describe the concept emotion, cognition, thinking.
iv. Describe the principles of learning.
v. Describe various aspect of psychosocial learning & psychological maturation during human development, growth, & alterations during aging process
vi. Describe the different aspects of school Psychology- the psychological, behavioral issues related to school children and their therapeutic intervention
vii. Describe the abnormal behaviours & clinical symptoms

viii. Explain the psychosocial management of abnormal behaviours.
ix. Describe the Intellectual Disabilities & Developmental disorders of childhood & adolescence
x. Describe the psychosocial intervention for Childhood & adolescence disorder
xi. Describe various aspect of psychosocial learning & psychological maturation during human development, growth, & alterations during aging process
xii. Describe the different neuropsychological experiments on sensory system, learning & retention, memory, perception, emotion, motor behaviours & reaction time, Motivation & rewards, attention
xiii. Describe the psychosocial aspects of industrial Psychology.

B. SKILL

At the end of the course, the student shall be able to:

Understand the skills to assess sensory system, learning & retention, memory, perception, emotion

Competency Table: PSYCHOLOGY

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSYCHOLOGY								
Topic– General Psychology No of competencies -7								
PSY 1.1	Describe the Fields of Psychology, Schools of thoughts related to Psychology.	K	K	Y	Lecture	written		
PSY I 2	Define Attention & explain the classification of attention.	K	K, KH	Y	Lecture	Written		
PSY 1.3	Define & explain the Perception	K	KH	Y	Lecture	Written		OTDP II
PSY 1.4	Define Stress. Explain stress cycle, and coping strategies from Stress	K	KH	Y	Lecture,	Written		
PSY 1.5	Explain difference & similarities in term Feeling Emotions.	K	K, KH	Y	Lecture	written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 1.6	Define& explain term Motivation.	K	K, KH	Y	Lecture	Written		OTDP II
PSY 1.7	Describe the types of theories of personality	K	K, KH	Y	Lecture,	Written		
Topic Cognition & Thinking No of competencies -02								
PSY 2.1	Describe the intelligence & nature theories of intelligence.	K	K	Y	Lecture	Written		OTDP II
PSY 2.2	Describe Thinking – thinking process, concept.	K	KH	Y	Lecture	Written		
Topic - Principles of Learning No of competencies – 3								
PSY 3.1	Define learning. Explain the process of Learning.	K	K	Y	Lecture	written		OTDP II
PSY 3.2	Describe various types of learning process.	K	KH	Y	Lecture	written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 3.3	Explain the relationship of the learner & learning process.	K	K	Y	Lecture,	Written		
Topic: Perception no of competencies -2								
PSY 4.1	Explain the term social perception.	K	K	Y	Lecture	Written		OTDP II
PSY 4.2	Describe the social influence on the social perception.	K	KH	Y	Lecture	Written		
Topic: Psychosocial development No of competencies -5								
PSY 5.1	Identify influence of heredity & environment on psychological development.	K	K	Y	Lecture	Written		OTDP II
PSY 5.2	Explain psychological theories of human development.	K	K	Y	Lecture	Written		
PSY 5.3	Explain prenatal, perinatal, antenatal & postnatal development.	K	K	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 5.4	Explain Development in Infancy, early childhood, middle childhood, puberty, adolescent state & early. middle adulthood.	K	K	Y	Lecture	Written		
PSY 5.5	Describe the psychological changes in old age.	K	K	Y	Lecture	Written		
Topic: School Psychology No of competencies -2								
PSY 6.1	Describe the Concept and objectives of school psychology.	K	K	Y	Lecture	Written		OTDP II
PSY 6.2	Explain psychological disorders in school children & its Therapeutic intervention.	K	KH	Y	Lecture, DOAP	Written		
Topic- Abnormal Behaviour No of competencies -16								
PSY 7.1	Define and classify the abnormal Behaviour	K	K	Y	Lecture	written		OTDP II
PSY 7.2	Enumerate the causes for abnormal behaviour	K	K		Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
	Patterns of abnormal Behaviour-adjustment disorders							
PSY 7.3	Define stress & describe the adjustment disorders and them.	K	K	Y	Lecture	Written		
PSY 7.4	Describe the strategies for prevention of stress disorders & adjustment disorders.		K, KH	Y	Lecture	Written		
	Patterns of abnormal Behaviour-anxiety disorders							
PSY 7.5	Describe causes & classify anxiety disorders.	K	K, KH		Lecture	Written		
PSY 7.6	Describe the various factors responsible for the development & maintenance of Neurotic disorders.	K	K, KH		Lecture	Written		
	Patterns of abnormal Behaviour-Personality Disorders							
PSY 7.7	Describe the types personality disorders.	K	K	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 7.8	Describe the biological, psychosocial & sociocultural measures in treatment of personality disorders	K	KH	Y	Lecture	Written		
	Patterns of abnormal Behaviour-Addictive Disorders							
PSY 7.9	Describe the types of substance abuse & addictive disorders	K	K	Y	Lecture	Written		
PSY 7.10	Describe the biological, psychosocial& sociocultural measures in treatment of abuse & addictive disorders.	K	KH	Y	Lecture	Written		
	Patterns of abnormal Behaviour-Mood Disorders							
PSY 7.11	Classify & describe the types of Mood disorders	K	K	Y	Lecture	Written		
PSY 7.12	Understand the clinical features of mood disorders.	K	KH	Y	Lecture, Small group discussion, case study	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 7.13	Classify& describe the type of schizophrenia & delusional disorders.	K	K	Y	Lecture	Written		
PSY 7.14	Understand the clinical features of schizophrenia & delusional disorders.	K	KH	Y	Lecture, Small group discussion, case study	Written		
PSY 7.15	Classify& describe the types of organic mental disorders	K	K	Y	Lecture	Written		
PSY 7.16	Describe the biological, psychosocial & sociocultural measures in treatment of organic mental disorders.	K	KH	Y	Lecture, Small group discussion, case study	Written		
Topic - Intellectual Disabilities & Developmental disorders of childhood & adolescence No of competencies 7								
PSY 8.1	Classify & Describe Intellectual disability.	K	KH	Y	Lecture	written		
PSY 8.2	Describe the biological, psychosocial & sociocultural measures in treatment of Intellectual disability.	K	KH	Y	Lecture	written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 8.3	Explain the Pervasive developmental Disorders with their causes	K	KH	Y	Lecture,	Written		
PSY 8.4	Explain clinical features of Autism.	K	KH	Y	Lecture,	Written		
PSY 8.5	Describe the psychosocial & sociocultural measures in treatment of Autism	K	KH	Y	Lecture,	Written		
PSY 8.6	Explain& classify the specific learning Disorders	K	KH	Y	Lecture,	Written		
PSY 8.7	Describe the psychosocial & sociocultural measures in treatment of learning Disorders	S	KH	Y	Lecture,	Written		
Topic: Behaviour Disorders of childhood No of competencies -2								
PSY 9.1	Explain & classify maladaptive behaviour s	K	K	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/Ps	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
PSY 9.2	Describe causes& clinical features of maladaptive behaviour viz. Attention deficit Hyperactive behaviour, Conduct disorder, delinquent behaviour , anxiety disorders of childhood & adolescence, childhood depression	K	KH	Y	Lecture, Small group discussion, case study	Written		
Topic: Experimental Psychology of competencies -2								
PSY 10.1	Explain the Mechanics of brain	K	K	N	Lecture	Written	Physiology	
PSY 10.2	Perform neuropsychological experiments on sensory system, learning & retention, memory, perception, emotion, motor behaviours & reaction time, Motivation & rewards, attention	K	K, KH, SH	N	Lecture, DOAP	Written		
Topic: Industrial Psychology No of competencies -1								
PSY 11.1	Explain Human factors in industrial and organizational psychology.	K	K,	N	Lecture, DOAP	Written		OTDP II

Recommended Books

1. Morgan C.T., King R. A., Weijz J. R. Schopler J. (1993). Introduction to Psycology, 7th Edition, Tata McGraw-Hill Publishing Co. Ltd.
2. Fernald, L Dodge, Munn's Introduction to Psychology, 5th edition, AITBS publisher
3. Parameshwaran E. G. & Ravichandra K. - Experimental Psychology: A Laboratory Manual,1st edition, Neelkamal
4. Julia Nunn, Laboratory Psychology: A Beginner's Guide, 1st edition, Psychology Press Ltd., East Sussex, U.K.
5. Abnormal psychology & modern life by R.C. Carson, J.N. Butcher
6. Papalia D. E., Olds S. W (2008), Human Development, 5th. Edition, Tata McGraw Hill Publishing Co. Ltd
7. Developmental Psychology by Hurlock C.

BIOMECHANICS & KINESIOLOGY

COURSE DESCRIPTION: Course explores Biomechanical & Kinesiological aspects of various Joints of upper extremity in the Human body and its importance in OT Practice. This course supplements the knowledge of anatomy and enables the student to have a better understanding of the principles of biomechanics. It builds concepts of training strategies that can be used to train the various aspects of mobility. It emphasizes on fabrication & scientific basis for the need of splints, orthoses & adaptive devices in Occupational Therapy.

GOAL: The broad goal to teach the second year BOT students the theoretical basis for joint mobility including the knowledge of Biomechanics & kinesiology, and Knowledge of splints, orthoses & adaptive devices in Occupational therapy.

OBJECTIVES:

KNOWLEDGE:

At the end of the course, the student shall be able to:

i. Explain Biomechanics & kinesiology related to Human body
ii. Explain the concept of application of knowledge of Biomechanics & kinesiology in Occupational Therapy
iii. Describe the concepts of Orthoses, Splinting & adaptive devices & application to Occupational Therapy
iv. Develop, designing and fabricating Orthosis based on Biomechanical Principles
v. Describe the concept of application of knowledge of Biomechanics & kinesiology in Occupational Therapy
vi. Describe the Importance of mobility in Participation in life skills
vii. Describe Transfer techniques for wheelchair mobility, Gait analysis & pathological gaits

SKILLS:

At the end of the course, the student shall be able to:

i. Develop Skills to assess the effect of Patho-mechanics on the joints & application of general Biomechanics to analyse movements

ii. Demonstrate the effective transfer techniques on normal subjects Demonstrate the skills of designing & fabricating splints, Orthoses & adaptive devices

iii. The teaching and training at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.

iv. Students should develop behavioral skills and humanitarian approach while communicating with patients about the need for orthoses, adaptive devices as individuals, relatives, society at large & the co- professionals

ATTITUDE:

i. The teaching and training at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients

ii. It is necessary to develop in students a sense of responsibility towards assessment of mobility skill

iii. Understanding of safe transfer techniques & their importance to the dependent patient

iv. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals

Scheme of examination for University Practical exam ;100 Marks 100

Splint making & Viva Voce	Transfer Techniques on normal subjects & Viva Voce	Pathological Gait analysis on patients & Viva Voce	Adaptive device making & Viva voce	Presentation & Communication skills	Total
20marks	20 marks	20 marks	20 marks	20 marks	100 marks

Competency Table: Biomechanics & Kinesiology

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BIOMECHANICS & KINESIOLOGY								
Topic – Foundational concepts of Joint structure & functions No of competencies -5								
BMK 1.1	Define & describe the term Kinematics & kinetics	K	K	Y	Lecture	written	Anatomy	
BMK 1.2	Describe different types of motions with reference to types location, direction, magnitude &rate of displacement	K	KH		Lecture	Written		
BMK 1.3	Understand &define forces, force vectors	K	K, KH		Lecture,	Written		
BMK 1.4	Describe the concept of Gravity &its application to internally &externally applied forces	K	K, KH, S		Lecture, Small group discussion	Written		
BMK 1.5	Classify &describe different force systems	K/C	K, KH		Lecture, Seminars	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic – Kinetics considering Rotatory & Translatory Forces & motion					**No of competencies -5**			
BMK 2.1	Understand &explain the Torque or Moment of Force	K	KH	Y	Lecture	Written		
BMK 2.2	Describe the concept of muscle forces	K	K	Y	Lecture	Written		
BMK 2.3	Classify Levers &explain the application of Levers in the body	K	K, KH	Y	Lecture, Small group discussion	Written		
BMK 2.4	Describe composition &Resolution of Forces	K	K,		Lecture,	Written		
BMK 2.5	Explain application of composition &Resolution of Forces in the Human body	K	K, KH		Lecture, Seminars, Small group discussion	Written, OSPE		
Topic - Joint Structure & Function		**No of competencies -4**						
BMK 3.1	Describe the components in human Joints	K	K	Y	Lecture	written	Anatomy	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 3.2	Understand the different designs of the joints	K	KH	Y	Lecture, Seminar	written		
BMK 3.3	Describe the kinematic chains, Joint motion & applied Biomechanics.	K/S	K, KH	Y	Lecture, Small Group discussion	Written, Skill assessment (OSPE)		
BMK 3.4	Describe Classification of muscles, factors affecting muscle function & applied Biomechanics of muscles	K	KH	Y	Lecture, Small Group discussion	Written		
Topic: Upper Extremity Joint Complexes No of competencies -6								
BMK 4.1	Describe the components of Shoulder complexes.	K	KH	Y	Lecture	Written	Anatomy	
BMK 4.2	Describe the integrated functions of shoulder complex with reference to specific actions of the muscles acting on the shoulder joint.	K	KH	Y	Lecture	Written		
BMK 4.3	Describe the components & the functions of different muscles around the elbow joint.	K	KH	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 4.4	Describe the mobility & stability components & their action at Proximal & distal radioulnar Joint.	K	KH	Y	Lecture	Written		
BMK 4.5	Describe the components & the biomechanical applications at the wrist joint.	K	K, KH	Y	Lecture	Written		
BMK 4.6	Describe the Hand complex, importance of functional positioning & functions of hand.	K	K, KH	Y	Lecture, Small Group discussion	Written		
Topic 5: Orthotics No of competencies -7								
BMK 5.1	Describe goals of splinting& classify hand splint.	K	KH	Y	Lecture, small group discussion	Written	Anatomy. OT in MSK, OT in Medical conditions, OT in surgical conditions, OT in neurological Conditions.	OTDP I & II
BMK 5.2	Describe the application of Hand splints in different cases.	K	K.KH	Y	Lecture/	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 5.3	Identify splint types and materials used	K/S/C	KH, SH (P under supervision)	Y	Lecture, DOAP, Skill training under supervision	Written, Skill assessment, Practical, OSPE		
BMK 5.4	Demonstrate the appropriate method of fabrication of Hand Splints (Resting, Dynamic-flexor /extensor, Thumb Spica & C- bar, finger splints	K	K, KH, SH (P Under supervision)	Y	Lecture/small group discussion /DOAP session, Skill training	Written Skill assessment, practical, OSPE		
BMK 5.5	Describe goals of Lower extremity orthoses& classify orthoses							
BMK 5.6	Identify material used & demonstrate the fabrication of the appropriate method of fabrication of Lower extremity orthosis (Static & Dynamic)	K	K, KH SH (P Under supervision)	Y	Lecture/small group discussion /Skill training	Written Skill assessment, practical, OSPE		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic 6: Adaptive devices No of competencies :2								
BMK 6.1	Understand & explain the need of Adaptive devices	K	KH	Y	Lecture, Small group discussion		OT in MSK, OT in Medical conditions, OT in surgical conditions, OT in neurological Conditions.	OTDP I & II
BMK 6.2	Identify the material used, indications & fabricate adaptive device to improve the participation of patients (Universal cuff, Writing Device, Reacher/ dressing stick, long handle Scrubber)	K	K, KH SH (P Under supervision)	Y	Lecture/small group discussion /Skill training			
Topic: Lower Extremity Joint Complexes No of competencies -8								
BMK 7.1	Describe the Structure of Hip Joint complexes	K	K	Y	Lecture	Written	Anatomy	
BMK 7.2	Describe the integrated functions of Hip complex with reference to specific actions of the muscles, forces during stance & the stability mechanism	K	KH	Y	Lecture	Written, Small group discussion		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 7.3	Describe the components of Tibiofemoral joint & Patellofemoral joint	K	KH	Y	Lecture	Written		
BMK 7.4	Understand functions of different alignments of bones, Q angle, functions of muscles, Ligaments and other supporting structures. Anterior - posterior and Medial - Lateral stability, mobility mechanism	K	KH	Y	Lecture	Written, seminar		
BMK 7.5	Describe the Structure &components of Ankle Joint complexes	K	K	Y	Lecture	Written		
BMK 7.6	Describe the integrated functions of Ankle joint with reference to specific actions of the muscles, forces during phases of gait cycle	K	KH	Y	Lecture	Written, Small group discussion		
BMK 7.7	Describe the components of Foot complex	K	K	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 7.8	Understand the concepts & functions of arches of Foot	K	KH	Y	Lecture	Written, Small group discussion		
Topic: Temperomandibular Joint No of competency 1								
BMK 8.1	Describe General structure and function of temporo- mandibular joint& applied Biomechanics in temporomandibular joint	K	KH	Y	Lecture	Writtenn	Anatomy	
Topic: Axial Skeletal Joint Complexes No of competencies 1								
BMK 9.1	Describe regional structure & functions of different regions of vertebral column	K	KH	Y	Lecture	Writtenn	Anatomy	
Topic: Posture No of Competencies-3								
BMK 10.1	Understand the difference between Static & dynamic posture	K	KH	Y	Lecture, Small group discussion, case study	Written,	Anatomy, OT in MSK, OT in surg cond, OT in neurological Cond	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 10.2	Demonstrates the ideal posture & understands the factors affecting the posture	K	KH	Y	Lecture, Small group discussion	Written,		
BMK 10.3	Understands the Kinetics & Kinematics of Posture	K	KH	Y	Lecture, Seminar	Written,		
Topic Mobility -Transfer Techniques: No of Competencies: 4								
BMK 11.1	Understand Precursor to transfer & mobility	K	KH	Y	Lecture, group discussion, case study	Written, Skill assessment	Physiology, OT in MSK, OT in Med cond,OT in surg cond,OT in neurological Cond	
BMK 11.2	Demonstrate the Bed mobility for preparation of transfer	K, A, C	KH, SH, P	Y	Lecture, DOAP	Written, Skill assessment, OSPE, practical		
BMK 11.3	Describes the guidelines for Using proper body mechanics during transfer with principles of body positioning	K	KH	Y	Lecture, group discussion, case study	Written, Skill assessment		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 11.4	Demonstrate ● Stand pivot transfer ● Bend pivot transfer ● Dependent transfer ● Sliding board transfer	K, A, C	KH, SH, P under supervision	Y	Lecture, DOAP	Written, Skill assessment, OSPE, practical		
Topic Mobility -Gait No of Competencies:8								
BMK 12.1	Describe the gait Cycle	K	KH	Y	Lecture, Seminar	written	Physiology, OT in MSK, OT in Medical condition, OT in surgical condition, OT in neurological Condition.	
BMK 12.2	Understand the kinematics & Kinetics of Gait cycle	K	KH	Y	Lecture, group discussion, DOAP	Written,		
BMK 12.3	Demonstrate the Assessments of different parameters of Gait	K, A, C	KH, SH, P under supervision	Y	Lecture, DOAP	Written, Skill assessment, OSPE, practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
BMK 12.4	Identify abnormal gait & describe the patho-kinematics of abnormal Gait	K, A, C	KH, SH, P under supervision	Y	Lecture, DOAP	Written, Skill assessment, OSPE, practical		
BMK 12.5	Describes preparatory exercises for crutch walking	K	KH	Y	Lecture, group discussion, DOAP	Written,		
BMK 12.6	Understands the different crutch gaits	K	KH	Y	Lecture, group discussion, DOAP	Written,		
BMK 12.7	Understands the the prescription of cane, measurement & the cane gait	K	KH	Y	Lecture, group discussion, DOAP	Written,		
BMK 12.8	Demonstrates the different crutch & cane gaits	K, A, C	KH, SH, P under supervision	Y	Lecture, DOAP	Written, Skill assessment, OSPE, Practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/P	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Vicarious Movements: No of Competencies: 2								
BMK 13.1	Define & classify of vicarious movements	K	K	Y	Lecture, Seminar	written	Physiology, OT in MSK, OT iMed cond, OT in surg cond, OT in neurological Cond	
BMK 13.2	Description of vicarious movements	K	KH	Y	Lecture, Seminar	written		

Recommended Books:

1. Joint Structure and Function –1. A Comprehensive Analysis by C.C. Norkin, P.K. Levangie,
2. Physiology of Joint & Joint motion by Kapandji
3. A Therapeutic exercise by J. Basmajian
4. Biomechanics of human motion by Williams Lissner
5. Measurement of joint motion: a guide to goniometry by C.C. Norkin & D.J. White
6. Occupational Therapy & Physical Dysfunction by A. Turner

OCCUPATIONAL THERAPY DIAGNOSTICS AND PROCESS -I

COURSE DESCRIPTION: At this course, the students will have an understanding of human development, theoretical basis of occupational therapy profession, and various treatment approaches used in occupational therapy. It focuses on concept of spatiotemporal adaptations & the developmental trajectory. It includes understanding of clinical assessment of individual muscle testing, Muscle tone, developmental reflexes. It emphasizes on therapeutic applications in Occupational Therapy based on human development. It includes standardized methods of assessment of Muscle power & its interpretations

GOAL: The broad goal to teach the second year BOT students OT skills of assessment methods and intervention approaches in Occupational therapy. The goal is to have the knowledge, skills for assessment of performance components and the theoretical basis for Occupational Therapy intervention.

OBJECTIVES:

KNOWLEDGE:

At the end of the course, the student shall be able to:

i. Understand the growth and development along with its theoretical basis in a typically developing human being
ii. Explain the concept of spatiotemporal adaptation in Occupational Therapy.
iii. Explain the concept of development of muscle tone & abnormality in tone
iv. Describe the Characteristics of coordinated movements
v. Describe various neurophysiological techniques of intervention
vi. Describe the & developmental reflexes &assessment
vii. Describe evaluation of Physical Dysfunction for Muscle strength, Coordination

SKILLS:

At the end of the course, the student shall be able to:

i. Develop Skills to assess coordination & Developmental reflexes
ii. Demonstrate the neurophysiological techniques on dummy
iii. Demonstrate the Use of the standardized tools of Individual Muscle testing& assessment of muscle tone

ATTITUDE:

i. The teaching and training at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
ii. It is necessary to develop in students a sense of responsibility towards assessment of Physical Dysfunctions
iii. Understanding of handling & facilitatory techniques used during application of Neurophysiological techniques
iv. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals

Scheme of examination for University Practical exam

Muscle Tone & assessment VivaVoce	Individual Muscles testing (Upper Ext. ,lower ext. & spinal muscles) & Viva Voce	Developmental reflex evaluation (On Dummy) & Viva Voce	Coordination Assessment (on dummy) & Viva Voce	Presentation & Communication skills	Total
30 marks	30 marks	10 marks	(10 marks)	20 marks	100 marks

Competency Table : OCCUPATIONAL THERAPY DIAGNOSTICS AND PROCESS -I

Course Content

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY DIAGNOSTICS AND PROCESS -I								
Topic 1: Human Development **No of Competencies - 4**								
OTDP-I 1.1	Enumerate the stages of motor development as per the age.	K, C	K, KH	Y	Lecture, DOAP	Written	FOT I Physiology, OT in Paediatric conditions	
OTDP-I 1.2	Enumerate the stages of Gross motor development.	K, C	K, KH	Y	Lecture, DOAP	Written		
OTDP-I 1.3	Enumerate the stages of Fine motor development.	K, C	K, KH	Y	Lecture, DOAP	Written		
OTDP-I 1.4	Remember and analyse the critical age and developmental activities.	K, C, A	K, KH, S	Y	Lecture, Practical	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic 2: Human Development Process- Theoretical Foundations No of Competencies -9								
OTDP-I 2.1	List out the theories related to Socio emotional development.	K, C	K, KH	Y	Lecture,	Written, Viva	Psychology, OT in psychiatry, OT in paediatric condition	
OTDP-I 2.2	Explain the Erik Erikson's stages of psychosocial development	K, C	K, KH	Y	Lecture,	Written,		
OTDP-I 2.3	Describe Ecologic Theory, Motivational Theory, Social, Emotional Theory	K, C	K, KH	Y	Lecture,	Written,		
OTDP-I 2.4	Describe Psychoanalytic theory of Freud,	K, C	K, KH	Y	Lecture,	Written,		Psychology
OTDP-I 2.5	Explain the Freud Psychosexual stages	K, C	K, KH	Y	Lecture,	Written,		Psychology
OTDP-I 2.6	List out the theories related to cognitive development.	K, C	K, KH	Y	Lecture,	Written,		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 2.7	Describe Theory of Learning, Behavioral Theory, Social learning theory and Maturational Theory of Arnold Gesell	K, C	K, KH	Y	Lecture,	Written,		Psychology
OTDP-I 2.8	Describe Cognitive Theory of Jean Piaget	K, C	K, KH	Y	Lecture,	Written,		Psychology
OTDP-I 2.9	Explain the Piaget stages of Cognitive development.	K, C	K, KH	Y	Lecture,	Written,		Psychology
Topic 3: Muscle Tone Competency no of Competencies -5								
OTDP-I 3.1	Define muscle tone.	K C	K, KH	Y	Lecture,	Written	Physiology 'OT in Neurological condition, OT in paediatric condition	
OTDP-1 3.2	Describe the Difference between Normal Muscle tone and Abnormal Muscle tone	K S	K, KH	Y	Lecture, DOAP	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 3.3	Describe different types of abnormal muscle tone.	K, S	K, KH	Y	Lecture, DOAP	Written, Practical		
OTDP-I 3.4	Evaluate Muscle tone. Understand Modified Ashworth Scale and Pearsons rating of mild, moderate severe spasticity.	K, S	K, KH, SH	Y	Lecture, DOAP	Written, Practical		
OTDP-I 3.5	Practically demonstrate evaluation of muscle tone on a model.	K, S	K, KH, SH	Y	Lecture, DOAP, Skill demonstration	Skill assessment Practical		
Topic 4: Co -ordination competency no of Competencies -7								
OTDP-I 4.1	Define coordination.	K, C	K, KH	Y	Lecture DOAP	Written, Practical	Physiology	
OTDP-I 4.2	Describe the Characteristics of coordinated movements.	K, S	K, KH	Y	DOAP	Written, Practical		
OTDP-I 4.3	Explain in coordination found as Cerebellar signs.	K, S	K, KH, S, SH	Y	DOAP	Written, Practical		
OTDP-I 4.4	Describe in coordination found as Extra pyramidal signs.	K, S	K, KH, S, SH	Y	DOAP	Written, Practical		
OTDP-I 4.5	Evaluate coordination.	K, S	K, KH, S, SH	Y	DOAP	Written, Practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 4.6	Understand using standardized and non- standardized test for evaluating coordination.	K, S	K, KH, S, SH	Y	DOAP	written		
OTDP-I 4.7	Demonstrate method of using Standardized assessments for cerebellar signs, Extrapyramidal signs	K, S	K, KH, S, SH	Y	DOAP	Practical		
Topic 5: Spatiotemporal Adaptations no of Competencies – 6								
OTDP-I 5.1	Define and explain spatiotemporal adaptation as a grounded theory	K, S	K, KH, SH	Y	Lecture, Demonstration	Practical		
OTDP-I 5.2	Define terminology specific to the theory of Spatiotemporal adaptation.	K C	K, KH	Y	Lecture	Written		
OTDP-I 5.3	Explain four conceptual categories of the theory	K C	K, KH	Y	Lecture, DOAP	Written,		
OTDP-I 5.4	Describe the properties of the conceptual category.	K, C	K, KH	Y	Lecture, DOAP	Written		
OTDP-I 5.5	Identify and discuss principles of spiralling continuum as used with spatiotemporal adaptation theory.	K S	K, KH	Y	Lecture, DOAP	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 5.6	Explain movement and environment as a system of relationships culminating in acquisition of performance skills	K, S	K, KH	Y	Lecture, DOAP	Written,		
Topic 6: Reaction and Reflex maturation no of Competencies -6								
OTDP-I 6.1	Define developmental Reflexes and Reactions	K	K	Y	Lecture	Written	Physiology, OT i paediatric conditions	
OTDP-1 6.2	Describe the importance of Reflexes on the motor development and Brain maturation., the position os stimulus & responses	K, C, S	K, KH	Y	Lecture, Small group discussion DOAP	Written		
OTDP-I 6.3	Explain the different Reflexes based on the levels of nervous system	K, C, S	K, KH	Y	Lecture DOAP	Written		
OTDP-I 6.4	Demonstrate the procedure of testing developmental reflexes of different level.	K, C, S	K, KH, SH, P under supervision	Y	Lecture DOAP, Case study	Written, Skill assessment, practical, OSPE		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 6.5	Enumerate the significance of persisting developmental reflex beyond time on Motor Development.	K, C, S	K, KH	Y	Lecture DOAP	Written		
OTDP-I 6.6	Document the age of Integration of developmental reflexes of different level.	K, C, S	K, KH	Y	Lecture DOAP	Written		
Topic 7: Neurological Approaches used in OT intervention no of competencies -13								
OTDP-I 7.1	Describe Rood's four components of motor control, and identify the application of it in OT practice.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written		
OTDP-I 7.2	Elicit an Overview of the Evolution of NDT approach with its use in occupational therapy practices with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written		
OTDP-I 7.3	Describe brunnstorm Approach with demonstration of its application in Occupational therapy intervention with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 7.4	Describe the theoretical base of the sensory integration approach with demonstration of its application in Occupational Therapy practice with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written		
OTDP-I 7.5	Define client-centered practice & its importance in Occupational Therapy practices.	K, C, S	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 7.6	Describe the background and theory of the motor relearning program with demonstration of its application in Occupational Therapy practice with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written		
OTDP-I 7.7	Elicit & demonstrate the Overview of history and development of PNF with demonstration of its application in Occupational Therapy with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written Practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 7.8	Describe the theoretical assumptions and models underlying the task- oriented approach with its application in occupational Therapy with various techniques.	K, C, S	K, KH, S, SH	Y	Lecture DOAP	Written Practical		
OTDP-I 7.9	Describe the background and theory behind Affolter's approach with its application in Occupational Therapy with various techniques.	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 7.10	Describe the background and theory behind Quadriphonic approach Elaborate the key assumptions and principles of Quadraphonic approach.	K	KH	Y	Lecture	Written		
OTDP-I 7.11	Describe the background and theory behind Cognitive retraining model & its In cognitive retraining Model.	K	KH	Y	Lecture	Written		
OTDP-I 7.12	Describe the background and theory behind Neurofunctional Model.	K	KH	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP-I 7.13	Describe the background and theory behind Cognitive orientation of daily Occupational performance Model List the steps in using Cognitive orientation of daily Occupational performance Model	K	KH	Y	Lecture	Written		
Topic 8: CLINICAL REASONING No of competencies -6								
OTDP-I 8.1	Describe the characteristics of clinical reasoning in occupational therapy	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 8.2	Describe decision tree process aid in clinical reasoning	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 8.3	Describe the clinical strategies, those are employed in occupational therapy.	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 8.4	Define Three-Track Mind concept in clinical reasoning	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 8.5	Describe the facets of clinical reasoning	K, C,	K, KH,	Y	Lecture DOAP	Written		
OTDP-I 8.6	Mentioned the models used in clinical reasoning in occupational therapy?	K, C,	K, KH,	Y	Lecture DOAP	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic :9 Evaluation of Individual Muscle strength No of Competencies -5								
OTDP-I 9.1	Describe the screening tests for muscle strength assessment	K	K, KH,	Y	Lecture, DOAP	Written	FOT I	
OTDP-I 9.2	List the diagnosis for which the MMT is appropriate & List contraindicated with its rationale	K	K, KH,	Y	Lecture	Written		
OTDP-I 9.3	Describe the need for individual muscle testing, with the principles of Individual Muscle testing	K,	K, KH,	Y	Lecture DOAP	Written Practical		
OTDP-I 9.4	Demonstrate & perform under supervision different tests for individual muscle testing with proper positioning, stabilisation, the movements, directions, resistance (if required), avoidance of substitution	K, C, S, A	K, KH, S, SH	Y	Lecture DOAP, Case Study	Written Practical, Skill assessment, OSCE		
OTDP-I 9.5	Interpret the results of muscle strength assessment (Weakness, shortening, substitution etc)	K, S	K, KH,	Y	Lecture DOAP	Written Practical		

Recommended Books

1. Occupational Therapy: Practice skills for Physical Dysfunction by L.V. Pedretti
2. Occupational Therapy for Physical Dysfunction by C.A. Trombly
3. Occupational Therapy & physical dysfunction A. Turner
4. Willard & Spackman's Occupational Therapy,5th,6th,7th,11th edition
5. Daniels and Worthinghams's Muscle Testing – Techniques of Manual Examination.
6. Neuro-developmental treatment a guide to clinical practice judith c. bierman
7. Brunnstorm's movement therapy in hemiplegia – a neurophysiological approach 2nd edition
8. Frames of references for peaditaric occupational therapy (paula kramer) 3rd edition
9. Creeks occupational therapy and mental health 5th edition
10. Mental health consepts and techniques for the ota Mary beth early
11. Clinical reasoning in physical disability, Rebecca dutton

Occupational Therapy Diagnostic and Process-II

COURSE DESCRIPTION

Course explores major theories and frameworks underlying contemporary OT Practice, presents theoretical construct of Purposeful Occupational Activity and Occupational Science. It focuses on methods, Medias and modalities used in the intervention process. It builds concepts of intervention strategies that can be used to improve on performance components, performance areas to enable fitness and participation in contextual roles. It includes understanding of clinical assessment of sensations, perception, cognition. It emphasizes on therapeutic applications in Occupational Therapy based on human development and adaptation, treatment approaches incorporating neurophysiologic principles. It includes standardized methods of assessment of Hand functions

GOAL: The broad goal to teach the second year BOT students OT skills of assessment methods and intervention approaches, modalities in Occupational therapy. The goal is to have the knowledge, skills for assessment of performance components and the theoretical basis for Occupational Therapy intervention.

OBJECTIVES:

KNOWLEDGE:

At the end of the course, the student shall be able to:

i. Explain Models & frames of references in Occupational Therapy.
ii. Explain the concept of Occupational Adaptation
iii. Describe the concepts of Functional Cast Bracing
iv. Describe the play as Occupational Therapy modality
v. Describe Physical Dysfunction Evaluation sensation, perception, Cognition & developmental reflexes

SKILLS:

At the end of the course, the student shall be able to:

i. Develop Skills to assess Sensations, perception, Cognition
ii. Demonstrate designing of the Functional Cast bracing
iii. Demonstrate the Use of the standardized tools of Hand function assessment

ATTITUDE:

i. The teaching and training at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
ii. It is necessary to develop in students a sense of responsibility towards assessment of Physical Dysfunctions
iii. Understanding of handling & facilitatory techniques used during application of Neurophysiological techniques
iv. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals Understand and use of clinical reasoning while planning for intervention.

Scheme of examination for University Practical exam 100 Marks

Hand Function Tests & viva Voce Any one	Cognition assessment & perceptual assessment (any4) spots	Sensory Evaluation & Viva Voce	Presentation & Communication skills	Total
30 marks	20 Marks	30marks	20 marks	100 marks

Competency Table: Occupational Therapy Diagnostics & Practice II

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Occupational Therapy Diagnostics & Practice II								
Topic – Conceptual Foundations in Occupational Therapy Models in Occupational Therapy						**No of competencies -4**		
OTDP II 1.1	Define & describe the concept of intervention models in Occupational Therapy	K	K	Y	Lecture	written	FOT I	
OTDP II 1.2	Explain differences between Models & frames of references in Occupational Therapy	K	K		Lecture	Written		
OTDP II 1.3	Explain different models used inOccupational Therapy intervention viz Occupational performance Model of human Occupation, Canadian Model of Occupational performance	K	K, KH		Lecture, DOAP	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP II 1.4	Understand & demonstrate the use of Models used in Occupational therapy	K	KH, SH		Lecture, small group discussion Simulated cases demonstration	Written, Skill assessment		
Topic – basis of Theory & philosophy of Occupational Therapy 2-Frames of references No of competencies -5								
OTDP II 2.1	Describe the importance of personal factors affecting performance, assessment using ICF	K	K	Y	Lecture,	Written		
OTDP II 2.2	Understand the correlation between ICF & OTPF with reference to personal factors	K	K, KH	Y	Lecture, small group discussion	Written		
OTDP II 2.3	Understand the Theoretical concept /Frames of references of occupational therapy	K	K	Y	Lecture	Written		
OTDP II 2.4	Describe the concept of various Frames of references in occupational therapy	K	K	Y	Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP II 2.5	Describe the postulates regarding change and intervention related to different frames of references	K	K, KH	Y	Lecture, DAOP	Written		
Topic - Occupational Adaptation No of competencies -5								
OTDP II 3.1	Describe the Theoretical base of occupational Adaptation	K	K	Y	Lecture	written		
OTDP II 3.2	Explain the concept of Occupational Adaptation	K	K	Y	Lecture	written		
OTDP II 3.3	Describe & identify the need for use of Occupational Adaptation with reference to function -Dysfunction continuum	K/S	K, KH, SH	Y	Lecture,	Written, Skill assessment (OSPE)		
OTDP II 3.4	Enlist the Change anticipated after adaptation	K	KH	Y	Lecture	Written		
OTDP II 3.5	Demonstrates the Implementation of Occupational adaptation	K/S/C	KH, SH	Y	Lecture, Case study	Written, OSCE		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Functional cast Bracing No of competencies -5								
OTDP II 4.1	Define Functional cast Bracing & Describe the difference between functional cast Bracing and traditional immobilization after reduction of fractures	K	KH	Y	Lecture	Written	FOT II	Biomechanics & Kinesiology
OTDP II 4.2	Describe the scientific basis & Principles of Functional Cast Bracing	K	KH	Y	Lecture	Written		
OTDP II 4.3	Enumerate indications & contraindications in functional cast bracing	K	KH	Y	Lecture	Written		
OTDP II 4.4	Enumerate the objectives & advantages of Functional cast bracing	K	KH	Y	Lecture	Written		
OTDP II 4.5	Identify materials used & present the designing skills for functional cast braces	K/S/A	K, KH, SH (P under supervision)	Y	Lecture, DOAP session	Written/skills assessment		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Introduction to Play & Leisure No of competencies -6								
OTDP II 5.1	Define Play and describe different Play behaviors& functions of Play	K	K	Y	Lecture	Written		Psychology II
OTDP II 5.2	Enumerate Functions of Play	K	KH	Y	Lecture	Written		
OTDP II 5.3	Describe content & structure of Play	K	KH	Y	Lecture	Written		
OTDP II 5.4	Explain Theories of Play	K	KH	Y	Lecture	Written		
OTDP II 5.5	use of Play as a therapeutic modality in Occupational Therapy	K/C	KH	Y	Lecture, DOAP	Written		
OTDP II 5.6	Explain importance of Leisure in adult life & classify leisure	K	KH	Y	Lecture	Written		
Topic 6: Physical Dysfunction Evaluation – Sensations No of competencies -5								
OTDP II 6.1	Understand Somatotropin arrangements & Neuroplasticity	K	KH	Y	Lecture	Written	Anatomy, Physiology	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP II 6.2	Describe the Somatosensory system & classification of sensations	K	K.KH	Y	Lecture/	Written		
OTDP II 6.3	Describe & demonstrate the Somatosensory system Evaluation with the principles (Superficial & Deep sensation)	K/S/C	KH, SH (P under supervision)	Y	Lecture, DOAP, Skill training under supervision	Written, Skill assessment, Practicals, OSPE		
OTDP II 6.4	Identify the specific standardized sensory assessments &their uses	K	K, KH	Y	Lecture/small group discussion /DOAP session	Written		
OTDP II 6.5	Identify the sensory deficits & give overview of basic principles in sensory re-education	K	K, KH	Y	Lecture/DOAP session	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Perception No of competencies -3								
OTDP II 7.1	Define Perception &Understand the various perceptual deficits	K	KH	Y	Lecture	Written		Psychology I
OTDP II 7.2	Demonstrate the perceptual assessment methods	K/S/C	KH, SH (P)		Lecture, DOAP, Skill training under supervision	Written, Skill assessment, OSPE		
OTDP II 7.3	Enlist the general approaches used in Occupational Therapy intervention for perceptual dysfunction	K	K, KH		Lecture/ DOAP session	Written		
Topic: Cognition No of competencies-3								
OTDP II 8.1	Define Cognition &classify the lower & higher-level cognitive functions.	K	KH	Y	Lecture	Written		Psychology I
OTDP II 8.2	Demonstrate Evaluation of cognitive Skills-	K/S	KH, SH (P)		Lecture, DOAP, Skill training under supervision	Written, Skill assessment, Practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP II 8.3	Enlist general approaches used in Occupational Therapy intervention for cognitive dysfunction	K	K, KH		Lecture/ DOAP session	Written		
Topic: Hand Function TestsNo of competencies 3								
OTDP II 9.1	Understand need for standardised assessments for hand function evaluation,	K	K, KH	Y	Lecture	Written	FOT II	Biomechanics & Kinesiology
OTDP II 9.2	Enumerate & Identify various Evaluation tests with respect to Occupational demands	K	K, KH		Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTDP II 9.3	Describe & demonstrate objective assessment methods of Hand function Tests for the following hand function tests ● Jebson Taylor Hand Function Test ● Crawford small part dexterity test. ● Purdue Peg board. ● Complete Minnesota dexterity test	K/S/C	K, KH, SH, P (under supervision)		Lecture, DOAP, Skill training under supervision	Written/practical /OSPE, Skill assessment		

Recommended Books:

a. Willard and Spackman's Occupational Therapy by Elizabeth Blesedel lCrepeau, Ellen S. Cohn, Barbara A. Boyt Schell.
b. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby
c. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins
d. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone.
e. Introduction to Occupational Therapy by Hussey Subonis ,Chafea O Brien
f. Frames of Reference for Pediatric Occupational Therapy by Paula Kramer , Jim Hinojosa
g. Minnesota Manual Dexterity Test:www.physio-pedia.com
h. Jebson -Taylor Hand Function Test. https://scripeoject.com
i. Perdue Peg board Test. https://lafayetteevaluation.com
j. Crowford Small Parts Dexterity Test. htpps://www.creativeorgdesign.com

Computer Science

COURSE DESCRIPTION: Course explores Basic Computer and Smartphone Skills, digital skills in the learner. It includes, basic knowledge regarding computers, the parts of computers & their uses, building the typing skills, MS office skills & job readiness skills in the learner

COURSE Goal: The at the end of Second BOT, the students will gain knowledge and skill in the computer operation required in modern daily life & apply the knowledge & skills in Occupational Therapy

COURSE Objectives: At end of second BOT the student shall be able to

Knowledge

1. Describe the basic parts of computers & their uses, Ability to familiarize with basics of computers
2. Describe about operation of computers & smart phones.
3. Understand the smart use of computer skills in occupational therapy profession and in daily activities

Skills: -

1. Demonstrate the ability to do smart typing and ability to navigate the file system
2. the digital operational skills required in operation of computers & smart phones
3. Able to create and edit documents, spread sheets for basic data entry, and presentations
4. use Indian languages in documents, & have effective digital communication
5. able to receive, download & answer the emails, safely create -upload videos, navigate website

Competency Table : Computer Science

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
COMPUTER SCIENCE						
Topic –Basics of Information Technology **No of competencies -4**						
CS 1.1	Describe characteristics of a computer, components of a computer system – CPU, memory, storage devices and I/O devices	K	K	Y	Lecture	written
CS 1.2	Describe the Types of software: system software (operating system, device drivers), application software including mobile applications	K	K		Lecture	Written
CS 1.3	Describe the Type of networks and understand the difference between public & private networking	K	K,		Lecture, DOAP	Written
CS 1.4	Describe the various Multimedia sources images, audio, video, animation	K	K,		Lecture, DOAP	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
Topic – Cyber Safety -Frames of references No of competencies -2						
CS 2.1	Understand the procedure of Safely browsing the web and using social networks Enumerate intellectual property rights, plagiarism and digital property rights	K	K	Y	Lecture	Written
CS 2.2	Explain the existence of Malware: Viruses, adware	K	K		Lecture	Written
Topic Essential Office tools No of competencies 1						
CS 3.1	Enlist, Describe& demonstrate various office tools.	K	K, SH (P)	Y	Lecture, DOAP, Skill training	Written, Skill assessment
Topic: Networking No of competencies -3						
CS 4.1	Explains about Internet: And demonstrate the creation of email account, website	K	KH, SH	Y	Lecture, DOAP	Written
CS 4.2	Demonstrate the use of Web services	K	KH, SH		Lecture, DOAP session, practical	Written, skill assessment
CS 4.3	Describe & demonstrate the use of mobile technologies.	K	KH, SH		Lecture, DOAP session, practical	Written, skill assessment

Recommended Books

1. Introduction to computer Science; Textbook for beginners in Informatics: Gilbert Brands, Publisher Barnes & Nobel

2. Computer Science An overview by J.Glen Bookshear

Publisher Denis Bryłów ,Pearson 3.Cambridge IGCSE

computer science course book

4. Computer Science: Very Short Introduction,by Subrata Dasgupta

First aid and emergency care

COURSE DESCRIPTION: This course introduces the students in to the basic methods of first aid for different client at emergency.

GOAL: The purpose of learning this course is to acquire knowledge and skills to render first aid and management of injuries and wound Enhance knowledge and practice on first aid measures of systemic disorders. Provide first aid care in poisons, bites and stings, foreign bodies. Acquire knowledge in cardiac emergency and consciousness and provide CPR. Acquire knowledge and skills to provide first aid for burns and emergency care.

OBJECTIVES :

A. KNOWLEDGE:

i. Define basic principles of first aid and.
ii. Explain various systemic disorders
iii. Describe the poisoning and foreign objects
iv. Describe basic life support.

B. SKILLS:

i. Demonstrate the management of injuries and wound
ii. Demonstrate the first-aid measures of various systemic disorders
iii. Demonstrate the first aid for burns and emergency care.
iv. Demonstrate first aid for poisoning and foreign objects
v. Apply the procedures of basic life support

C. ATTITUDE:

i. The teaching and training in clinical medicine must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
ii. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes.
iii. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

Competency Table: First aid and emergency care

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
First aid and emergency care						
Topic: Management of Injuries and Wounds		**Competencies- 9**				
FAE 1.1	Definition of first aid. Importance of first aid, Golden rules of first aid, Scope and concept of emergency. Brief introduction about different casualties	K	K	N	Lecture	Written
FAE 1.2	Discuss about Traffic incidents, fires, electrical injuries, Assessing and examining casualty, symptoms and signs, treatment and aftercare	K	K	N	Lecture	Written
FAE 1.3	Techniques and equipment – Removing clothing and headgear, monitoring vitals, first aid materials, dressings- sterile, nonsterile and adhesive, Principles of bandaging – roller, elbow and knee, hand and foot, tubular and triangular bandages, reef knots and scalp bandages	K, S	K, KH	N	Demonstration	Practical

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 1.4	Explain about Wounds and bleedings – bleeding and types of wounds, severe bleeding, impalement, amputation, crush injury, cuts and blaze, foreign object and cut, bruising, infected wound, scalp and head wounds and bleeding to varicose vein	K	K	N	Lecture	Written
FAE 1.5	Describe the Eye wounds, bleeding from ear, nose bleed, bleeding from the mouth, knocked out tooth, wound to the palm, wound at a joint crease, abdominal wound and vaginal bleeding	K	K	N	Lecture	Written
FAE 1.6	Techniques and equipment – arm sling, elevation sling, improvised, casualty handling, assisting a walking casualty, controlling a fall, moving from a chair to floor, moving a collapsed casualty, Methods of transportation: Single helper, Hand seat, Stretcher, Wheeled transport (ambulance), Precautions taken: Blanket lift, Air and Sea travel. Management of wound and bleeding	K, S	K, KH	N	Demonstration	Practical
FAE 1.7	Explain about Bones, joint and muscle injuries; Fractures, dislocated joint, strains and sprains, shoulder, upper arm, elbow, forearm and wrist, hand and finger injuries	K	K	N	Lecture	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 1.8	Discuss the injury to rib cage, Spinal injury, back and fractured pelvis, hip and thigh, knee, lower leg, ankle and foot and toe injuries.	K	K	N	Lecture	Written
FAE 1.9	Management of bone, joint and muscle injuries	K, S	K, KH	N	Demonstration	Practical
Topic: Systemic Disorders **Competency level-8**						
FAE 2.1	Explain about Hypoxia, Airway obstruction, hanging and strangulation, drowning and inhalation of fumes	K	K	N	Lecture	Written
FAE 2.2	Elaborate on Penetrating chest wound, hyperventilation, Asthma and croup	K	K	N	Lecture	Written
FAE 2.3	First aid care for respiratory problems	K, S	K, KH	N	Demonstration	Practical
FAE 2.4	Discuss about Shock, internal bleeding, anaphylactic shock, angina pectoris and acute heart failure	K	K	N	Lecture	Written
FAE 2.5	Explain about Heart attack and fainting	K	K	N	Lecture	Written
FAE 2.6	Discuss about Impaired consciousness, head injury, concussion, cerebral compression, skull fracture and stroke	K	K	N	Lecture	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 2.7	Explain about the Seizures in adults, absence seizures, seizures in children, meningitis, headache and migraine	K	K	N	Lecture	Written
FAE 2.8	First aid care of nervous system problem	K, S	K, KH	N	Demonstration	Practical
Topic: Poisoning and Foreign Objects Competency level-9						
FAE 3.1	Explain the Swallowed poisons, chemicals on skin, inhaled gases and poisons in the eye	K	K	N	Lecture	Written
FAE 3.2	Explain about Drug, alcohol and food poisoning, poisonous plants and fungi	K	K	N	Lecture	Written
FAE 3.3	First aid in poisons	K, S	K, KH	N	Demonstration	Practical
FAE 3.4	Describe about insect poison, bites and stings, tick bite	K	K	N	Lecture	Written
FAE 3.5	Discuss about Dog bites, snake bite and others	K	K	N	Lecture	Written
FAE 3.6	First aid care of animal and insect bite	K, S	K, KH	N	Demonstration	Practical
FAE 3.7	Discuss about Splinter, foreign object in the eye and ear	K	K	N	Lecture	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 3.8	Discuss about the foreign object in the nose, inhaled and swallowed foreign object	K	K	N	Lecture	Written
FAE 3.9	First aid care of the foreign objects	K, S	K, KH	N	Demonstration	Practical
Topic: Basic Life Support Competency level-9						
FAE 4.1	Explain Breathing and circulation and lifesaving priorities	K	K	N	Lecture	Written
FAE 4.2	Discuss the Adult resuscitation procedure	K	K	N	Lecture	Written
FAE 4.3	Cardio Pulmonary resuscitation of adults	K,S	K,KH	N	Demonstration	Practical
FAE 4.4	Discuss about the unconscious child and child resuscitation chart	K	K	N	Lecture	Written
FAE 4.5	Discuss about the unconscious infant and infant resuscitation chart	K	K	N	Lecture	Written
FAE 4.6	CPR for child and infant	K,S	K,KH	N	Demonstration	Practical
FAE 4.7	Explain the Choking adult and its safety procedure	K	K	N	Lecture	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 4.8	Explain the Choking child and infant and its safety management	K	K	N	Lecture	Written
FAE 4.9	First aid for choking of adult and infant	K, S	K, KH	N	Demonstration	Practical
Topic: Burns and Emergency First Aid Competency level-9						
FAE 5.1	Explain the Severe and minor burns and scalds, electrical and chemical burns	K	K	N	Lecture	Written
FAE 5.2	Discuss about burns to the eye, sun burn and heat stroke	K	K	N	Lecture	Written
FAE 5.3	First aid care for burns	K, S	K, KH	N	Demonstration	Practical
FAE 5.4	Describe about Shock, anaphylactic shock and severe bleeding	K	K	N	Lecture	Written
FAE 5.5	Describe about Head injury and spinal injury	K	K	N	Lecture	Written
FAE 5.6	First aid care for shock and traumatic injuries including safe transportation	K, S	K, KH	N	Demonstration	Practical
FAE 5.7	Explain about Seizures, burns and swallowed poisons	K	K	N	Lecture	Written

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels K/KH/SH/PS	Core Y/N	Teaching Learning methods	Assessment methods
FAE 5.8	Discuss about the Broken bones and hemorrhages	K	K	N	Lecture	Written
FAE 5.9	First aid care for seizure, burns, swallowed poisons, different dressings and bandages.	K, S	K, KH	N	Demonstration	Practical

Recommended book:

1. St.John ambulance, St.Andrew's ambulance and British Red cross, 8th edition, First aid manual, Dorling Kindersley, 2006
2. Manual of First Aid - LC.Gupta&Abitabh Gupta, Jaypee Publishers.
3. First Aid and Emergency Nursing - N.N Yalayyaswamy, CBS Publishers

III BOT

Sr. No.	Course Code	Subject	Total Teaching Hours			Credits			Total credits	Marks Total
			Theory	Practical/Demo/ Lab work	Clinical	Theory	Practical/Demo/ Lab work	Clinical		
1	MCV	Medicine & Cardiovascula r medicine	75	30		5	1		6	**Theory- 100**
2	NP	Neurology & Paediatrics	75	30		5	1		6	**Theory 100**
3	OTMC	Occupational Therapy in Medical Conditions	90	60		6	2		8	**Theory 100 Practicals- 100**
4	WPER G	Work Physiology & Ergonomics	90	30	--	6	1		7	**Theory-100 Practicals- 50**
5	SO	Surgery & Orthopaedics	75	30		5	1		6	**Theory- 100**

Sr. No.	Course Code	Subject	Total Teaching Hours			Credits			Total credits	Marks Total
			Theory	Practical/Demo/ Lab work	Clinical	Theory	Practical/Demo/ Lab work	Clinical		
6	PS	Psychiatry	45	30		3	1		4	**Theory- 50**
7	OTSC	Occupational Therapy in Surgical conditions	90	90		6	3		9	**Theory- 100** **Practical-100**
8	RMB	Research Methodology & Biostatistics	45			3			3	**Theory -50**
10		Supervised Clinical training /Field work			**635 + 40** **(visits to external institutes)**			15	15	
Total Hours 1560										
Total No. of Credits as per heads			**585**	**300**	**675**	**39**	**10**	**15**		
Total Credits									**64**	
Total Marks						**950**				

MEDICINE & CARDIOVASCULAR MEDICINE

COURSE DESCRIPTION: This course intends to familiarize students with medical terminology & abbreviations for efficient & effective chart reviewing & documentation. It also explores selected systemic diseases, focusing on epidemiology, pathology, histology, aetiology as well as primary & secondary clinical characteristics, complications and their management. Discusses & integrates subsequent medical management of General Conditions, Rheumatology, Gerontology, and Cardio-vascular & Respiratory systems, genetic disorders, hematologic and infective disorders with reference to red flag indicators, indications, contraindications & precautions to formulate appropriate intervention

GOAL: The broad goal of the teaching of undergraduate students in Medicine & Cardiovascular medicine is to have the knowledge, skills and behavioural attributes to function effectively as a clinician.

OBJECTIVES:

KNOWLEDGE:

At the end of the course, the student shall be able to:

1 Diagnostic process of common clinical disorders with special reference to infectious diseases, nutritional disorders, tropical, cardiovascular and environmental diseases;

2 Outline various modes of management including drug therapeutics especially dosage, side effects, toxicity, interactions, indications and contra-indications;

3 Process to propose diagnostic and investigative procedures and ability to interpret them;

4 Process to provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required;

5 Recognize geriatric disorders and their management.

SKILLS:

At the end of the course, the student shall be able to:

1. develop clinical skills (history taking, clinical examination and other instruments of examination to diagnose various common medical disorders and emergencies;
2. refer a patient to secondary and/or tertiary level of health care after having instituted primary care;
3. perform simple routine investigations like hemogram, stool, urine, sputum and biological fluid examinations;
4. assist the common bedside evaluations and investigative procedures related to medicine and cardiovascular conditions.
5. A course of systematic instruction in the principles and practice of medicine, including medical disease of infancy;
    a. Lecture - demonstrations, seminars and conferences in clinical medicine during the 3 years shall run concurrently with other clinical subjects;
    b. Instructions in comprehensive medical care;
    c. Instructions in applied anatomy and physiology and pathology throughout the period of clinical studies;
    d. Instructions in dietetics, nutrition and principles of nursing Medical and in simple ward procedure e.g. should be imparted during clinical concurrently.

ATTITUDE:

1. The teaching and training in clinical medicine must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes.

Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals

Competency Table: MEDICINE & CARDIOVASCULAR MEDICINE

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
MEDICINE & CARDIOVASCULAR MEDICINE								
Topic:	**General Medicine**		**No of Competencies: 10**					
MCV 1.1	Describe clinical features, investigations, & management of following endocrine system disorders: Thyroid, pituitary, Adrenal, pancreas, obesity & nutritional deficiency	K	K/ KH	Y	Lecture, Bedside clinic, small group discussion	Written	Pathology Pharmacology	
MCV 1.2	Describe clinical features, investigations and management of the following diseases respiratory system: Bronchial Asthma, Bronchiectasis, Pulmonary Embolism, Tuberculosis, Lung abscess, Emphysema, Lobar Pneumonia, Pleurisy, Empyema and CorPulmonale., Intensive respiratory care (ICU)	K	KK/ H	Y	Lecture, Bedside clinic, small group discussion	Written	Pathology Pharmacology	OT in Medical conditions

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
MCV 1.3	Describe the pathogenesis, clinical features, investigations, complications and brief outline of management of the following auto immune conditions / diseases: Rheumatoid Arthritis, seronegative Spondylosing Arthritis, SLE, Gout, Still Disease Polymyositis, CREST syndrome	K	K/ SH	Y	Lecture Bedside clinic, small group discussion	Written	Pathology Pharmacology	OT in Medical conditions
MCV 1.4	Discuss the management of gastric and Duodenal ulcer, hematemesis, Hepatitis & Malabsorption Syndrome	K	K/KH	Y	Lecture, Small group discussion,	Written		
MCV 1.5	Describe the clinicalfeatures, investigations and management of: Rickets, Protein deficiency, Beri Beri, Subacute Combined Degeneration	K	K/KH	Y	Lecture, Small group discussion,	Written	Pharmacology	
MCV 1.6	Describe the age-related problems in elderly and their management in health care and wellness clinics	K	K/KH	Y	Lecture, Small group discussion,	Written		OT in Medical condition
MCV 1.7	Describe clinical features and management of acute and Chronic Renal Failure, glomerular nephritis, Urinary Tract Infection	K	KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
MCV 1.8	Describe the clinical features and management of: Anaemias, Haemophilia, Thalassaemia, Leukaemia Hodgkin's diseases	K	K/KH	Y	Lecture, Bedside clinic, small group discussion	Written		OT in Medical conditions
MCV 1.9	Describe the causes, symptoms and management of Common Infectious Diseases: Malaria, Rabies, Leptospirosis, dengue, Diseases of lymphatic system	K	KH	Y	Lecture	Written		
MCV 1.10	Intensive Medical Care (ICU)	K	K	Y	Lecture, Bedside clinic	Written		
Topic: Cardiovascular Disease No of Competencies:07								
MCV 2.1	Describe ischemic heart disease their clinical features investigation and management.	K	K/KH	Y	Lecture	Written		OT in medical conditions
MCV 2.2	Explain management of hypertension	K	K/KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
MCV 2.3	Describe Rheumatic heart diseases with their clinical features investigation and management	K	K/KH	Y	Lecture, Small group discussion,	Written		
MCV 2.4	Enumerate the cause of peripheral vascular disease and discuss its management	K	K/KH	Y	Lecture, Small group discussion,	Written		OT in surgical conditions
MCV 2.5	Describe etiology classification management of congenital heart disease. Describe basics in ECG as applicable to ischemic heart diseases	K	K/KH	Y	Lecture,	Written		
MCV 2.6	Describe basics in ECG as applicable to ischemic heart diseases	K	K/KH	N	Lecture,	-		
MCV 2.7`	Intensive Cardiac Care Unit (CCU)	K	KH	Y	Lecture,	Written		
Topic: Dermatology No of Competencies: 04								
MCV 3.1	Describe the clinical features, investigations and management of Leprosy	K	K/KH	Y	Lecture, Bedside clinic Small group discussion,	Written		OT in Medial conditions

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
MCV 3.2	Describe the clinical features, investigations and management of HIV infections	K	K/KH	Y	Lecture, Bedside clinic Small group discussion	Written		OT in Medial conditions
MCV 3.3	Describe the clinical features, investigations and management: in brief common skin infections: psoriasis and venereal diseases.	K	K	Y	Lecture,	Written		
MCV 3.4	Trophic ulcers- their classification and management	K	K	Y	Lecture,	Written		

Medicine And Cardiovascular Medicine

1. API- Text book of Medicine, 5th edition
2. Medicine-- P.J. Mehta
3. Principles & Practice of Medicine – Davidson
4. Textbook of dermatology – Dr. Khopkar
5. Medicine for Students Golwalla'
6. First AID and Emergency Care- Harris N.
7. Manual of First Aid- Gupta L.C

OCCUPATIONAL THERAPY IN MEDICAL CONDITIONS COURSE DESCRIPTION

This course intends to familiarize students with medical terminology & abbreviations for efficient & effective chart reviewing & documentation. It also gives overview of epidemiology, pathology, histology, aetiology as well as primary & secondary clinical characteristics, complications and their management. Discusses & integrates subsequent occupational therapy management of General Conditions, Rheumatology, Gerontology, Cardio-vascular & Respiratory systems, genetic disorders, hematologic conditions, infective disorders, obesity with reference to red flag indicators, indications, contraindications & precautions to formulate appropriate therapeutic intervention.

GOAL: The broad goal to teach the undergraduate students OT Application in Medical Conditions is to have the knowledge, skills and behavioural attributes to function effectively as a occupational therapist and subsequently improve functional independence and Quality of Life of the patient.

OBJECTIVES: KNOWLEDGE:

At the end of the course, the student shall be able to:

1. Identify the clinical presentation of common medical conditions with special reference to, cardiovascular and pulmonary conditions, HIV, Rheumatoid Arthritis, dermatological conditions like Leprosy, haemophilia.
2. Outline and apply various modalities and methods of management including various approaches, exercise protocol, splinting process.
3. Recognize geriatric disorders and obesity and its OT management
4. Plan and provide occupational therapy treatment under supervision for occupational performance areas of independent living/daily living skills, pre-vocational/work adjustment skills, play/leisure skills, social skills

SKILLS:

At the end of the course, the student shall be able to:

1. Develop clinical skills (history taking, clinical examination and other instruments of examination) to know the clinical manifestations and its impact on function.
2. Perform simple assessments using standardized methods, test batteries and instruments to assess performance components
3. Assist the common bedside evaluations and assessment procedures related to medical and cardiovascular conditions.

ATTITUDE:

1. The teaching and training in OT application in medical condition" must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
2. To develop, restore, or improve required skills, habits, and roles for independent, meaningful, and productive living.
3. To participate in patient and family education programs and provide them with the necessary information and resources for independent living
4. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes of therapy
5. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

Scheme of examination for University Practical exam

Long Case	Short case	Viva voce	Communication skills	Total
60 marks	25marks	10 marks	5 marks	100 marks

Competency Table: Occupational Therapy in Medical Conditions

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Occupational Therapy in Medical Condition								
Topic: Cardiovascular conditions management No of Competencies: 09								
OTM 1.1	Describe Medical and Surgical Management of various cardiovascular conditions:	K	KH	N	Lectures	Written		Medicine
OTM 1.2	Understand and correlate clinical presentations, physical findings, patho-physiology and investigations	K	KH/SH	Y	Bedside Clinic, Skill presentation, Case study	Practical, Skill Assessment		Medicine
OTM 1.3	Reading and interpreting basic cardiopulmonary findings	S	SH	Y	Bedside Clinic, Skill presentation, Case study	Skill Assessment		
OTM 1.4	Enumerate effects of drugs on exercise performance	K	K	Y	Lectures Group Discussion	Written, Viva	Pharmacology	-

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTM 1.5	Enumerate Indications and Contraindications for work and activity	K	K	Y	Lectures	Written, VIVA, OSPE		
OTM 1.6	Define and understand MET & its application to exercise prescription, work and sports medicine.	K/S	KH	Y	Lectures, Group Discussions	Written, VIVA, OSCE	Work Physiology	Medicine
OTM 1.7	Describe the occupational Therapy protocol for cardiovascular conditions and emphasize on life style modification	K/S	KH/SH	Y	Lectures, Case study DOAP	Written Practical, Skill Assessment	Work Physiology	
OTM 1.8	Discuss work hardening and work assessment in cardio- pulmonary conditions	K/S	KH	Y	Lectures	Written, Viva	OT Diagnostic II	
OTM 1.9	Discuss modification of work and activity programmes with respect to residual cardiac functions and return to work	K/S	KH/SH	Y	Group Discussions Demonstrate,	Skill Assessment		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic Autoimmune disorders-Rheumatoid arthritis & SLE No of Competencies: 4								
OTM 2.1	Enumerate & Define the autoimmune conditions,	K	K	Y	Lectures	Written Viva		Medicine
OTM 2.3	Explain patho mechanics of deformities in RA	K	KH	Y	Lectures	Written Viva		
OTM 2.4	Discuss & demonstrate Occupational therapy management in Acute, sub-acute and chronic stage of diseases	K/S	KH/SH/P	Y	Lectures****	Written Viva		Medicine
Topic: Geriatrics No of Competencies: 5								
OTM 3.1	Define the term gerontology & geriatrics	K	K	Y	Lectures	Written Viva		
OTM 3.2	Explain health & health context in again	K	KH	Y	Lectures	Written Viva		
OTM 3.3	Describe theories of aging	K	KH	Y	Lectures	Written Viva		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTM 3.4	Identify specialized tools of OT assessment & treatment in geriatrics	K/S	KH/SH	Y	Lectures, Group Discussions	Written Viva.		
OTM 3.5	Discuss role of OT in fall prevention	K	KH	Y	Lectures	Written Viva		
Topic: Dermatology No of Competencies: 4								
OTM 4.1	Describe the condition leprosy and mode of transmission of this disease.	K	K	Y	Lectures	Written Viva		Medicine
OTM 4.2	Describe the clinical features & OT management in Leprosy	K	KH	Y	Lectures Seminar	Written Viva		Medicine
OTM 4.3	Explain Psychosocial implications in Leprosy.	K/A/C	KH/S/P	Y	Lectures	Written, Case study		
OTM 4.4	Explain CREST syndrome, SLE, affectations of the integumentary system	K	KH	Y	Lectures	Written Viva		Medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Immune disorders-HIV No of Competencies: 5								
OTM 5.1	Explain epidemiological history of HIV	K	K	NH	Lectures	Written Viva		Medicine
OTM 5.2	Identify symptoms with spectrum of HIV disease & its impact on occupational behaviour	K	K/S	Y	Lectures Seminar	Written Viva		
OTM 5.3	Describe appropriate OT goals, treatment plan & strategies for people with HIV infection & AIDS	K	KH	Y	Lectures	Written Viva		
OTM 5.4	Describe the physical, psychological & environmental needs of people with HIV infection & AIDS	K	KH	Y	Lectures	Written Viva		
OTM 5.5	Discuss palliative Care for HIV	K/A/C	KH/SH	Y	Lectures, Seminar	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Pulmonary conditions		**No of Competencies: 4**						
OTM 6.1	Define various pulmonary conditions	K	K	Y	Lectures	Written Viva		Medicine
OTM 6.2	Identify symptom in pulmonary conditions with respect to functional performance	K	KH	Y	Lectures	Written Viva		
OTM 6.3	Explain classification of patients on symptomatic basis. Disability rating (ICF)	K/S	KH	Y	Lectures Group Discussions	Written Case S		
OTM 6.4	Discuss & demonstrate occupational therapy management in pulmonary conditions.	K/S	KH/SH	Y	Lectures Practical Bed side Clinic, DOAP	Written Viva, Skill Assessment		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Hematology: Hemophilia and Thalassemia **No of Competencies: 6**								
OTM 7.1	Define &classify hemophilia and thalassemia	K	K	Y	Lectures	Written Viva		Medicine
OTM 7.2	Discuss Occupational therapy management in hemophilia and thalassemia	K	KH	Y	Lectures	Written Viva		
OTM 7.3	Discuss psychological and psychosocial implications in hemophilia and thalassemia	K	K	Y	Lectures	Written Viva		
OTM 7.4	Explain joint protection techniques & indications and contraindications for exercises	K/S	KH	Y	Lectures	Written, Viva		
OTM 7.5	Evaluate and Prescribe orthosis in hemophilia	K/S	S/SH/P	Y	Practical Laboratory , Demonstrate	Skill Assessment, Practical		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTM 7.6	Explain energy Conservation & life style modification, dietary measures, patient education in hemophilia	K/C	KH	Y	Practical , Lectures	Written, Skill Assessment		
Topic: Obesity No of Competencies: 6								
OTM 8.1	Understand historical Perspective in obesity	K	K	N	Lectures	Written Viva		Medicine
OTM 8.2	Define and classify obesity and prevalence Identify and perform Body Composition Assessment	K/S	K/SH	Y	Lectures	Written Viva/ Skill Assessment	Work physiology	
OTM 8.3	Explain health related correlates of obesity – Genetic & Physical Inactivity	K	KH	Y	Lectures	Written Viva		Medicine
OTM 8.4	Plan OT program using Preventive and corrective approaches, through work, activities and exercises	K/S	KH	Y	Lectures/ Seminar/ Case study	Written Viva		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTM 8.5	Discuss principles of weight control (Life style modification, diet & activity modification, stress management.)	K/C	KH /S H	Y	Lectures, Seminar DOAP	Written Viva,		
OTM 8.6	Discuss Community education and preventive programs for obesity	K/C	KH /S H	Y	Lectures, DOAP Seminar	Written Viva,		
Topic: Infectious Diseases No of Competencies: 3								
OTM 9.1	Overview of clinical features, investigations and management: for common infections:	K	K	N	Lecture	written		
OTM 9.2	Describe OT Management and prevention of the infectious diseases like Dengue, Leptospirosis, Malaria, Rabies	K	KH	N	Lecture	Written		
OTM 9.3	Describe role of OT in Pandemic diseases like COVID 19	K	KH	N	Lecture	Written		

Recommended Books

1) Occupational Therapy – Willard & Spackman's
2) O.T. Practice Skills for Physical Dysfunction – Pedretti
3) O.T. in physical Dysfunction – Trombly& Scott
4) Therapeutic Exercise – Kisner
5) Therapeutic Exercise Basmajian
6) Rehab Medicine – Goodgold
7) Hand splitting – Fess, Gettle& Strickland.
8) Pulmonary rehabilitation, guidelines to success – Hodgkin T.E.
9) Physical rehabilitation, assessment, treatment – O'Sullivan

NEUROLOGY AND PEADIATRICS

COURSE DESCRIPTION: This course introduces the student to the neurological & peadiatric conditions which commonly cause disability. Particular effort is made in this course to avoid burdening the student with any details pertaining to diagnosis which will not contribute to their understanding of the limitations imposed by neurological pathology on the functioning of the individual.

COURSE OBJECTIVES: This course intends to familiarize students with medical terminology & abbreviations for efficient & effective chart reviewing & documentation. It also explores selective systemic diseases, focusing on epidemiology, aetiology, pathology, histology as well as primary & secondary clinical characteristics & their management. It discusses & integrates subsequent medical management of Neurological & Paediatric conditions to formulate appropriate intervention; indications, precautions & contraindications with respect to clinical presentation

GOAL: The broad goal of the teaching of undergraduate students in Neurology and Peadiatrics is to have the knowledge, skills and behavioural attributes to function effectively as a clinician.

OBJECTIVES:

C. KNOWLEDGE:

At the end of the course, the student shall be able to:

1. Understand basics of Diagnostic process of common Neurology and Peadiatrics disorders related to the profession.
2. Outline various modes of management including medical management, drug therapeutics, side effects, toxicity, interactions, indications and contra-indications, basics of surgical management, and other interventions.
3. Basic understanding about the Process to propose diagnostic and investigative procedures.
4. Process to understand the basics about first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required;
5. Recognize paediatric disorders and their management.

D. SKILLS:

At the end of the course, the student shall be able to:

1. Develop clinical skills (history taking, clinical examination and other instruments of examination of various common Neurology and Peadiatrics disorders and emergencies;
2. Refer a patient to secondary and/or tertiary level of health care after screening if needed;
3. Perform simple routine evaluations related to OT
4. Assist the common clinical assessment procedures related to Neurology and Peadiatrics conditions.

A course of systematic instruction in the principles and practice of Neurology and Peadiatrics;

1. Lecture - demonstrations, seminars and conferences in clinical subjects during the 3 years shall run concurrently with other clinical subjects.;
2. Basic Instructions in comprehensive Neurology and Peadiatrics care;
3. Basic Instructions in applied anatomy and physiology and pathology (related to OT) throughout the period of clinical studies;
4. Basics Instructions in dietetics, nutrition and principles of nursing for Neurology and Peadiatrics

E. ATTITUDE:

1. The teaching and training in clinical subjects like paediatrics and neurology must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes related to OT.
3. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

COURSE CONTENT

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NEUROLOGY AND PEADIATRICS									
NEUROLOGY									
Topic: NEUROANATOMY			**No of Competencies:4**						
NP 1.1	Overview of the basic anatomy of the brain and spinal cord	K	K	Y	Small group Discussion, Lecture	Written		Applied Anatomy, anatomy	
NP 1.2	Understand Blood supply of the brain and spinal cord,	K	K	N	Small group Discussion, Lecture	Written		Applied Anatomy, anatomy	
NP 1.3	Explain anatomy of the visual pathway,	K	K	N	Small group Discussion, Lecture	Written		Applied Anatomy, anatomy	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 1.4	Understand connections of the cerebellum and extrapyramidal system,	k	K	Y	Small group Discussion, Lecture	Written		Applied Anatomy, Anatomy, OT In Neurology	General medicine
Topic: NEUROPHYSIOLOGY			**No of Competencies: 1**						
NP 2.1	Review in brief the Neurophysiologic basis of: tone and disorders of tone and posture, bladder control, muscle contractions and movement and pain. Functions of the lobes of the brain	K	K	Y	Small group Discussion, Lecture	Written		Applied Physiology, Physiology	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Extra Pyramidal lesions No of Competencies: 1									
NP 3.1	Describe the cause, clinical features, and management of Parkinson's disease, Athetosis, Chorea, Dystonia, Wilson's disease	K	K, KH	Y	Small group Discussion, Lecture	Written			
Topic Diseases of the muscle No of Competencies: 1									
NP 4.1	Define, Classify & Explain the causes Clinical features investigation, management of Myopathy, (DMD, Becker's, fascio scapular)	K	K, KH	Y	Small group Discussion, Lecture	Written		OT in Neurology	
Topic Neuromuscular disorders No of Competencies: 1									
NP 5.1	Define, Classify & Explain the causes Clinical features investigation, management of Myasthenia Gravis , Motor Neuron Diseases.	K	K	Y	Small group Discussio n, Lecture	Written		OT In Neurology	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic Diseases of the peripheral nerves No of Competencies: 2									
NP 6.1	Enumerate the types and sequelae of polyneuropathies	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	General Medicine
NP 6.2	Explain prognosis and management of Polyneuropathies	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	
Topic Cerebellar disorders No of Competencies: 2									
NP 7.1	Define and classify Ataxia	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	
NP 7.2	Describe the Diagnosis, Prognosis and management of Ataxias	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic Disorders of cranial nerves No of Competencies: 2									
NP 8.1	Enumerate the clinical features and explain the causes of each cranial nerve affectation	K	K	Y	Demonstration Small group Discussion, Lecture	Written, Skill assessment		OT in Neurology	
NP 8.2	Explain the prognosis & management of each cranial nerve affectation	K	K		Small group Discussion, Lecture	Written			
Topic Degenerative Diseases No of Competencies: 2									
NP 9.1	Describe cause clinical features of various degenerative diseases, diagnosis and treatment	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 9.2	Describe the Diagnosis and management of degenerative diseases	K	KH		Small group Discussion, Lecture	Written		OT in Neurology	
Topic Infections of the nervous system No of Competencies: 1									
NP 10.1	Describe cause, clinical features, diagnosis and treatment of Encephalitis, Neurosyphilis, Herpes, Meningitis, Tetanus and involvement of Nervous system in H.I.V.	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	General medicine
Topic Disorders of Spinal cord No of Competencies: 1									
NP 11.1	Describe cause, clinical features, diagnosis and treatment of Syringomyelia, Tabes Dorsalis, Caudaequina syndrome.	k	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Headache No of Competencies: 2									
NP 12.1	Enumerate Types of headache and describe its management,	K	K	N	Small group Discussion, Lecture	Written			General medicine
NP 12.2	Explain causes clinical features and management of Migraine	K	K	N	Small group Discussion, Lecture	Written			
Topic: Epilepsy No of Competencies: 3									
NP 13.1	Define and Classify epilepsy	K	K	Y	Small group Discussion, Lecture	Written			General Medicine
NP 13.2	Enumerate the complications of epilepsy	K	K	Y	Small group Discussion, Lecture	Written			General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 13.3	Describe management of epilepsy	K	K	N	Small group Discussion, Lecture	Written			General medicine
PEADIATRICS									
Topic Growth and development No of Competencies: 8									
NP 14.1	Overview for Normal intra-uterine development of foetus with special reference to Central Nervous System, Neuromuscular System, Cardiovascular Respiratory System Normal development & growth	k	K	N	Small group Discussion, Lecture	Written		OT in paediatric	General medicine
NP 14.2	Describe normal/abnormal growth and development of a child	K	K		Small group Discussion, Lecture	Written/ Viva voce		OT in paediatric	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 14.3	Understand Immunization and breast-feeding	K	K		Lecture	Written			General medicine
NP 14.4	Enumerate the pre- natal, peri natal and post-natal causes	K	K/KH		Small group Discussion, Lecture,	Written,		OT in paediatric	General medicine
NP 14.5	Classification of Cerebral Palsy. Describe the Clinical features of different types	K	K/KH		Small group Discussion, Lecture,			OT in paediatric	General medicine
NP 14.6	Describe Medical Management including early intervention in cerebral palsy	K	K/KH		Small group Discussion, Lecture	Written		OT in paediatric	General medicine
NP 14.7	Enumerate the causes, clinical features, Classification and Management of Epilepsy	K	K/KH		Small group Discussion, Lecture	Written		OT in paediatric	General medicine, Pharmacology

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 14.8	Describe the causes clinical features, Classification and management of Mental Retardation.	K	K/KH		Small group Discussion, Lecture	Written		OT in paediatric	
Topic Developmental disorders associated with spinal cord No of Competencies: 1									
NP 15.1	Enumerate various neural tube defects- and describe clinical features their management	K	K/KH		Small group Discussion, Lecture,	Written			General medicine
Topic: Common infection No of Competencies: 2									
NP 16.1	Enumerate & describe Infections of Central Nervous System & Peripheral Nervous System	K	K, KH		Small group Discussion, Lecture	Written		OT in Pediatrics, OT Neurology	General medicine, neurology

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
NP 16.2	Describe the clinical symptoms and Treatment of Typhoid, Rubella, Mumps, Measles, Diphtheria, Chicken gunia, Malaria, Leptospirosis	K	K		Small group Discussion, Lecture	Written		Pathology	General medicine
Topic: Common diseases of the Respiratory system No of Competencies: 3									
NP 17.1	Describe clinical features, investigations and management of Common diseases of the Respiratory system	K	K	N	Lecture	Written			General medicine
NP 17.2	Understand Respiratory distress in neonate	K	K	Y		Written			General medicine
NP 17.3	Understand Aspiration, GERD	K	K	N		Written		OT In Paediatrics	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
TopicRheumatology No of Competencies: 2									
NP 18.1	Describe clinical features, investigations and management of Juvenile R.A. Musculoskeletal system. Describe clinical features, complications	K	K	Y	Small group Discussion, Lecture	Written		OT in pediatrics	General medicine
NP 18.2.	Describe systemic lupus erythematosus	K	K	Y	Small group Discussion, Lecture	Written		OT In PAEDS	general medicine
TopicNutritional disorders No of Competencies: 1									
NP 19.1	Define Malnutrition and enumerate the Symptoms of Vitamin deficiency conditions and the treatment for the same	k	K	N	Small group Discussion, Lecture	Written		Community medicine	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
TopicGenetic & congenital disorders		**No of Competencies: 2**							
NP 20.1	Explain the cause, clinical symptoms and treatment for Chromosomal disorders and genetically transmitted neuromuscular conditions and describe the clinical feature and management	K	K	Y	Small group Discussion, Lecture	Written		OT pediatrics	General medicine
NP 20.2	Enumerate the paediatric congenital heart diseases and its clinical symptoms Describe the Medical and Surgical management for the same	K	K		Small group Discussion, Lecture	Written		OT Paediatrics	General medicine, Cardiology

Recommended Books

1) Occupational Therapy – Willard & Spackman's
2) O.T. Practice Skills for Physical Dysfunction – Pedretti
3) O.T. in physical Dysfunction – Trombly& Scott
4) Therapeutic Exercise – Kisner
5) Therapeutic Exercise Basmajian
6) Rehab Medicine – Goodgold
7) Hand splitting – Fess, Gettle& Strickland.
8) Pulmonary rehabilitation, guidelines to success – Hodgkin T.E.
9) Physical rehabilitation, assessment, treatment – O'Sullivan

WORK PHYSIOLOGY & ERGONOMICS

COUSE RDESCRIPTION: The student will demonstrate knowledge and ability of work physiology and its application and scope in Occupational Therapy. The course makes the student cognizant about evaluation and assessment of physical capacity and fitness, aerobic and anaerobic performance. The course offers know how of appropriate use of training equipment and protocols, test performance for work fitness, indications, contraindications for registering in exercise training and discharge programs. The student will demonstrate knowledge and ability of ergonomics and its application and scope in Occupational Therapy and Industry. The course offers opportunity to learn basics of ergonomics in industry, the prevention of cumulative trauma disorders and joint pathologies and other conditions as applicable. It covers aspects of mental ergonomics, management of anxiety and stress in industry and work place

OBJECTIVES

KNOWLEDGE

At the end of the course, the student shall be able to:

1) Identify and understand the physiology of the aerobic and anaerobic exercises, aerobic & anaerobic process & various test used.
2) Understand the concept of energy expenditure at work, rest and leisure
3) Recognize the role of various factors on physical performance
4) Provide training based on aerobic and anaerobic capacity.
5) Recognize physical health, capacity and longevity in aged.
6) Understand anthropometry, Environmental physiology, Occupational psychology and its role in ergonomics.
7) Understand use of ergonomic principles at office and industry
8) Define what work-related musculoskeletal disorders (WRMSDs) are and the importance of reducing these.
9) optimize the integration of man and machine so as to improve the production of work and accuracy

SKILL

Apply principles of Ergonomics and work physiology in OT. Demonstrate and assess work place layout

Scheme of Marks for University Practical exam in applied ergonomics 50 Marks

Work site analysis, work method, and Tools & Equipment's used

Competency Table: WORK PHYSIOLOGY & ERGONOMICS

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
WORK PHYSIOLOGY & ERGONOMICS								
Work Physiology								
Topic: Concepts of Physical Performance		**No of Competencies: 3**						
WP 1.1	Describe physiology of the aerobic and anaerobic exercises on various systems.	K	KH	Y	Lectures Seminars	Written	Physiology,	Medicine
WP 1.2	Describe the physiology of physical performance with respect to aerobic and anaerobic power, and explain the factors that affect physical performance.	K	KH	Y	Lectures Seminars	Written	Physiology,	Medicine
WP 1.3	Enumerate basic principles of strength and aerobic training, and its physiologic effects	K	K	Y	Lectures Seminars	Written	Physiology,	Medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Evaluation of Physical Performance and fitness test			**No of Competencies: 6**					
WP 2.1	Explain aerobic process related to Intensity and duration of exercise and recovery.	K	KH	Y	Lectures Seminars	Written	Physiology	
WP 2.2	Explain anaerobic process related to power and capacity for high energy phosphate level and glycogen breakdown	K	KH	Y	Lectures Seminars	Written	physiology	
WP 2.3	Explain the role of lactate production, distribution and disappearance	K	KH	Y	Lectures Seminars	Written	physiology	
WP 2.4	Describe various tests for Aerobic and Anaerobic capacity	K	KH	Y	Lectures Seminars	Written		OT Application in Medical Condition
WP 2.5	Explain the Protocols & Methods for: Parameters of evaluation. Measurement of oxygen uptake.	K/S	KH/SH	Y	Lectures Seminars	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
WP 2.6	Explain principles and methods of Physical Training.	K/S	KH/SH	Y	Lectures Seminars	Written Skill Assessment		
Topic: Physiological considerations and requirements of Physical Performance Capacity No of Competencies: 2								
WP	Understand the role of nutrition on	K	KH	Y	Lectures	Written		
3.1	Physical Performance				Seminars			
WP 3.2	Explain mechanism of Temperature Regulation and its effects Physical Performance	K	KH	Y	Lectures Seminars	Written	Physiology	
Topic: Factors affecting Physical Performance No of Competencies: 2								
WP 4.1	Describe the effects of various factors on physical performance	K	KH	Y	Lectures Seminars	Written		
WP 4.2	Describe effects of Acclimatization, effects of altitude, season, smoking, temperature, de conditioning on physical performance	K	KH	Y	Lectures Seminars	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Applied Work Physiology		**No of Competencies: 4**						
WP 5.1	Describe training principles and physiologic consequence on aerobic and anaerobic system	K	KH	Y	Lectures,	Written		
WP 5.2	List the factors that affect the aerobic training response	K	K	Y	Lectures	Written/ Viva		
WP 5.3	understand the concept of energy expenditure at work, rest and leisure	K	KH/SH	Y	Lectures, Group Discussions	Written, Viva		Ergonomics
WP 5.4	Apply the WP principles to Cardio-Pulmonary Rehabilitation	S	SH/P	Y	DOAP	Skill assessment, Viva, OSPE		Medicine
Topic Physical Activity – Health and Aging		**No of Competencies: 3**						
WP 6. 1	Explain Physical Activity Epidemiology	K	K	N	Lectures	Written		OT Application in Medical Conditions
WP 6. 2	Describe Aging Process and Physiologic function	K	K	Y	Lectures Seminars	Written		OT Application
WP 6. 3	Discuss Physical Activity Health and Longevity	K	KH	Y	Lectures	Written		

Ergonomics

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Introduction to Ergonomics No of Competencies: 2								
ERG 1.1	Define Ergonomics & give an overview of Historical Background	K	K	Y	Lectures	Written, viva		
ERG 1.2	Enumerate & explain the areas and branches of Ergonomics	K	K	Y	Lectures	Written, viva		
Topic: Client Centre Framework for therapist in Ergonomics No of Competencies: 4								
ERG 2.1	Discuss theoretical Framework	K	KH	Y	Lectures	Written, viva		
ERG 2.2	Discuss ergonomic approaches	K	KH	Y	Lectures	Written, viva		
ERG 2.3	Explain the role of client centered Practice and ethics	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 2.4	Describe application of various models to Ergonomic practice	K	KH	Y	Lectures, Small Group Discussions	Written, viva	OTDP I	
Topic: Branches of Ergonomics No of Competencies: 15								
Branches of Ergonomics Anthropometry-								

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 3.1	Enumerate & explain facets- static and dynamic anthropometry.	K	K	Y	Lectures	Written, viva		
ERG 3.2	Explain Measurements, concepts of 5^{th}, 50^{th} and 95^{th} percentile	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 3.3	Enumerate & explain the factors affecting the anthropometric data	K	K	Y	Lectures, Small Group Discussions	Written, viva	OTDP I	
Biomechanics-								
ERG 3.4	Overview of Biomechanics and its principals	K	K	N	Lectures	Written	Anatomy	
ERG 3.5	Apply the Biomechanical principles to improve production of work	K	SH	Y	Lectures	Written	OTDP I	
ERG 3.6	Apply biomechanical principles in OT	K S	SH	N	Lectures, Demonstratio n n	Written	OTDP I	
Environmental Physiology								
ERG 3.7	Define & classify the types of environments.	K	K	Y	Lectures, Small Group	Written, viva		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
					Discussions			
ERG 3.8	Outline the effects of environmental factors such as temperature, humidity noise, vibration, visual environmental pollution on human body.	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 3.9	Explain the safety factors, accidents and their prevention	K	K	Y	Lectures, Small Group Discussions	Written, viva		
Skill psychology -								
ERG 3.10	Explain skill learning with emphasis on Phases of skill learning Characteristics of well learnt task.	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 3.11	Describe Input verses out and functioning of man- machine system	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 3.12	Describe Information processing theory and the process.	K	KH	Y	Lectures, Small Group Discussions	Written, viva	psychology	
ERG 3.13	Enumerate the Factors affecting man machine system i) Design Factor	K	K	Y	Lectures, Small Group Discussions	Written, viva		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
	ii) Environmental Factors iii) Organizational factors							
Work Physiology-								
ERG 3.14	Overview of work Physiology principles	K	K	N	Lectures	Written	Physiology	
ERG 3.15	Application of principles of work physiology in Occupational Therapy.	K	K	Y	Lectures, Small Group Discussions	Written, viva	Workphysiology	
Topic: Ergonomic considerations at Work		**No of Competencies: 4**						
ERG 4.1	Explain layout of equipment design of seating.	K	K	Y	Lectures,	Written, viva		
ERG 4.2	Explain the design of work space	K	K	Y	Lectures, Demonstration	Written, viva		
ERG 4.3	Explain role of human compatibility and use of displays and controls in industrial set up	K	K	Y	Lectures, Small Group Discussions	Written, viva		
ERG 4.4	Analyze work place	K/S	K	Y	Lectures, Small Group Discussions	Written, viva		
Topic: Psychosocial Factors		**No of Competencies: 2**						
ERG 5.1	Define psychosocial factors	K	K	Y	Lectures,	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 5.2	Theories explaining relationship between psychosocial factors and work-related musculoskeletal disorders	K	KH	Y	Lectures,	Written		
Topic Cognitive Workload & Organization of Mental Space No of Competencies: 2								
ERG 6. 1	Explain the concept of cognitive workload, its advantages and organization of mental space.	K	KH	Y	Lectures,	Written		
ERG 6. 2	Understand the effects of cognitive overload	K	K	Y	Lectures, Small Group Discussions	Written		
Topic: Time and Motion Study in Ergonomics No of Competencies: 3								
ERG 7.1	Define and underline the assumptions of Time and Motion study.	K	KH	Y	Lectures,	Written		
ERG 7.2	Explain the cycle of managerial control and its application	K	KH	Y	Lectures,	Written		
ERG 7.3	Explain Scientific method of time and motion study	K	KH	Y	Lectures,	Written		
Topic: Application of Ergonomics in School Industry, Hospital and Office No of Competencies: 2								
ERG 8. 1	Discuss the Scope of ergonomics in modern society.	K	KH	Y	Lectures,	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 8.2	Apply the Ergonomic principles in Occupational Therapy Practice related to: i) Lifting analysis ii) Seating analysis Computer and assistive technology	K/S	KH/SH	Y	Lectures, Demonstration,	Written, Skill assessment		
ERG 8.3	Use biomechanical principles when analyzing a lift.	K, S	KH/SH		Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance – Performance)	Case Analysis; Practical Exam; Direct Observation of Procedural Skills (DOPS)		
ERG 8.4	Critically analyze three lifting techniques.	K, S	KH/SH					
ERG 8.5	Develop an abatement protocol to prevent commonly encountered lift-related injuries.	K, S	KH/SH					

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 8.6	Appreciate between the body's need for dynamic movement and the need for support while seated.	K, S	KH					
ERG 8.7	Apply basic ergonomic and biomechanical principles and job or task analysis to make appropriate chair recommendations.	K, S	KH/SH		Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance - Performance)	Practical Exam; Direct Observation of Procedural Skills (DOPS)		
ERG 8.8	Identify different risk factors in using a video display terminal (VDT).	K, S	KH/SH		Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance - Performance)	Practical Exam; Direct Observation of Procedural Skills (DOPS)		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 8.9	Apply ergonomic principles and recommendations to enhance workstation design for reducing the risks associated with prolonged use.	K, S	KH/SH		Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance - Performance)	Practical Exam; Direct Observation of Procedural Skills (DOPS)		
Topic: Ergonomics in Play, leisure and educational setting competencies:2								
ERG 9.1	Develop basic ergonomics tools for analysis of learning environments and carrying schoolbags.	K, S	KH/SH	Y	Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance - Performance)	Practical Exam; Direct Observation of Procedural Skills (DOPS)		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 9.2	Identify risk factors for quilting, sports, and gardening and apply the same concepts to other leisure activities. Identify strategies to improve effort and efficiency in leisure tasks using ergonomic principles.	K,S	KH/SH					
Topic: Ergonomics for the Home competencies: 3								
ERG 10.1	Explain the need for assessing the home from ergonomic perspective	K						
ERG 10.2	Analyze the kitchen space for efficient performance of the homemaker. • Kitchen Platform & sink • Placement of kitchen equipment • Storage and cabinets • Utensils	K, S	KH/SH		Lecture cum Demonstration; Videos; Case Studies; Small Group Discussion; DOAP: (Demonstration - Observation - Assistance - Performance)	Case Analysis; Practical Exam; Direct Observation of Procedural Skills (DOPS)		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ERG 10.3	Analyze the bathroom for optimal use of the space	K, S	KH/SH					

Recommended Books

1. Ergonomics for Therapists, 3e Hardcover – by Karen Jacobs, Mosby
2. Mural KF: Ergonomics – Man in his working environment
3. Mundel: Time and motion study
4. Astrand PA, Rodahe K: Textbook of Work Physiology
5. Fitts PM & Posner MI: Human Performance
6. McArdle: Exercise Physiology

SURGERY & ORTHOPAEDICS

COURSE DESCRIPTION: This course intends to familiarize students with principles of orthopaedic surgery along with terminology and abbreviations used in Orthopaedics for efficient and effective clinical understanding and documentation. It also explores various orthopaedic conditions focusing on epidemiology, pathology, primary and secondary clinical characteristics, conservative and surgical management.

This course intends to familiarize students with principles of General surgery, specialty surgeries like cardiovascular, thoracic, neurosurgery and plastic surgery. It familiarizes the students with appropriate terminology and abbreviations for efficient and effective chart reviewing and documentation. It explores various conditions needing attention to pathology, and their surgical and medical management. The course highlights awareness of various general and specialty surgeries for effective and safe decision making in therapeutic

OBJECTIVES:

KNOWLEDGE:

1. At the end of the course, the student shall be able to:
2. Understand the process of fracture healing along with the complications of fractures and management of fracture, dislocation, congenital and acquired deformities of UE, LE, spine.
3. Classify clinical symptoms of degenerative and inflammatory conditions of joints, and metabolic disorders with special emphasis management of it.
4. Understand the aetiology of work-related musculoskeletal injuries and tumour of musculoskeletal system
5. Understand concepts of biomechanics in overuse injuries in sports.
6. Understand aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies in adult and children.
7. Understand aetiology, pathophysiology, principles of diagnosis and management of cardiac and neuro surgery conditions
8. Define indications and methods for fluid and electrolytes replacement therapy including blood transfusion.
9. Describe common malignancies in the country and their management including prevention.
10. Describe the basic pathophysiology of common Ear, Nose & Throat (ENT) diseases
11. Identify common gynecological diseases and management.

SKILL Develop clinical skills (history taking, clinical examination and other instruments of examination of various common surgical disorders and emergencies

1. Refer a patient to secondary and/or tertiary level of health care after screening if needed;
2. Perform simple routine evaluations related to OT
3. Assist the common clinical assessment procedures related to surgical conditions.

ATTITUDE:

1. The teaching orthopaedics must aim at developing the attitude in students to apply the knowledge he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care
3. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.
4. The teaching and training in clinical subjects like paediatrics and neurology must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
5. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes related to OT.
6. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

Competency Table: SURGERY & ORTHOPAEDICS

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SURGERY & ORTHOPAEDICS								
SURGERY								
Topic	**General Surgery**		**No of Competencies: 11**					
SO 1.1	Describe classification of wound, stages of healing and their treatment.	K	KH	Y	Lecture, Bedside clinic, Small group discussion	Written		
SO 1.2	Describe importance of water-electrolyte balance in shock and hemorrhage and describe classification of shock in brief	K	KH	Y	Lecture, Bedside clinic, Small group discussion	Written		
SO 1.3	Describe acute and chronic infections of wound, ulcers, cysts and abscesses, their clinical features and complications with brief knowledge of their management.	K	KH	Y	Lecture, Bedside clinic, Small group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 1.4	Describe in brief various surgeries of head and neck, their indications and complications	K	KH	Y	Lecture, Bedside clinic, Small group discussion	Written		
SO 1.5	Explain indications for various surgeries of alimentary system and their postoperative management.	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written		
SO 1.6	Explain causes of burns, various classification, their medical and surgical management with role of burns rehabilitation team	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		OT in surgical conditions
SO 1.7	Describe indications and causes of amputation, criteria for selection of site of amputation and pre and postoperative management	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Orthopaedics	OT in surgical conditions
SO 1.8	Explain in brief classification of tumours, clinical features and their pre and post-operative management.	K	KH	Y	Lecture, Small group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 1.9	Etiology and management of surgical incontinence and prolapse rectum	K	KH	Y	Lecture, Small group discussion	Written		
SO 1.10	Hernia-definition, causes, types and management	K	KH	N	Lecture, Small group discussion	Written		
SO 1.11	Describe postoperative complications of abdominal surgery	K	KH	Y	Lecture, Small group discussion	Written		
Topic: Plastic Surgery No of Competencies: 5								
SO 2.1	Describe various Hand injuries, their surgical and post- operative management with complications (including tendon injuries and nerve injuries, tendon transfers)	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Plastic surgery	OT in surgical conditions
SO 2.2	Explain various skin grafts and flaps, their classification, criteria for selection and postoperative management	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Plastic surgery	OTin surgical conditions

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 2.3	Explain in brief various indications for cosmetic surgery, keloid and hypertrophic scar, their preoperative surgical and postoperative management.	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Plastic surgery	OT in surgical conditions
SO 2.4	Describe in brief new techniques in microvascular surgeries, their advantages and management.	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Plastic surgery	OT in surgical conditions
SO 2.5	Explain pressure sores management	K/S	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Plastic surgery	OT in surgical conditions
Topic: Neurosurgery			**No of Competencies: 7**					
SO 3.1	Describe common congenital and childhood disorders such as hydrocephalus, spina bifida, their clinical features, complications and their surgical management with postoperative care.	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Clinical Paediatrics medicine and paediatric surgery	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 3.2	Describe first aid management of spinal cord injury and its importance and implications	K	KH	Y	Lecture, Small group discussion	Written	Orthopaedics	
SO 3.3	Classify and describe signs and symptoms of spinal and intra-cranial tumors	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Orthopaedics	
SO 3.4	Explain Head injury, causes and mechanism of injury, subdural, epidural and intracranial bleeding, pharmacology of drugs used, management in acute stage, types of neurological disorders following Head injury	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written	Pharmacology	
SO 3.5	Describe Neurogenic bladder and its classification and management	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written		
SO 3.6	Explain clinical features and management of Meningocele, Meningomyelocele, Spinal tumors	K	KH	Y	Lecture, Small group discussion	Written	Clinical Paediatric surgery	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 3.7	Describe Surgical management of brain disease and CVA	K	KH	Y	Lecture, Small group discussion,	Written		OT in neurological conditions
Topic:	**Cardiovascular and Thoracic Surgery**			**No of Competencies: 2**				
SO 4.1	Describe brief pathology, clinical features, indications, various operative procedures of surgery of cardiac and respiratory conditions	K	KH	Y	Lecture, Bedside clinic, Small group discussion	Written	Cardiovascular surgery	
SO 4.2	Explain pre- and post-surgical management such as Congenital cardiac problems, Coronary artery disease, Peripheral vascular disease	K	KH	Y	Lecture, Small group discussion	Written	Paediatrics	
Topic: ENT			**No of Competencies: 7**					
SO 5.1	Describe problems of ear, nose throat and their management in brief U.R.T infections	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written	Clinical ENT	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 5.2	Enumerate the indications for and Tracheostomy procedure	K	KH	N	Lecture, Small group discussion,	Written/ Viva voce		
SO 5.3	Describe the etiopathogenesis, clinical features and principles of management of Vertigo	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		
SO 5.4	Describe the etiopathogenesis, clinical features and principles of management of Dysphagia,	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		
SO 5.5	Describe the etiopathogenesis, clinical features and principles of management of Otitis media, vestibular disorders.	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		
SO 5.6	Describe the etiopathogenesis, clinical features and principles of management of Otosclerosis,	K	KH	N	Lecture, Small group discussion, Bedside clinics	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 5.7	Describe the etiopathogenesis, clinical features and principles of management of Functional Achonia and Deafness	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		
Topic: Ophthalmology No of Competencies: 7								
SO 6.1	Describe and discuss common ophthalmological condition in brief and their management (diseases of conjunctiva, cataract)	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written	Clinical ophthalmology	
SO 6.2	Describe the etiopathogenesis, clinical features and principles of management of Optic nerve tumor	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written		
SO 6.3	Describe the etiopathogenesis, clinical features and principles of management of Keratoplasty	K	KH	N	Lecture, Lecture, Small group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 6.4	Explain the Principles of eye donation. Enumerate Indications, describe surgical principles, management of eye donation	K	KH	N	Lecture, Small group discussion,	Written		
SO 6.5	Describe the etiopathogenesis, clinical features and principles of management of Diabetic retinopathy	K	KH	Y	Lecture, Small group discussion,	Written		
SO 6.6	Describe the etiopathogenesis, clinical features and principles of management of Glaucoma, Corneal ulcer, iritis,retinitis, detachment of retina, ptosis & Defects of extraoccular muscles	K	KH	N	Lecture, Small group discussion, DOAP, Bedside clinics	Written/ Viva voce		
SO 6.7	Explain and demonstrate the Visual acuity, visual field and refraction testing	K/S	KH/SH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Obstetrical and Gynaecology **No of Competencies: 9**								
SO 7.1	Describe common obstetrical and gyneacological conditions and their management in brief.	K	KH	Y	Lecture, Small group discussion	Written	Clinical Gynaecology and obstetrics	
SO 7.2	Describe the Physiology of menstruation and its disorders	K	KH	N	Lecture, Small group discussion	Written	Physiology	
SO 7.3	Enumerate and describe Hormonal disorders in females,	K	KH	N	Lecture, Small group discussion	Written	Endocrinology	
SO 7.4	Describe Cancer of reproductive organs and management	K	KH	Y	Lecture, Small group discussion	Written	Oncology	
SO 7.5	Describe brief pathology, clinical features, indications, and principles of management of various Infections and STDs in females	K	KH	N	Lecture, Small group discussion	Written	Community medicine	General medicine

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 7.6	Describe the maternal physiology in pregnancy, Musculoskeletal disorders during pregnancy	K	KH	Y	Lecture, Small group discussion	Written		
SO 7.7	Explain common obstetrical and gynaecological surgeries including postoperative care, prenatal complications investigations and management	K	KH	Y	Lecture, Small group discussion	Written		
SO 7.8	Explain lactation management. Describe Methods of birth control- merits/demerits.	K	KH	Y	Lecture, Small group discussion	Written		
SO 7.9	Describe complications of multiple childbirths	K	KH	N	Lecture, Small group discussion	Written	Pediatrics	
Topic: Surgical Oncology No of Competencies: 4								
SO 8.1	Describe Palliative and reconstructive surgeries in head and neck cancer,	K/A/S	K/KH	Y	Lecture, Group discussion	Written/ Viva voce		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 8.2	Enumerate Surgical indications for procedures like FND, and describe excision and flap reconstruction- postoperative management and complications	K	KH	Y	Lecture, Small group discussion, DOAP, Bedside clinics	Written/ Viva voce		
SO 8.3	Enumerate indications for Radical mastectomy and describe procedure, postoperative management and complications	K	KH	Y	Lecture, Small group discussion	Written		OT in surgery
SO 8.4	Describe surgical management of Cancer of GI tract	K	KH	Y	Lecture, Small group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
ORTHOPAEDICS								
Topic	**Fractures or injury to the bone**	**No of Competencies: 06**						
SO 9.1	Define and classify fractures	K	k	Y	Lecture	Written		
SO 9.2	Enumerate the causes, clinical features &healing of fractures & its complications.	k	K/KH	Y	Lecture	Written		
SO 9.3	Describe general principles of management of Fractures of the Upper Extremity,	k	KH	Y	Lecture	Written	OT in Orthopaedic conditions	
SO 9.4	Describe general principles of management of Fractures of the Lower Extremity and pelvis,	K	KH	Y	Lecture	Written	OT in Orthopaedic conditions	
SO 9.5	Describe general principles of management of fractures of vertebral column	K	KH	Y	Lecture	Written	OT in Orthopaedic conditions	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 9.6	Explain the terms trauma care & First Aid	K	KH	Y	Lecture	Written		
Topic Dislocations & Subluxations No of Competencies: 02								
SO 10.1	Explain clinical features and causes of traumatic dislocation and subluxation of Shoulder, Elbow, Hip and Knee Joint.	K	KH	Y	Lecture	Written		
SO 10.2	Explain principles of management of traumatic dislocation and subluxation of shoulder, elbow, Hip and Knee Joint	K	KH	Y	Lecture	Written		
Topic Soft Tissue and Traumatic Injuries No of Competencies: 03								
SO 11.1	Describe different types and grades of soft tissue injures	K	KH	Y	Lecture	Written	Clinical plastic surgery	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 11.2	Describe the pathology, clinical manifestations of injuries of joints & soft tissues (Ligaments, bursae, fascia, muscles and tendons) of upper and lower extremities & spine.	K	KH	Y	Lecture	Written		
SO 11.3	Describe the management of injuries of joints & soft tissues (Ligaments, bursae, fascia, muscles and tendons) of upper and lower extremities & spine.	K	KH	Y	Lecture	Written		
Topic Deformities and Anomalies No of Competencies: 05								
SO 12.1	Define and classify congenital and acquired deformities	K	K	Y	Lecture	Written	Clinical paediatrics	
SO 12.2	Describe clinical & radiological features of various deformities of spine and extremities,	K	KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 12.3	Describe medical and surgical management with postoperative care for deformities of spine and extremities	K	KH	Y	Lecture	Written		
SO 12.4	Describe different types of congenital anomalies	K	K	Y	Lecture	Written		
SO 12.5	Describe conservative and surgical management for congenital anomalies.	K	KH	Y	Lecture	Written	OT Orthopaedic conditions	
Topic Degenerative and Inflammatory Conditions			**No of Competencies: 02**					
SO 13.1	Describe pathology & clinical manifestations of Degenerative and Inflammatory Conditions	K	KH	Y	Lecture	Written	Pathology	
SO 13.2	Describe management of Degenerative and Inflammatory Conditions	K	KH	Y	Lecture	Written	OT in Orthopaedic conditions	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic	**Metabolic Disorders No of Competencies: 02**							
SO 14.1	Describe clinical features & management of Osteoporosis. Osteomalacia & Rickets	K	K	Y	Lecture	Written		Medicine
SO 14.2	Describe management of Osteoporosis Osteomalacia & Rickets	K	K	Y	Lecture	Written	Clinical Endocrinology	
Topic	**General Orthopaedic Disorders No of Competencies: 07**							
SO 15.1	Explain the etiology & clinical features of Entrapment nerve injuries & Compartment syndrome,	K	K	Y	Lecture	Written	Clinical Plastic surgery	
SO 15.2	Explain the etiology & clinical features of Avascular necrosis of bone in adult and children,	K	K	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
SO 15.3	Explain the etiology & clinical features Backache / Prolapsed Intervertebral Disc	K	K	Y	Lecture	Written		
SO 15.4	Explain the etiology & clinical features Work related musculoskeletal disorders.	K	K	Y	Lecture	Written	OT in Orthopaedic conditions	
SO 15.5	Describe management for Entrapment nerve injuries & Compartment syndrome,	K	K	Y	Lecture	Written		
SO 15.6	Describe management for Backache /Prolapsed Intervertebral Disc	K	K	Y	Lecture	Written	OT in Orthopaedic conditions	
SO 15.7	Describe management for Work related musculoskeletal disorders	K	K	Y	Lecture	Written	OT in Orthopaedic conditions	

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic	**Tumours of The Musculoskeletal System**		**No of Competencies: 02**					
SO 16.1	Define & Classify types of tumours of The Musculoskeletal System	K	K	Y	Lecture	Written		
SO 16.2	Describe general principles of management of tumours of musculoskeletal system.	K	K	Y	Lecture	Written		
Topic	**Sports Injuries**		**No Of Competencies: 02**					
SO 17.1	Enumerate upper & lower extremities sports injuries	K	K	Y	Lecture	Written		
SO 17.2	Explain Management of Ligament and Meniscal injuries of in sports	K	KH	Y	Lecture	Written	OT in Orthopaedic conditions	

Recommended Books

1. Short practice of surgery-- Bailey and Love.
2. Textbook of Surgery – Das.
3. Undergraduate surgery - AK Nan.
4. Outline of Fractures –Adams.
5. Outline of Orthopaedics. --Adams.
6. Apley's systems of orthopaedics and fractures by Louis Solomon, 9th edition.
7. Orthopaedics by Dr. Maheshwari

PSYCHIATRY

COURSE DESCRIPTION: At the end of the course student will attained knowledge regarding the scientific principles underlying modern psychiatry theory and practice, skills in order to apply this knowledge to clinical situations and attitudes necessary to identify and respond appropriately to psychological distress and disorder, not only in psychiatric settings but also throughout all areas of medicine.

COURSE OBJECTIVES:

A. KNOWLEDGE

1. List the general causes and preventive measure in psychiatric disorders
2. Classify various psychiatric conditions and understand the general treatment protocols
3. Gain the knowledge regarding the clinical features, causes, ant management of various psychiatric conditions
4. Appreciate legal aspects of psychiatric illness and psychiatric management.

B. SKILL

1. Conduct a full psychiatric history and carry out a mental state examination, including cognitive assessment.
2. Explain how different biological, psychological and social factors may combine to precipitate psychiatric disorder.
3. Explain to patients and their relatives the nature of their condition, its management
4. Use an interviewing style that is empathic and adaptable to specific situations.

C. ATTITUDE

1. Respond empathically to mental illness and psychological distress in all medical and broader settings.
2. Understand that psychiatric illness creates problems with stigma, how this affects patients and their families.
3. Treat patients and their care givers with professionalism and confidentiality.

Competency Table: Psychiatry

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
PSYCHIATRY								
Topic Introduction to clinical psychiatry			**No of Competencies: 1**					
PS 1.1	Give brief outline of psychiatry History taking including mental status examination and assessment	K/S/C	KH /SH/P	Y	Lecture, Case study, Demonstration	Practica l Viva		
Topic: Causes of mental disturbances			**No of Competencies: 2**					
PS 2.1	Enumerate the causes of mental illness.	K	K	Y	Lecture	Written		
PS 2.2	Explain the various factors related to mental illness	K	KH	Y	Lecture	Written, Viva		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Preventive Measures No of Competencies: 1								
PS 3.1	Explain in relation to consanguineous marriages, adequate ante-natal care, obstetric care, mother and child services, psychological services (e.g., child guidance, counselling services)	K/S	KH/SH	Y	DOAP, Lecture	DOP, Skill Assessment		
Topic: Symptoms of mental illness No of Competencies: 1								
PS 4.1	Describe disturbances of consciousness, reasoning and judgment, memory, thought and perception, volition, motor behavior, speech, affect	K	K	Y	Lectures	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Methods of treatment		**No of Competencies: 3**						
PS 5.1	Enumerate and explain methods of treatment in mental disorders Individual and group psychotherapy Physical Methods: ECT and related side effects, Psychosurgery, Cognitive Behaviour Therapy	K	KH	Y	Lectures	Written		
PS 5.2	Describe Psychopharmacology and related side effects	K	K	Y	Lectures	Written	Pharmacology	
PS 5.3	Understand Other policies related to PWD-Right to education, right to health.	K	K	N	Lectures	Written	Community Medicine	
Topic: Criteria for classification and definition of psychiatric illness.		**No of Competencies: 1**						
PS 6.1	Understand DSM-V- (Text Revision, 2000) & the International Classification of Diseases (ICD)	K	K	N	Lectures Case study, Clinical presentation	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
Topic: Psychiatric Conditions No of Competencies: 19								
	Schizophrenic and other Psychotic disorders							
PS 7.1	Define Schizophrenia & enumerate its types,	K	K	Y	Lectures	Written		
PS 7.2	Explain onset, clinical Features, course, treatment and prognosis in schizophrenia	K	KH	Y	Lectures, Seminars	Written, Viva,		
	Mood disorder							
PS 7.3	Define Mood Disorder & Explain the terms Maniac episode, Major depressive episode, Mixed episode. Hypomaniac episode	K	K	Y	Lectures	Written, Viva		
PS 7.4	Explain Onset, etiology, clinical features, course, treatment and prognosis of Mood disorder	K	KH	Y	Lectures	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
	Organic brain disorders							
PS 7.5	Explain the terms Delirium, Dementia, Amnestic syndromes, Organic personality disorder	K	K	Y	Lectures	Written		
PS 7.6	Describe clinical features, treatment & prognosis of organic brain disorders	K	KH	Y	Lectures	Written		
	Anxiety disorders							
PS 7.7	Explain the terms Panic attacks, phobia, Obsessive Compulsive Disorder, Panic disorder, Post traumatic stress disorder, Acute stress disorder and generalized anxiety disorder.	K	K	Y	Lectures	Written		
PS 7.8	Describe clinical features, treatment & prognosis of various anxiety disorders	K	KH	Y	Lectures	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
	Personality disorder							
PS 7.9	Classify personality disorders	K	K	Y	Lectures	Written		
PS 7.10	Describe the diagnostic criterion and prognosis.	K	KH	Y	Lectures	Written		
	Somatoform disorders							
PS 7.11	Explain Somatoform disorder, Conversion disorder, Pain disorder, Hypochondriasis, Body dysmorphic disorder.	K	K	Y	Lectures	Written		
	Psychiatric disorders of childhood and adolescence							
PS 7.12	Define and enumerate the clinical features of Attention Deficit, Hyperactivity Disorder, Mental Retardation. Conduct disorder Pervasive developmental disorder, Enuresis, Communication disorder, Learning disorder and Motor skill disorder.	K	K	Y	Lectures	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
PS 7.13	Describe Medical and Psychological treatment for the childhood disorders	K	KH	Y	Lectures	Written		
	Substance related disorder							
PS 7.14	Describe clinical manifestations in substance abuse	K	KH	Y	Lectures	Written		
PS 7.15	Describe Impact on function with respect to medical management in substances abuse	K/S	KH	Y	Lectures	Written Skill Assessment		
	Eating disorder							
PS 7.16	Describe Diagnostic criterion, impact on function with respect to medical management of Anorexia Nervosa Bulimia Nervosa	K	K	Y	Lectures	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
	Cognitive disorder							
PS 7.17	Explain the terms Dementia, Alzheimer's, Pick's disease, Amnestic disorder.	K	K	Y	Lectures	Written		
PS 7.18	Describe management of Cognitive disorders.	K	KH	Y	Lectures	Written		
PS 7.19	Explain impact of each disorder on function	K/S	KH	Y	Lectures	Written, Viva		
Topic: Legal aspects related to psychiatric patients			**No of Competencies: 1**					
PS 8.1	Understand Civil responsibility. Criminal responsibility. Testamentary capacity	K	K	Y	Lectures	Written Seminar Group Discussion		

Reference Books:

1) Ahuja N.– A Short Textbook of Psychiatry (latest edn.) Jaypee Brothers, Medical Publishers.
2) Shah L.P.: Handbook of Psychiatry.
3) Gandhi & Gandhi – Short Text book of Psychiatry.
4) Synopsis of psychiatry- Kaplan.
5) Diagnostic criterion - DSM

OCCUPATIONAL THERAPY IN SURGICAL CONDITIONS

COURSE DESCRIPTION: This course intends to familiarize students with principles of rehabilitation in clients with burns, amputation, cancer, traumatic hand injuries and peripheral vascular disease. Familiarizes the students with terminology and abbreviations for efficient and effective chart review and documentation. It explores various conditions needing attention, focusing on pathology, as well as primary and secondary clinical character.

GOAL: The broad goal to teach the undergraduate students OT Application in Surgical Conditions is to have the knowledge, skills and behavioural attributes to function effectively as a occupational therapist and use purposeful activities to promote health and well-being and subsequently improve functional independence and Quality of Life of the patient.

OBJECTIVES

A. KNOWLEDGE

1. Demonstrate knowledge and understanding of common surgical problems in amputation, burns, PVD, hand injuries and cancer.
2. Acquire knowledge of functional limitations in blind deaf and dump.
3. Understand various surgical treatments and become familiar with various surgical procedures
4. To become familiar with various occupational therapy protocols for surgical conditions and know their expected outcomes
5. To provide treatment of occupational performance in the areas of independent living/daily living skills, pre-vocational/work adjustment skills, play/leisure skills, and social skills.

B. SKILL

1. Evaluate and assess patients with surgical Conditions
2. Understand and possibly perform various basic procedures, such as edema assessment, need for splinting and compression garment.

3. Develop specific motor skills utilized in surgical conditions for applying various protocols and planning need for orthosis, compression garments and prosthesis
4. Evaluate environmental barriers to facilitate environmental support.

C. ATTITUDE

1. Acquire a caring and sympathetic attitude appropriate for dealing with patients with surgical conditions
2. Realize the scope of responsibility you assume as an occupational therapist and to that of the family
3. Demonstrate an openness to receive constructive criticism
4. To develop, restore, or improve required skills, habits, and roles for independent, meaningful, and productive living
5. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals

Scheme of examination for University Practical exam 100 Marks

Long Case & viva voce	Short case (Assessment/ / Intervention Approaches) & viva voce	Presentation & Communication skills	Total
50marks	**30 marks**	**20 marks**	**100 marks**

Competency Table: Occupational Therapy In Surgical Condition

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY IN SURGICAL CONDITION								
Topic: Burns and Burns Rehabilitation		**No of Competencies: 6**						
OTS 1.1	Explain Epidemiology of Burn Injuries	K	K	Y	Lecture	written	Anatomy	General Surgery,
OTS 1.2	Enumerate Classification & Types of Burn Injury	K	K	Y	Lecture, Bed side clinic, small group discussion	Written /viva voice	Anatomy	General Surgery
OTS 1.3	Describe clinical features, extent of burns, & Phases of burn wound healing	K/S	K/ SH	Y	Lecture	Written /viva voice	Anatomy	General Surgery
OTS 1.4	Discuss Associated problems and complications of burns injury	K/S/A/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		General Surgery/ plastic surgery
OTS 1.5	Discuss goalsof burns Rehabilitation	K/S/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 1.6	Explain OT intervention in each phase of recovery	K/S/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
Topic: Amputation & Prosthetics No of Competencies: 9								
OTS 2.1	Define & explain Causes of amputation	K	K	Y	Lecture	Written /viva voice		Orthopedics,
OTS 2.2	Explain Surgical management and levels of amputation	K	K	Y	Lecture	Written /viva voice		Orthopedics, general surgery
OTS 2.3	Evaluate ideal Stump and its complications	K/S	K/SH	Y	Lecture, Small group discussion, DOAP	Written /viva voice		Orthopedics, general surgery
OTS 2.4	Demonstrate Stump bandaging and conditioning	K/S/C	K/SH	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
OTS 2.5	Discuss Pre & post-prosthetic Training and rehabilitation	K/S/A/C	K/SH/P	Y	Lecture, DOAP	Written /viva voice		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 2.6	Demonstrate gait training with pylon and prosthesis, Mirror therapy	K/S/A/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
OTS 2.7	Explain check out of prosthesis, Donning and doffing of prosthesis	K/S/A/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
OTS 2.8	Identify factors that interfere with prosthetic fitting	K/S/C	K	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
OTS 2.9	Discuss Psychological implication of amputation. Evaluate for Wheelchair prescription for amputee	K/S/C	K/P	Y	Lecture, Small group discussion	Written /viva voice		
Topic: Tendon Injuries No of Competencies: 6								
OTS 3.1	Enumerate Tendon injuries in upper limb	K	K	Y	Lecture, Small group Discussion	Written. Viva	Anatomy	Plastic Surgery
OTS 3.2	Explain etiology of Flexor and extensor tendon injuries	K	KH	Y	Class room, small group Discussion	Written. Viva	Anatomy	Plastic Surgery

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 3.3	Identify Zones of tendon injury	S	SH	Y	Demonstrate. Practical, Small group Discussion,	Viva, Skill Assessment		Plastic Surgery
OTS 3.4	Evaluate & demonstrate hand function, edema, sensations	S	SH	Y	Demonstrate. Practical, Small group Discussion, DOAP	Written. Viva, Skill Assessment	-	-
OTS 3.5	Describe Protocols for tendon injury intervention	K	KH	Y	Lecture, Small group Discussion	Written, Viva	-	Plastic Surgery
OTS 3.6	Discuss Training for functional, vocational & leisure activities	K	KH/SH	Y	Lecture, Small group Discussion	Written, Viva	-	-
Topic: Traumatic Disorders of upper extremity No of Competencies: 9								
OTS 4.1	Enumerate the Causes and classify traumatic disorders of UE	K	K	Y	Lecture, Small group Discussion,	Written, Viva		General Surgery, Plastic Surgery

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 4.2	List the clinical implications in traumatic injuries	K	K	Y	Lecture, Small group Discussion	Written. Viva		General Surgery, Plastic Surgery
OTS 4.3	Explain Mutilating injuries & Revascularization of the hand	K	KH	N	Lecture, Small group Discussion	Written. Viva		General Surgery, Plastic Surgery
OTS 4.4	Evaluate & demonstrate hand function, edema, sensation, functional assessments	K/S	KH/SH	Y	Demonstrate. Practical, Bed Side clinic, small group Discussion, DOAP	Written. Viva, Skill Assessment, OSCE		General Surgery
OTS 4.5	Explain Pre & post-operative management in O.T. & splinting	K	KH	Y	Lecture, Small group Discussion	Written. Viva		
OTS 4.6	Describe & assess Compartment syndrome of the Upper limb and explain OT management	K/S	KH/SH	Y	Demonstrate. Practical, Lecture, Small group Discussion, DOAP	Written. Viva, Skill Assessment, OSCE, DOP		Orthopedics
OTS 4.7	Describe Digital Replantation surgery and OT management	K	KH	Y	Lecture, Small group Discussion	Written. Viva		Plastic Surgery

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 4.8	Enumerate Causes of stiff hand and explain its management	K/S	KH	Y	Lecture, Small group Discussion	Written. Viva		Plastic Surgery
OTS 4.9	Discuss Training for functional, vocational & leisure activities	K/S	KH/SH	Y	Lecture, Small group Discussion, Practical	Written. Viva Skill Assessment DOP		-
Topic: Brachial plexus & Peripheral nerve injuries No of Competencies: 7								
OTS 5.1	Describe Anatomy & pathomechanics of BPI	K	K	N	Lecture, Small group Discussion	Written . Viva	Anatomy	
OTS 5.2	Enumerate Classification of nerve injuries	K	K	N	Lecture, Small group Discussion	Written . Viva	Anatomy	
OTS 5.3	Enumerate clinical manifestations of brachial plexus and peripheral nerve injuries	K	K	Y	Lecture, Small group Discussion	Written . Viva		Plastic Surgery, Orthopaedics
OTS 5.4	Discuss assessment and treatment specific to BPI and PNI.	K/S	KH/SH	Y	Lecture, Small group Discussion	Written . Viva		Plastic Surgery

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 5.5	Explain hand function & Sensory assessment	K/S	KH/SH	Y	Lecture, Small group Discussion, Practical	Written . Viva Skill Assessment DOP	-	-
OTS 5.6	Discuss Functional impact and implications	K	KH	Y	Lecture, Small group Discussion	Written . Viva	-	-
OTS 5.7	Identify Therapeutic techniques, splints and adaptations in management of BPI and PNI.	K/S	SH	Y	Demonstrate. Practical, Lecture, Small group Discussion,	Written . Viva Skill Assessment		-
Topic: Cancer and Oncology Rehabilitation No of Competencies: 9								
OTS 6.1	Understand Pathology & clinical features of Head, neck, face & breast cancer	K	K	N	Lecture, Small group Discussion	Written . Viva	Pathology	Oncology. Surgery
OTS 6.2	Explain medical & surgical management of head, neck, face & breast cancer	K	KH	N	Lecture, Small group Discussion	Written . Viva		Surgery, Oncology

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 6.3	Discuss OT Management for Modified Radical Mastectomy, Cosmetic prosthesis	K/S/C	SH/S	Y	Demonstrate. Practical, Lecture, Small group Discussion,	Written . Viva		
OTS 6.4	Discuss Psychological & emotional aspects of living with cancer.	K/S/A	SH/S	Y	Demonstrate. Practical, Lecture, Small group Discussion,	Skill Assess ment		
OTS 6.5	Discuss Physical dysfunction issues from cancer- Dysphagia & Lymphedema management	K/A	KH/SH	Y	Demonstrate. Practical, Lecture, Small, group Discussion	Written . Viva		Oncology. Surgery
OTS 6.6	Discuss role of OT in rehabilitation of cancer patients (Preventive, mrestorative, supportive).	K	K	Y	Lecture, Small group Discussion	Written . Viva		
OTS 6.7	Explain Hospice (palliative aspects), family systems- as the unit of care, Support Groups.	K/A/C	K/KH	Y	DOAP	Skill assessment		
OTS 6.8	Demonstrate Postural exercises and body image adjustment training	K/S	KH	Y	Bed Side clinic Demonstration	Skill Assessment, OSCE		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 6.9	Counsel the patient regarding malignant conditions of the breast & body image problem	A/ C	SH	Y	DOAP	Skill assessment		
Topic: Vascular Conditions No of Competencies: 8								
OTS 7.1	Define Vascular, Lymphatic & Integumentary disorders & its risk factors	K	K	Y	Lecture	Witten		General surgery
OTS 7.2	Describe clinical features and correct examination of occlusive arterial, vascular, lymphatic disease	K/S	K/KH	Y	Lecture, Small group Discussion	Written		General surgery
OTS 7.3	Classify wound. Explain wound healing, & OT intervention	K/S/C	K/SH	Y	Lecture, Small group Discussion	Written /Viva voice		General surgery
OTS 7.4	Identify Indications and contraindications for exercises	K/S	K	Y	Lecture	written		
OTS 7.5	Describe pathophysiology, clinical features, Investigations and principles of management of DVT and Varicose veins	K	KH	Y	Lecture/ Small group discussion/ DOAP	Written / Viva voice		General surgery

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 7.6	Demonstrate Exercisesfor arterial & venous insufficiency.	K/S/A/C	K/KH/SH	Y	Lecture/ DOAP	Written / Viva voice		
OTS 7.7	Explain & demonstrate Manual Lymphatic Drainage (MLD)	K/S/A/C	K/KH/SH	Y	Lecture/ Small group discussion/ DOAP	Written. Viva Skill Assessment		
OTS 7.8	Demonstrate Compression Therapy, Orthotics, supportive & pressure redistributing devices	K/S/A/C	K/KH/SH	Y	Lecture, Small group Discussion/ DOAP	Written. Viva Skill Assessment		
Topic: Occupational Therapy in Visual Impairments No of Competencies: 6								
OTS 8. 1	Definition and Classification of visual Impairments	K	K	Y	Lecture, Small group Discussion	Written. Viva		Ophthalmology
OTS 8. 2	Identify Causes of Visual impairment & OT management	K	KH	Y	Lecture, Small group Discussion	Written. Viva		Ophthalmology
OTS 8. 3	Explain mobility techniques, Communication skills, Sensory re-education, Mobility training in blind	K	KH	Y	Lecture, Small group Discussion	Written. Viva	-	-

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 8. 4	Demonstrate mobility techniques, sensory re- education in visual Impairment	S	SH	Y	DOAP, Practical	Skill Assessment		-
OTS 8. 5	Discuss Intervention for Low vision	K	KH	Y	Lecture, Small group Discussion	Written. Viva		-
OTS 8.6	Discuss Emotional and psychological aspects for visual impairment	K	KH	Y	Lecture	Written. Viva	-	-
Topic: Occupational Therapy in deaf, dumb No of Competencies: 6								
OTS 9.1	Definition and classification of speech impairment	K	K	Y	Lecture,	Written. Viva	-	ENT
OTS 9.2	Demonstrate communication skills: Types and uses of hearing aids	K/S	SH	Y	Demonstration	Practical, Skill Assessment	-	ENT
OTS 9.3	Discuss Emotional and psychological aspects in Deaf & Dumb						-	-

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 9.4	Describe Approaches in deaf and dumb rehabilitation	K	K	Y	Lecture,	Written. Viva		-
OTS 9.5	Explain Vestibular affectations and re-training							ENT
OTS 9.6	Cognitive assessment and retraining in congenitally deaf and post cochlear implants	S/C	SH	Y	Demonstration, DOAP	DOP, Skill Assessment	-	-
Topic: Occupational Therapy in Obstetrics and Gynecology No of Competencies: 7								
OTS 10.1	Enumerate Complications related to Pregnancy	K	K	Y	Lecture,	Written. Viva	-	Gynac
OTS 10.2	Discuss Effects of aerobic exercises in Antenatal, prenatal, postnatal & during pregnancy	K	KH	Y	Lecture,	Written. Viva	-	
OTS 10.3	Discuss role of Occupational therapy management during pregnancy and post-partum, caesarean child birth and high-risk pregnancy.	K	KH	Y	Lecture,	Written. Viva	-	Gynac

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment method	Vertical Integration	Horizontal Integration
OTS 10.4	Demonstrate floor strengthening, Kegel's exercises	S	SH	Y	DOAP, Demonstration	Skill Assessment		
OTS 10.5	Discuss Mother & child care	K/S	K	Y	Lecture,	Written. Viva		
OTS 10.6	Identify Indications and contraindications to exercises in pregnancy	S	SH	Y	Demonstration , Bed side clinic	Practical, Skill Assessment		
OTS 10.7	Explain Back care: Ergonomic education	K/C	KH	Y	Lecture,	Written. Viva		

Recommended Books

1) Occupational Therapy – Willard &Spackman
2) O.T. Practice Skills for Physical Dysfunction – Pedretti.
3) O.T. in Physical Dysfunction – Trombley
4) Therapeutic Exercise – Basmajian.
5) Rehab Medicine – Good gold.
6) Rehabilitation of Hand – Wynn & Parry.
7) Hand – Hunter.
8) Hand splinting – Fess
9) Therapeutic exercise – Kisner.
10) Physical rehabilitation, assessment & treatment – Suzan O' Sullivan

RESEARCH METHODOLOGY & BIOSTATISTICS

Course Description:

Research Methodology and Biostatistics: The student should acquire knowledge of principles in scientific methods of enquiry and basic statistical methods of enquiry and basic statistical concepts, be initiated to skills of information searching, identification, retrieval and evaluation, principles of measurement and experimental design. The students should be able to use the above knowledge to carry out a study.

Course Objectives:

This course will provide more knowledge on action of Research Methods & Biostatistical concepts, to understand the role of the theory in research, Stages of research process, steps to follow during research process, to aware the appropriate ways to search and review the literature, types of data collections, variability, sampling techniques etc.,

1. Select a relevant research topic based on contemporary literature and apply Biostatistics concepts.
2. Compare basic quantitative (observational and experimental) study designs, understand their advantages, disadvantages and select the best for a specific research question.
3. Compute, apply and interpret results based on findings.
4. Test the hypothesis and apply research questions to interpret the results
5. Identify different clinical study designs
6. Understand the importance of computers in Community

Course Learning Outcomes

At the end of this course, students will be able to: Describe the research methods, types of research process, study designs. Discuss the Level of evidences, ethical guidelines and methods of writing references. They can able to appreciate the sources and types of data collections, Measures of central tendency, Variability, Probability, Sampling, significances. They can be able to brief out the demography and vital statistics etc.,

At completion of this course, it is expected that the students will be able to

1. Choose the appropriate research design and develop appropriate research hypothesis for a project
2. Develop an appropriate framework for research studies
3. Know the various statistical methods to solve different types of problems
4. Appreciate the importance of Computer in hospital

Competency Table: RESEARCH METHODOLOGY & BIOSTATISTIC

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
RESEARCH METHODOLOGY & BIOSTATISTIC								
Topic: Stages of research process No of Competencies: 1								
RMB 1.1	Formulate a research question for a study	K	KH	Y	Lecture, Group Discussions	Written		
Topic: Types of Research No of Competencies: 2								
RMB 2.1	Describe the types of research Qualitative & Quantitative	K	KH	Y	Lecture	Written		
RMB 2.2	Describe and discuss the principles and the methods of collection, classification, analysis, interpretation and presentation of statistical data	K	KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic: Algorithm of Study Designs and Level of Evidence No of Competencies: 2								
RMB 3.1	Enumerate, Describe and demonstrate the application of elementary statistical methods including test of significance in various study designs	K /A/S	KH/SH	Y	Lecture, Seminar	Written		
RMB 3.2	Identify and explain the Five levels of evidence. (Systematic review or Meta-analysis, Randomized control trials Quasi- Experimental, Non-Experimental)	K	KH	Y	Lecture	Written		
Topic: Review of Literature No of Competencies: 1								
RMB 4.1	Enumerate Various sources of references and Acknowledgement of sources	K	K	Y	Lecture, Small group Discussions	Written		
Topic: Reliability & Validity No of Competencies: 2								
RMB 5.1	Describe reliability and Validity	K	K/KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
RMB 5.2	Enumerate the types and explain the difference between reliability and Validity	K	K/KH	Y	Lecture	Written		
Topic: Ethical Guidelines No of Competencies: 2								
RMB 6.1	Discuss the historical background in evolution of ethical guidelines.	K	K/KH	Y	Lecture	Written		
RMB 6.2	Describe the Ethical Guidelines for Biomedical Research in Human Participants	K	K	Y	Lecture	Written		
Topic: Protocol Writing No of Competencies: 1								
RMB 7.1	Understand Protocol Writing for Submission to Institutional Review Board/Institutional Ethics Committee (IRB/IEC).	K/S/A/C	K/KH/SH	Y	Lecture, Group discussion, Seminar	Written, Skill Assessment		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Methods of Writing References. No of Competencies: 1								
RMB 8.1	Enumerate & understand different methods in research	K/S	K/KH /SH	Y	Lecture, DOAP	Written, Skill Assessment		
BIOSTATISTICS								
Topic Introduction to Statistics &Common Statistical Terminologies No of Competencies: 2								
RMB 9.1	Define and describe common terminologies (Population, Sample, Constant, Variable)	K	KH	Y	Lecture	Written		
RMB 9.2	Understand its scope and limitation	K	KH	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Sources & Types of Data, Data Collection & Presentation No of Competencies: 2								
RMB 10.1	Enumerate & explain the types and sources of data (Primary & Secondary Source Ordinal, Nominal, Ratio Interval Quantitative & Qualitative)	K	K/KH	Y	Lecture, Small Group discussion	Written		
RMB 10.2	Describe the Scales of measurement of data, Surveys, Records, Tabulation & Graphs	K	K/KH	Y	Lectures, Small Group discussion	Written		
Topic Measures of Central tendency & Location. No of Competencies: 2								
RMB 11.1	Enumerate and demonstrate Common sampling techniques, simple statistical methods, frequency distribution,	K/S	K/KH/SH	Y	Lecture, small Group discussion	Written		
RMB 11.2	Understand the Measures of central tendency and dispersion	K	K/KH	Y	Lecture, small Group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Variability & its Measures Errors in measurement and their control No of Competencies: 1								
RMB 12.1	Understand the terms Range, Quartile deviation, Mean deviation, Standard deviation, Coefficient of variation, SEM, SEP.	K	K/KH	Y	Lecture, Small Group discussion	Written		
Topic Probability No of Competencies: 2								
RMB 13.1	Define & understand Addition theorem of probability, Multiplication theorem of probability.	K	K	Y	Lecture	Written		
RMB 13.2	Understand Probability and Non-Probability distribution	K	K	Y	Lecture	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Normal Distribution & Normal Curve No of Competencies: 1								
RMB 14.1	Define Construction, Properties, Use & significance, Skewness in distribution.	K	K	Y	Lecture	Written		
Topic Sampling, Sampling Variability & its Significance. No of Competencies: 1								
RMB 15.1	Enumerate and describe the Methods of sampling, Explain Errors in sampling	K	KH	Y	Lecture	Written		
Topic Sample Size Calculation No of Competencies: 1								
RMB 16.1	Enumerate and demonstrate the Quantitative: finite & infinite population Qualitative: finite & infinite population	K	K/KH	Y	Lecture, DOAP	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Tests of Significance I No. of Competencies: 1								
RMB 17.1	Describe the Significance of Difference in Means: Z test t test: paired & unpaired	K	K/KH	Y	Lecture, Small group Discussion	Written		
Topic Tests of Significance – II. No of Competencies: 1								
RMB 18.1	Explain the Chi - Square Test, Goodness of fit & Test of association.	K	K/KH	Y	Lecture,	Written		
Topic Correlation & Regression. No of Competencies: 2								
RMB 19.1	Define & enumerate types of correlation	K	K	Y	Lecture	Written		
RMB 19.2	Understand the Calculation of Pearson's correlation coefficient (r) and Simple linear regression.	K	K/KH	Y	Lecture, Small group discussion	Written		

Code No.	Competency: Student should be able to	Domains K/S/A/C	Levels K/KH/SH/P	Core Y/N	Teaching Leaning Method	Assessment Method	Vertical Integration	Horizontal Integration
Topic Demography & Vital Statistics No of Competencies: 1								
RMB 20.1	Define and explain Indicators of health & their uses.	K	K	Y	Lecture	Written		
Topic Use of Computers in Biostatistics No of Competencies: 2								
RMB 21.1	Describe the basics and demonstrate Windows Excel Data Analysis in bio- statistical analysis.	K/S	KH/SH	Y	Lecture, DOAP, Seminar/ webinar	Written Skill Assessment		
RMB 21.2	Enumerate the Names of various statistical tools and software	K	K	Y	Lecture	Written		

Recommended Books

1. Methods in Biostatistics: For Medical Students & Research Workers by B. K. Mahajan. Published by Jaypee Brothers
2. A Practical Approach to PG dissertation by R. Raveendran& B. Gitanjali. Jaypee Brothers
3. Fundamentals of Biostatistics by Veer BalaRastogi. Published by Ane Books Pvt. Ltd
4. Research Methods for Clinical Therapist: Applied project design and analysis by Carolyn Hicks. Published by Churchill Livingstone
5. Research in Occupational therapy Methods of Inquiry for enhancing Practice by Gaer Keilhofner, Published by F A Davis Company

Fourth BOT (IV BOT)

S No	Course Code	Subjects	Total Teaching Hours/Semester			Credits			Total Credits	Marks Distribution
			Theory	Practical/ Demo/Lab work	Clinical	Theory	Practical/ Demo/Lab work	Clinical		Total
1	OTOC	Occupational Therapy in Musculoskeletal Conditions	**90**	**60**	**180**	**6**	**2**	**4**	**12**	**Theory-100** **Practicals - 100**
2	OTSM	Occupational Therapy services & management	**60**	**--**	**--**	**4**	**--**	**--**	**4**	**Theory- 50**
3	CMS	Community Medicine & public Health, Sociology	**60**	**--**	**--**	**4**	**--**	**--**	**4**	**Theory- 50**
4	OTNC	Occupational Therapy in Neurological conditions	**90**	**30**	**180**	**6**	**1**	**4**	**11**	**Theory- 100** **Practicals - 100**
5	COTR	Community occupational Therapy & Rehabilitation	**90**	**30**	**--**	**6**	**1**	**--**	**7**	**Theory-100**
6	OTPP	OT Practices in Psychiatry	**90**	**30**	**180**	**6**	**1**	**4**	**11**	**Theory- 100** **Prcticals -100**

S No	Course Code	Subjects	Total Teaching Hours/Semester			Credits			Total Credits	Marks Distribution
			Theory	Practical/ Demo/Lab work	Clinical	Theory	Practical/ Demo/Lab work	Clinical		Total
7	OTPC	Occupational Therapy in Paediatrics conditions	90	60	180	6	2	4	12	Theory-100 Practicals 100
	Project Work			60	--	--	2		2	NUE- 50 marks
	Supervised Clinical training/Field work		--		--	--	16		--	
Total hours = 1560										
Total Credits									79	
Total Marks										1000

OCCUPATIONAL THERAPY IN MUSCULOSKELETAL CONDITIONS

Course Description: This course involves a better understanding of the Occupational Therapy role in various Orthopedic conditions. It includes Occupational Therapy evaluations, identifying occupation-based problem statements and using appropriateModels/ Frames of references/ Approaches for Occupational Therapy intervention. This course also covers the application and fabrication of various orthoses in Orthopedic conditions.

Goal: The broad goal of the subject Occupational Therapy in Orthopedic conditions, is to enable the undergraduate student, to be an active participant in learning the knowledge, skills, behavioural, and attitudinal attributes, for assessing and providing occupational therapy intervention in various Orthopedic conditions.

Course Objectives:

A. *Knowledge:*

At the end of the course, the student shall be able to:

1. Understand Occupational Therapy evaluation and problem identification in Orthopedic conditions
2. Understand the use of appropriate Models/ Frames of references/ approaches in Occupational Therapy intervention in Orthopedic conditions
3. Understand the application and fabrication of orthoses-related Orthopedic conditions
4. Understand the Occupational Therapy assessment and intervention for injuries, fractures and arthritic conditions of upper extremity, lower extremity and spine

5. Understand the Occupational Therapy assessment and intervention for metabolic bone disorders and repetitive stress syndrome
6. Understand the Occupational Therapy assessment and intervention for congenital Orthopedic deformities
7. Understand the Occupational Therapy assessment and intervention for neuromuscular deformities in Cerebral Palsy and PoliomyelitisUnderstand the role of Occupational Therapy in Sports Medicine

B. *Skills:*

1. Select and perform the various evaluations and assessments used in Occupational Therapy in Orthopedic conditions
2. Document occupational therapy assessment and intervention based on the Occupational therapy practice framework.
3. Develop clinical skills to apply therapeutic use of self, activity prescription and grading, and environmental modifications.

C. *Attitude:*

1. Develop an empathetic and humanitarian approach.
2. Value confidentiality and priorities of the service seeker.
3. Respect towards the service seeker.

Examination scheme

Scheme of examination for University Practical exam 100 Marks

Short case	Long Case	Viva voce	Communication skills	Total
25 marks	**50marks**	**20 marks**	**5 marks**	**100 marks**

COMPETENCIES TABLE: Occupational Therapy in Musculoskeletal Conditions

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY IN ORTHOPEDIC CONDITIONS									
Topic: Occupational Therapy Evaluation and interventions in musculoskeletal conditions							**No of competencies: 4**		
OTOC 1.1	Demonstrate the evaluation of occupational performances, performance skills, performance patterns, contexts and client factors in musculoskeletal conditions using informal and formal Occupational Therapy tools/scales	K, S, A, C	SH/P	Y	DOAP	Viva, OSCE, Practical	7	FOT 1 and OTDP I and OTDP II	Community Based OT and Rehabilitation
OTOC 1.2	Analyse the assessment done and identify and document the problems	K, S	SH	Y	DOAP	Viva, OSCE, Practical	7		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 1.3	Outline the application of appropriate and various Models, Fames of references and approaches as applied to Musculoskeletal Rehabilitation to promote participation in occupations which includes the use of therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids	K, S, A, C	SH, P	Y	Lecture, DOAP	Written, Viva, Practical	7		
OTOC 1.4	Enlist and describe adjunctive therapies specific to musculoskeletal conditions to promote occupational participation	K, S	KH	N	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Orthoses		**No of competencies: 2**			**Number of procedures for certification: 1**				
OTO C 2.1	Describe the application of orthoses related to the Upper Extremity, Lower Extremity and Spine in musculoskeletal conditions	K, S	KH	Y	Lecture, DOAP	Written, OSCE, practicals	0	Clinical Orthopaedic Biomechanic s and Kinesiology	OT in Community Medicine and Rehabilitation
OTO C 2.2	Demonstrate assessment, prescription and fabrication orthosis on client	S	SH/P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	1		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Fractures of upper and lower extremities No of competencies: 6 Number of procedures for certification: 0									
OTO C 3.1	Demonstrate Occupational therapy assessment in fractures of upper extremity and lower extremity	K, S, A, C	SH/P	Y	Lecture, Small group discussi ons, DOAP	Written, viva, OSCE, practicals	0	Clinical Orthopaedics Fundamenta-ls of OT, OTDP II	Occupation al Therapy in
OTO C 3.2	Identify limitations in occupational participation and contextual factors and client factors affecting participation in occupations	K, S	SH	Y	Lecture, Small group discussi ons, DOAP	Written, viva, OSCE, practicals	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTO C 3.3	Demonstrate Occupational Therapy interventions using appropriate Models/FORs/Approaches to promote participation in occupations which includes the use of therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids and psychological aspects of chronic pain to promote occupational participation	K, S, A, C	SH/P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		Psychiatry, OT in Service Management
OTO C 3.4	Discuss and demonstrate the Occupational Therapy role in the management of complications	K, S, A, C	SH/P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 3.5	Demonstrate Occupational Therapy intervention with respect to the type of fixators, following precautions	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		
OTOC 3.6	Identify the need for counselling the clients and caregivers individually and in groups	K, S, A, C	KH	Y	Small group discussions	OSCE	0		
Topic: Fractures of vertebral column and Pathological conditions of vertebra and spinal column No of competencies: 5 Number of procedures for certification: Nil									
OTOC 4.1	Demonstrate the Occupational therapy assessment including motor and sensory assessment	K, S, A, C	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, Practicals	0	Clinical Orthopaedic	Occupational Therapy in

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 4.2	Identify limitations in occupational participation and contextual factors and client factors affecting participation in daily occupations	K, S	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	OTDP II, Fundamentals of OT II	Psychiatry, Community Based OT & Rehabilitati-on, Occupational Therapy in Psychiatry
OTOC 4.3	Demonstrate Occupational Therapy interventions using appropriate Models/FORs/Approaches to promote participation in occupations which includes the use therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and prescription of wheel chair and mobility aids, skin care and transfer training	K, S	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		
OTOC 4.4	Demonstrate Assessments and interventions for return to community and job	K, S	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 4.5	Identify the need for counselling the clients and caregivers individually and in groups	K, S, A, C	SH	Y	Small group discussions	OSCE	0		
Topic: Injuries at and around upper and lower extremity joints and Pathological and arthritic conditions of upper limbs, lower limbs, vertebral column and spinal cord No of competencies: 3 Number of procedures for certification: Nil									
OTOC 5.1	Demonstrate Pre-operative and post-operative Occupational Therapy evaluation in Joint replacement surgeries and corrective surgeries to identify problems in occupational performances and contextual factors and client factors affecting occupational performance	K, S, A, C	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	Clinical Orthopaedics, OTDP II, Fundamentals of OT	

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 5.2	Demonstrate pre-operative and post-operative Occupational Therapy intervention using appropriate Models/FORs/Approaches to promote participation in occupations which includes the use therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids and psychological aspects of chronic pain to promote occupational participation	K, S, A, C	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		Occupation al Therapy in Psychiatry
OTOC 5.3	Identify the need for counselling the clients and caregivers individually and in groups	K, S, A, C	SH	Y	Small group discussions	OSCE	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Metabolic bone disorders No of competencies: 2 Number of procedures for certification: Nil									
OTOC 6.1	Demonstrate Occupational Therapy evaluation to identify limitations in occupational performance and contextual factors and client factors in metabolic bone disorders	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals		Clinical Orthopaedics, OTDP II, Ergonomics and Work Physiology	
OTOC 6.2	Demonstrate Occupational Therapy management including preventive, accommodative and restorative approaches including joint protection techniques and work simplification techniques	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals			

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Repetitive stress syndrome No of competencies: 5 Number of procedures for certification: 1									
OTOC 7.1	Demonstrate Occupational Therapy assessment and management in various phases of injury and identify problems in occupational performance and contextual factors and client factors affecting occupational performance	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	OTDP II, Biomechanics and Kinesiology, Ergonomics and Work Physiology	Community Based OT & Rehabilitation, OT in Psychiatry
OTOC 7.2	Describe the preventive/ rehabilitative techniques based on Ergonomic and Biomechanical principles	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 7.3	Demonstrate Occupational Therapy interventions to promote return to occupations using appropriate Models/FORs/Approaches which includes the use therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids	K, S	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		
OTOC 7.4	Record and interpret from the observations following Industrial visit to identify mechanisms of injury and suggest ergonomic modifications	K, S, A, C	SH	Y	Small group discussions	OSCE	1		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 7.5	Identify the need to counsel stake holders on prevention based on preventive and restorative approaches including work simplification, life style modifications and joint protection techniques	K, S, A, C	SH	Y	Small group discussions	OSCE	1		
Topic: Congenital musculoskeletal deformities No of competencies: 3 Number of procedures for certification: Nil									
OTOC 8.1	Define and classify common congenital musculoskeletal deformities	K	K	Y	Lecture	Written	0	Clinical Orthopaedics, Fundamentals of OT	
OTOC 8.2	Demonstrate Occupational Therapy evaluation to identify problems in occupational performance and contextual factors and client factors affecting occupational performance	K/S	SH	Y	Lecture/Small group discussions/ DOAP	Written, viva, OSCE, practicals	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 8.3	Demonstrate Occupational Therapy intervention to promote occupational performances which includes the use therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids	K/S	SH	Y	Lecture/Small group discussions/ DOAP	Written, viva, OSCE, practicals	0		
Topic: Neuromuscular deformities in Cerebral Palsy and Poliomyelitis **No of competencies: 3** **Number of procedures for certification: Nil**									
OTOC 9.1	Describe the Neuromuscular deformities in Cerebral Palsy and Poliomyelitis	K	K	Y	Lecture	Written	0	Clinical Orthopaedics	OT in paediatrics

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 9.2	Demonstrate Occupational therapy evaluation in preoperative and post-operative stages of reconstructive and corrective surgeries in Cerebral Palsy and Poliomyelitis and identify limitations in Occupational performance and contextual factors and client factors affecting occupational performance	K, S	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	Fundamentals of OT	OT in paediatrics
OTOC 9.3	Demonstrate Occupational Therapy interventions including pre-operative and post-operative management to promote occupational performances which includes the use therapeutic exercises, occupation as means and prescription and/or fabrication of orthosis, assistive devices and mobility aids and recent advances	K, S	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0	Fundamentals of OT	OT in paediatrics

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Sports Medicine No of competencies: 7 Number of procedures for certification: Nil									
OTOC 10.1	Explain the Effect of sports on mind and body of sports person	K	K	Y	Lecture, Small group discussions	Written	0		
OTOC 10.2	Discuss various sports injuries	K	K	Y	Lecture, Small group discussions	Written	0	Clinical Orthopaedics, Ergonomics and work physiology, OTDP II	
OTOC 10.3	Describe the prerequisites for participation in sports including physical fitness and cardiopulmonary fitness	K	KH	Y	Lecture, Small group discussions	Written	0		
OTOC 10.4	Enumerate various approaches in psychological skill training and intervention	K	KH	Y	Lecture, Small group discussions	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OTOC 10.5	Describe the predisposing factors for sports injuries	K	K	Y	Lecture, Small group discussions	Written	0		
OTOC 10.6	Discuss the Occupational Therapy role in preparedness of the person for different sports events	K, S	K	Y	Lecture, Small group discussions	Written	0		
OTOC 10.7	Discuss the Occupational Therapy role in prevention of sports injuries and rehabilitation and return to sports after injury	K, S			Lecture, Small group discussions	Written	0		

Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedell Crepeau, Ellen S. Cohn, Barbara A.
2. Boyt Schell. Published by Lippincott Williams & Wilkins. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins.
3. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby.
4. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone.
5. Physical Rehabilitation by Susan B. O'Sullivan, Thomas J. Schmitz. Published by F. A. Davis Company. Indian Reprint by Jaypee Brothers.
6. Orthopaedic Physical Assessment by David J. Maggee Published by W. B. Saunders.
7. Therapeutic Exercise by John V. Basmajian & Steven L. Wolf. Published by Williams & Wilkins.
8. Therapeutic Exercise, Foundation & Techniques by Carolyn Kisner & Lynn Allen Colby. Published by F. A. Davis Company. Treatment and Rehabilitation of Fractures by Stanley Hoppen field and Vasantha L. Murthy. Published by Lippincott Williams & Wilkins.
9. Clinical Orthopaedic Rehabilitation by S. Brent Brotzman Published by Mosby.
10. Rehabilitation of the Hand by C. B. Wynn Parry. Published by Butterworths.
11. Ergonomics for therapists by Karen Jacobs. Published by Butterworth Heinemann.
12. Clinical Sports Medicine by Peter Brukner & Karim Khan. Published by The McGraw-HillCompanies.

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OCCUPATIONAL THERAPY SERVICES & MANAGEMENT

Course Description: This course involves a better understanding of the overall administration of the Occupational Therapy department/ Institute in Government & Private setup, Budgeting, Ethical practice of Occupational Therapy. The course involves a better understanding of Bioethics, ethical considerations, service management, implication of different environments on OT practices industrial Rehabilitation**.**

Goal: The broad goal to teach the undergraduate students about OT Services & management is to have the knowledge, to function effectively as an occupational therapist, set up the department and manage the services in different settings.

Course Objectives:

Knowledge : at end of the course :

1. Understand the term Bioethics and Occupational Therapy code of ethics
2. Describe various service managements under occupational therapy
3. Describe the Human and non human environment and OT process
4. Describe importance of practice in different setups & consideration of human sexuality in relation to disability and its management in occupational Therapy
5. Describe the strategies & approaches used in stress management during Occupational Therapy intervention
6. Described its importance of evidence based practice in occupational therapy.
7. Describe the strategies in Industrial rehabilitation into Occupational therapy practice including Ergonomic assessment of office, hospital & school furniture manufactured in the industries & Ergonomic assessment of industrial workers , computer operators & other employees
8. Describe the entrepreneurship methods in the OT practice

COMPETENCIES TABLE: OCCUPATIONAL THERAPY SERVICES & MANAGEMENT

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
OCCUPATIONAL THERAPY SERVICES & MANAGEMENT								
Topic: Introduction to Bioethics, Professional Ethics & Development					**No of competencies: 5**			
OTSM 1.1	Define Bioethics	K	K	Y	Lecture	Written	-	-
OTSM 1.2	Explain the uses and purposes of a professional code	K	KH, SH	Y	Lecture	Written	-	-
OTSM 1.3	Understand occupational therapy code of ethics given by NCAHP	K , A	KH	Y	Lecture	Written	-	FOT II
OTSM 1.4	Examine current ethical dilemmas in OT , issues and conflicts involved and generate possible solution to the dilemmas	K , S , A	KH,SH	Y	Lecture ans case scenario	Written	-	-

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
OTSM 1.5	Describe the entrepreneurship methods in the OT practice	K A	KH	**Y**	Lecture Discussion	Written		
Topic: Service Management in Occupational Therapy No of competencies:5								
OTSM 2.1	Identify and describe various management functions & strategies	`K	KH	Y	Lecture	Written		
OTSM 2.2	Enumerate different types of documentations, its purpose & its importance	K, S	KH, SH	Y	Lecture	Written		
OTSM 2.3	Define Quality assurance & describe monitoring of it along with utilization review	K, S	KH, SH	Y	Lecture Case scenario, DOAP	Written		
OTSM 2.4	Define fiscal management, explain budgeting	K	KH	Y	Lecture	Written		
OTSM 2.5	Describe marketing strategies in health care	K, S	KH, SH	Y	Lecture	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
Topic: The Human and Non-Human Environments and the Occupational Therapy Process No of competencies: 2								
OTSM 3.1	Define and classify environment with details of human & non-human environment	K	K	Y	Lecture	Written		
OTSM 3.2	Describe Occupational Therapy in environmental practice	K, S	KH SH	Y	Lecture DOAP	Written		
Topic: Home Care and Private Practice No of competencies: 3								
OTSM 4.1	Describe overview of Home care	K	K	Y	Lecture	Written		
OTSM 4.2	Enumerate members of home care team and their functions	K	K	Y	Lecture	Written		
OTSM 4.3	Describe parameters & delivery system for home care	K, S	KH , SH	Y	Lecture, DOAP	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
Topic: Introduction to Human Sexuality in relation to Disability Management in Occupational Therapy No of competencies: 3								
OTSM 5.1	Define Human sexuality	K	K	Y	Lecture	Written		
OTSM 5.2	Identify the importance of Human sexuality in Occupational therapy practices	K, S, A, C	K	Y	Lecture	Written		
OTSM 5.3	Describe awareness, knowledge & Interpersonal competencies in human sexuality	K, S, A,	KH,	Y	Lecture Case scenario	Written		
Topic: Stress management No of competencies: 2								
OTSM 6.1	Identify common stressors and enumerate the stress response	K	K	Y	Lecture	Written		Psychology And psychiatry
OTSM 6.2	Describe Stress management techniques & their appropriate use	K, S, A, C	KH , SH	Y	Lecture DOAP	Written		Psychology and psychiatry

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
Topic: Research informed Occupational Therapy practice & Translation of research in to practice (Evidence based practice) **No of competencies: 3**								
OTSM 7.1	Define clinical reasoning in OT Describe nature of occupational therapy & implementation of clinical reasoning in occupational therapy	K	K	Y	Lecture	Written		OTDP 2
OTSM 7.2	Identifying various types of clinical reasoning in OT practice	K	KH,SH	Y	Lecture , DOAP	Written		
OTSM 7.3	Enumerate and describe OT Intervention based on conventional/recent approaches/research evidences	K,S	KH,SH	Y	Lecture Case based scenario	Written		
Topic: Industrial Rehabilitation No of competencies: 5								
OTSM 8.1	Understand Historical overview for industrial rehabilitation	K	KH	Y	Lecture DOAP	Written		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Horizontal Integration	Vertical Integration
OTSM 8.2	Enumerate and describe industrial rehabilitation services & ergonomic assessment of office , hospital & school furniture manufactured in the industries	K	KH , SH	Y	Lecture DOAP	Written		
OTSM 8.3	Describe work hardening program	K	KH , SH	Y	Lecture DOAP	Written		
OTSM 8.4	Describe role of Occupational therapy in Vocational assessment & Vocational rehabilitation	K, S, A, C	KH , SH	Y	Lecture DOAP	Written		
OTSM 8.5	Describe the ergonomic assessment & intervention of industry labours, computer operators & others working in health hazard environment	K, S, A, C	KH , SH	**Y**	Lecture DOAP	Written		

Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedell Crepeau, Ellen S. Cohn, Barbara A. Boyt Schell. Published by Lippincott Williams & Wilkins.
2. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins.
3. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby.
4. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone.
5. Physical Rehabilitation by Susan B. O'Sullivan, Thomas J. Schmitz. Published by F. A. Davis Company. Indian Reprint by Jaypee Brothers.
6. Biofeedback: Principles & Practice for Clinicians by John V. Basmajian. Published by Williams & Wilkins

COMMUNITY MEDICINE, PUBLIC HEALTH & SOCIOLOGY

COURSE DESCRIPTION: This course aims to provide students with a comprehensive understanding of community medicine and sociology in the context of occupational therapy. It covers key concepts in epidemiology, health programs in India, preventive medicine across different life stages, nutrition and health, and the role of social sciences in healthcare. The course also explores social problems faced by people with disability, the role of medical social workers, environmental health, disaster management, occupational health, international health, and the healthcare services provided by AYUSH. Students will learn to apply these concepts in occupational therapy to enhance community integration and holistic care for individuals with disabilities.

GOAL: The primary goal of teaching Community Medicine and Sociology to undergraduate students is to equip them with the knowledge to function effectively as occupational therapists. The focus is on improving the health and quality of life of individuals and communities through prevention, early intervention, and rehabilitation.

OBJECTIVES

A. KNOWLEDGE

By the end of the course, the student shall be able to:

1. Define community medicine and understand the role of the occupational therapist in the team.
2. Define and explain epidemiology, including the epidemiology of various infections.
3. Enumerate and describe health programs for community integration and international agencies providing support.
4. Understand the role of preventive medicine in obstetrics, gynaecology, paediatrics, and geriatrics.

5. Describe nutritional components, profiles of principal foods, and the food guide pyramid.
6. Identify nutritional problems in public health and malnutrition factors in selected diseases.
7. Explain the concept of nutritional surveillance.
8. Describe the context of medicine and its relation to social sciences.
9. Describe social and behavioural sciences, including terms such as sociology, community, socialization, and social problems.
10. Identify social problems faced by disabled individuals and the role of various agencies in assisting them.
11. Identify the role of medical social workers.
12. Understand the importance of a safe environment and its impact on health.
13. Define and identify methods of sanitation and biowaste management.
14. Identify and describe principles, aspects, and implications of disaster management.
15. Define occupational health, types of occupational hazards, and occupational diseases.
16. Describe international health plans and the roles of international health agencies.
17. Identify different healthcare facilities provided by AYUSH

COMPETENCIES TABLE : Community medicine, Public health and Sociology

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COMMUNITY MEDICINE , PUBLIC HEALTH AND SOCIOLOGY									
Topic: Epidemiology **No of competencies: 2**									
CMS 1.1	Define Epidemiology	K	K	Y	Lecture	Written	0		
CMS 1.2	Explain Epidemiology of Respiratory infections, intestinal infections, Arthropod- borne infections, Zoonosis, Surface infections, Hospital- acquired infections	K	KH	Y	Lecture	Written	0	Medicine, Pathology and Microbiology	
Topic: Health programs in India **No of competencies: 3**									
CMS 2.1	Enumerate different health programs in India	K	KH	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CMS 2.2	Enumerate various international agencies providing technical & material assistance in implementing these programs	K	KH	Y	Lecture	Written	0		
CMS 2.3	Describe different health & program implementation plans	K	KH	Y	Lecture	Written	0		
Topic: Preventive medicine in Obstetrics, Paediatrics & Geriatrics No of competencies: 4									
CMS 3.1	Identify the need of preventive medicine & social medicine	K	KH	Y	Lecture	Written	0		
CMS 3.2	Describe the role of social & preventive Medicine in Obstetrics - antenatal, natal & postnatal care	K	KH	Y	Lecture	Written	0	Surgery Gynaecology , Medicine and Paediatrics	

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CMS 3.3	Describe the role of social & preventive medicine in Paediatrics - Care of neonates, infants, children, National Policy for Children	K	KH	Y	Lecture	Written	0		
CMS 3.4	Describe the role of social & preventive medicine in Geriatrics	K	KH	Y	Lecture	Written	0		
Topic: Nutrition & Health **No of competencies: 6**									
CMS 4.1	Enumerate nutritional components	K	K	Y	Lecture	Written	0		
CMS 4.2	Describe the nutritional profile of Principal foods	K	K	Y	Lecture	Written	0	Physiology, Paediatrics and Medicine	
CMS 4.3	Describe the food guide pyramid	K	KH	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CMS 4.4	Identify nutritional problems in public health	K	KH	Y	Lecture	Written	0		
CMS 4.5	Describe malnutrition factors in selected disease	K	K	Y	Lecture	Written	0		
CMS 4.6	Explain nutritional surveillance	K	SH	Y	Lecture	Written	0		
Topic: Medicine and Social Sciences		**No of competencies: 4**							
CMS 5.1	Identify the context of medicine	K	K	Y	Lecture	Written	0	Psychology	
CMS 5.2	Identify relation between community health & social sciences	K	KH	Y	Lecture	Written	0		
CMS 5.3	Describe social & behavioural sciences	K	K	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CMS 5.4	Describes term sociology, community, socialism, socialization, social control mechanism, customs, culture, standard of living, social problems, social pathology, social surveys, social defence	K	K	Y	Lecture	Written	0		
Topic: Social Problems of Disabled		**No of competencies: 2**							
CMS 6.1	Identify the social problems in disabled	K	KH	Y	Lecture	Written	0		Occupation-al Therapy in Community Rehabilitati-on & public health
CMS 6.2	Identify the role of various agencies in assisting the disabled in the social environment	K	KH	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Role of medical social worker		**No of competencies: 1**							
CMS 7.1	Identify the role of the medical social worker	K	KH	Y	Lecture	Written	0		
Topic: Environment & Health, Environmental Science		**No of competencies: 1**							
CMS 8.1	Identify the importance of a safe environment & health.	K	K	Y	Lecture	Written	0		Occupation-al Therapy in Community Rehabilitati-on & public health
Topic: Sanitation & Biowaste management		**No of competencies: 2**							
CMS 9.1	Define and identify methods of sanitation.	K	KH	Y	Lecture	Written	0		
CMS 9.2	Identifying various aspects of biowaste management	K	KH	Y	Lecture	Written	0		

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Disaster management No of competencies: 3									
CMS 10.1	Identify & describe principles in Disaster management	K	K	Y	Lecture	Written	0		Occupation-al Therapy in Community Rehabilitati-on & public health
CMS 10.2	Enumerate various aspects of disaster management	K	K	Y	Lecture	Written	0		
CMS 10.3	Describe implications in disaster management	K	KH	Y	Lecture	Written	0		
Topic: Occupational Health No of competencies: 3									
CMS 11.1	Define Occupational health	K	K	Y	Lecture	Written	0		Occupation-al Therapy in Community Rehabilitati-on

Code No.	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core Y/N	Teaching-Learning Methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CMS 11.2	Describe the types of Occupational Hazards	K	KH	Y	Lecture	Written	0		
CMS 11.3	Enumerate Occupational diseases & medical management	K	KH	Y	Lecture	Written	0		on & public health
Topic: International Health No of competencies: 4									
CMS 12.1	Identify international Health plan	K	K	Y	Lecture	Written	0		
CMS 12.2	Describe the role of the World Health Organization	K	KH	Y	Lecture	Written	0		
CMS 12.3	Describe the role of United Nations agencies -UNICEF, UNDP, FAO, SIDA, DANIDA	K	KH	Y	Lecture	Written	0		

CMS 12.4	Enumerate non- governmental & other agencies	K	K	Y	Lecture	Written	0		
Code No.	**COMPETENCY** **The student should be able to**	**Domain** **K/S/A/C**	**Level** **K/KH/SH/P**	**Core** **Y/N**	**Teaching-Learning Methods**	**Assessment methods**	**Number required to certify P**	**Vertical Integration**	**Horizontal Integration**
Topic: Introduction to Ayush No of competencies: 1									
CMS 13.1	Identify different healthcare facilities provided by AYUSH	K	K	Y	Lecture	Written	0		

Reference Books:

1. Park's textbook of Preventive and Social Medicine by K. Park. Published by Banarsidas Bhanot.
2. Disabled village children- A guide for Community Health, Workers, Rehabilitation Workers & Families by David Werner. Published by The Hesperian Foundation
3. Handbook Of Medical Sociology for Nursing, physiotherapy and Paramedical Students by Malhotra Varun, Jaypee Brothers Medical Publishers
4. Sociology of Health and Medicine New Perspectives By V. Sujatha. Published by Oxford University Press
5. Sociology and Occupational Therapy: An integrated approach by Derek Jones, Sheena E.E. Blair, Terry Hartery. Published by Churchill Livingstone

OCCUPATIONAL THERAPY IN NEUROLOGICAL CONDITIONS

COURSE DESCRIPTION

This course intends to familiarize students with terminology & abbreviations for efficient & effective chart reviewing & documentation for occupational therapy in Neurological conditions. It also gives overview of etiology as well as primary & secondary clinical characteristics, complications and their management. Discusses & integrates subsequent occupational therapy management of Acute and chronic Neurological disorders including genetic disorders, infective conditions of the brain and spine with reference to red flag indicators, indications, contraindications & precautions to formulate appropriate therapeutic intervention.

GOAL: The goal to teach the undergraduate students OT in Neurological Conditions is to have the knowledge, skills and behavioral attributes to function effectively as an occupational therapist and subsequently improve functional independence and Quality of Life of the patient.

OBJECTIVES:

A. KNOWLEDGE: At the end of the course, the student shall be able to:

1. Identify the clinical presentation of common neurological conditions with special reference to conditions like Stroke, Parkinsonism, Multiple Sclerosis and other conditions like metabolic and muscular disorders.
2. Outline and apply various modalities and methods of management including various approaches, exercise protocol, splinting process.
3. Recognize Occupational dysfunctions in relation to person, task and environment due to neurological involvement
4. Plan and provide occupational therapy treatment under supervision for occupational performance areas of independent living/daily living skills, leisure skills, social skills, pre-vocational/work adjustment skills.

B. SKILLS: At the end of the course, the student shall be

1. Develop clinical skills (history taking, clinical examination and other instruments of examination) to know the clinical manifestations and its impact on function.Perform simple assessments using standardized methods, test batteries and instruments to assess performance components.
2. Assist the common bedside evaluations and assessment procedures related to neurological conditions and be able to document their findings and intervention.

C. ATTITUDE:

1. The teaching and training in "OT in Neurological condition" must aim at developing the attitude in students to apply the
   knowledge & skills he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes of therapy
3. Students should develop behavioral skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

Examination Scheme

Scheme of examination for University Practical exam 100 Marks

Short Case	Long Case	Viva voce	Communication skills	Total
25 marks	50marks	20 marks	5 marks	100 marks

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY IN NEUROLOGICAL CONDITIONS								
Topic : Occupational Therapy Evaluation and interventions in Neurological Clinical Evaluation						**No of Competencies - 2**		
OTNC 1.1	Demonstrate the evaluation of occupational performances, performance skills, performance patterns, contexts and client factors in neurological conditions using standardised Occupational Therapy tools/scales.	K, S, A, C	KH, SH	Y	Lecture, DOAP, Case study	Practical, Viva, OSCE		
OTNC 1.2	Interpret the assessment done and identify and document the problems	K, S, A	KH,SH, DOAP		Lecture, practical , case presentation	Written, Viva, practical	OTDP I & OTDP II	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Frames of references, models and approaches used in Neurological Conditions. Number of Competencies – 1								
OTNC 2.1	Choose, describe and demonstrate appropriate and various Models, Fames of references and approaches as applied to Neurological Rehabilitation to promote participation in occupations including but not limited to ● PEO Model ● MOHO ● Cognitive Frame of reference ● Neurophysiological approaches ● Task oriented approach ● Rehabilitative Frame of Reference	K	KH, SH	Y	Lecture, DOAP	Written, Viva, practical		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Cognitive, Perceptual Skills						**No of Competencies - 3**		
OTNC 3.1	Enlist and explain all the cognitive and perceptual dysfunctions and how they affect a client's occupational performance.	K	KH	Y	Lecture	Written, Viva	OTDP II,OTSC	
OTNC 3.2	Describe and demonstrate the standardised and non-standardised Assessment of cognitive perceptual skills.	K, S	KH, SH		lecture	Written, Viva,		
OTNC 3.3	Describe and demonstrate the Occupational therapy management of performance components affected due to cognitive perceptual deficits.	K, S	KH, SH		Lecture, DOAP	Written, Viva, practical, OSCE		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Dysphagia					**No of Competencies - 3**			
OTNC 4.1	Describe the Normal physiology of swallowing. Enlist and enumerate the Causative factors in Dysphagia. Enlist the assessment & treatment of Dysphagia.	K	KH	Y	Lecture	Written, Viva	FOT II, OTDP II	
OTNC 4.2	Enlist and enumerate the Causative factors in Dysphagia. Enlist the assessment & treatment of Dysphagia.	K	KH, S	Y	Lecture, DOAP	Written, Viva		
OTNC 4.3	Demonstrate Feeding position, diet modification, Specific and special therapeutic considerations in context to specific clinical diagnosis.	K,S	SH	Y	Lecture, DOAP, Case study	Written, Viva, Practical		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Disorders of the cerebral circulation No of Competencies - 5								
OTNC 5.1	Describe Anatomy & physiology of cerebral circulation.	K	KH	Y	Lecture	Written, Viva		
OTNC 5.2	Describe the aetiopathogeneis of the cerebral circulation disorders. Classification of cerebral circulation disorders	K	KH	Y	Lecture	Written, Viva		
OTNC 5.3	Choose and demonstrate strategies to optimize motor, sensory, balance, visual, cognito – perceptual components of function using appropriate Frame of reference and neurophysiological approach to improve the client's occupational performance.	K,S	KH, SH	Y	Lecture, DOAP	Written, Viva, Practicals		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 5.4	Describe various Orthotic, Assistive and Augmentative Technologies for the clients with stroke	K	KH,S H		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical	FOT II, OTDP II	
OTNC 5.5	Discuss and present the Prognostic determinants.	K	KH		lecture	Written, Viva, Practicals		
Topic : Occupational Therapy Evaluation and interventions in Traumatic injuries to the Brain. No of Competencies - 6								
OTNC 6.1	Describe and enumerate, Classification of Head Injury, Mechanism of Injury, Immediate Effects of Head Injury, signs and symptoms of Post Head Injury sequelae.	K	KH	Y	Lecture	Written, Viva	Surgery, OTSC	
OTNC 6.2	Describe and demonstrate the Various assessment tools for evaluating level of consciousness and occupational performance of a client.	K,S	KH,S H	Y	Lecture, DOAP	Written, Viva, Practicals		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 6.3	Discuss and present the Prognostic determinants.	K	KH		lecture	Written, Viva		
OTNC 6.4	Choose and demonstrate strategies to optimize motor, sensory, balance, visual, cognito perceptual components of function using appropriate Frame of reference and neurophysiological approach to improve the client's occupational performance	K,S	KH, SH	Y	Lecture, DOAP	Written, Viva Practicals	OTDP II	
OTNC 6.5	Describe various Orthotic, Assistive and Augmentative Technologies for the clients TBI	K	KH, SH		Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical	FOT II, OTDP II	CBOT & R
OTNC 6.6	Discuss various Prognostic determinants of clients with TBI	K	KH		Lecture	Written, Viva, Practicals	Surgery	CBOT & R

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Infective conditions of the brain						**No of Competencies - 3**		
OTNC 7.1	Describe the aetiopathogenesis, and symptoms of various infective conditions of the brain for example Intracranial abcess, meningitis, Encephalitis, cerebral malaria.	K	KH		Lecture	Written, Viva		
OTNC 7.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K, S	KH,S H		Lecture, DOAP	Written, Viva , Practical		
OTNC 7.3	Discuss and present the Prognostic determinants.	K	KH		Lecture	Written, Viva		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Neoplastic conditions of the brain and spinal cord (Intracranial & Spinal Tumors) Number of Competencies - 4								
OTNC 8.1	Describe the aetiopathogenesis, and symptoms of various neoplastic conditions of the brain. Classification of tumors as per WHO classification.	K	KH	y	Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical		
OTNC 8.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K	KH,SH	y	Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical	OTDP II	
OTNC 8.3	Describe various Orthotic, Assistive and Augmentative Technologies for the clients TBI	K	KH, SH		Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical	FOT II, OTDP II	CBOT & R
OTNC 8.4	Discuss and present the Prognostic determinants	K	KH		Lecture	Written, Viva voce	Neurology, Surgery	

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic : Occupational Therapy Evaluation and interventions in Movement disorders						**No of Competencies - 5**		
OTNC 9.1	Describe the aetiopathogenesis, and symptoms of Movement Disorders.	K	KH	Y	Lecture	Written, Viva voce	Neurology	
OTNC 9.2	Classify describe grading of Movement disorders	K	KH	Y	Lecture, seminar, Case study	Written, Viva voce		
OTNC 9.3	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K,S	KH, SH	Y	Lecture, DOAP, Case study, Small group discussion	Written, Viva voce, practical	OTDP II	
OTNC 9.4	Describe various Orthotic, Assistive and Augmentative Technologies for the clients TBI	K	KH,S H		Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical	FOT II,	CBOT & R

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 9.5	Discuss and present the Prognostic determinants Movement disorders.	K	KH		Lecture	Written, Viva voce		
Topic : Occupational Therapy Evaluation and interventions in Inflammatory and autoimmune disorders of the brain Number of Competencies - 3								
OTNC 10.1	Describe the aetiopathogenesis, and symptoms of Inflammatory and autoimmune disorders of the brain and spinal cord. Example Multiple Sclerosis, Transverse Myelitis, etc.	K	KH	Y	Lecture	Written, Viva voce	Neurology	
OTNC 10.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K,S	KH,S H		Lecture, DOAP	Written, Viva voce, Practical		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 10.3	Discuss and present the Prognostic determinants of Inflammatory and autoimmune disorders of the brain and spinal cord.	K	KH		Lecture	Written, Viva voce		
Topic: Occupational Therapy Evaluation and interventions in Diseases of Motor Neuron, Neuromuscular Junction And Muscles. No of Competencies - 3								
OTNC 11.1	Describe the aetiopathogenesis and symptoms and classification of Motor neuron diseases, NM junction. Example Motor Neuron Disease, Myasthenia Gravis. Myopathy and Muscular Dystrophies.	K	KH	Y	Lecture	Written, Viva voce		
OTNC 11.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K,S	KH,S H		Lecture, DOAP	Written, Viva voce, Practical		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 11.3	Discuss and present the Prognostic determinants of Motor neuron diseases, NM junction.	K	KH		Lecture	Written, Viva voce		
Topic: Occupational Therapy Evaluation and interventions in cerebellar dysfunctions. No of Competencies - 3								
OTNC 12.1	Describe the aetiopathogenesis, and symptoms and Classification of Cerebellar dysfunctions.	K	KH	Y	Lecture	Written, Viva voce		
OTNC 12.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K, S	KH, SH	Y	Lecture, DOAP	Written,Viva voce, Practical, OSCE		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTNC 12.3	Discuss and present the Prognostic determinants of Cerebellar dysfunctions.	K	KH		Lecture	Written, Viva voce		
Topic: Occupational Therapy Evaluation and interventions in Vestibular function and dysfunction. No of Competencies - 3								
OTNC 13.1	Describe the aetiopathogenesis and symptoms and classification of Vestibular functions and dysfunctions.	K	KH	Y	Lecture	Written, Viva voce	OTDP I & OTDP II	
OTNC 13.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K, S	KH,S H	Y	Lecture, DOAP	Written, Viva voce, OSCE		
OTNC 13.3	Discuss and present the Prognostic determinants of Vestibular dysfunctions.	K	KH		Lecture	Written, Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Occupational Therapy Evaluation and interventions in Cranial Nerves function and dysfunctions. **No of Competencies - 3**								
OTNC 14.1	Describe pathways and functions of cranial nerves. Explain the aetiopathogenesis of various cranial nerve dysfunctions.	K	KH	Y	Lecture	Written, Viva voce		
OTNC 14.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches for a Cranial nerve dysfunction.	K,S	KH, SH	Y	Lecture, DOAP	Written, Viva voce, Practical, OSCE	OTDP II	
OTNC 14.3	Discuss and present the Prognostic determinants of Cranial nerve dysfunctions.	K	KH		Lecture	Written, Viva voce		

Code No.	Objectives/Competency Students should be able to	Domains of Learning	Level	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Occupational Therapy Evaluation and interventions in Seizure disorders. No of Competencies - 3								
OTNC 15.1	Describe the aetiopathogenesis, and symptoms and classification of seizure disorders	K	KH	Y	Lecture	Written, Viva voce	Psychology, Neurology, paediatrics	OTPC
OTNC 15.2	Enlist and demonstrate the assessment and intervention based on clinical reasoning for selection of appropriate frame of reference and neurophysiological approaches.	K,S	KH,S H	Y	Lecture, DOAP	Written, Viva voce , Case study		CBOT & R
OTNC 15.3	Discuss and present the Prognostic determinants of seizure disorders	K	KH		Lecture	Written, Viva voce		

References & Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedell Crepeau, Ellen S. Cohn, Barbara A. Boyt Schell. Published by Lippincott Williams & Wilkins.
2. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins.
3. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby.
4. Occupational Therapy Process & Practice skills . Turner .
5. Frames of Reference for Pediatric Occupational Therapy by Paula Kramer, Jim Hinojosa Published by Lippincott Williams and Wilkins. Sensory Integration Therapy: Process & Practice by Anita Bund

COMMUNITY OCCUPATIONAL THERAPY & REHABILITATION

Course Description:

This course involves a better understanding of the overall Occupational Therapy application in community-based setup & rehabilitation perspective in Occupational therapy. The course involves a better understanding and application of different interventions Frames of references, approaches in community base Occupational Therapy & skills required for planning rehabilitation goals

Goals:

The broad goal to teach the undergraduate students different aspects of Community Occupational Therapy is to have the knowledge, skills and behavioral attributes to function effectively as a occupational therapist in community improve Quality of life & understand different rehabilitative measures to enhance functional independence and Quality of Life of the patient.

Course Objectives (competency statements) – The objectives of this course are:

Knowledge:

1. Describe e community based rehabilitation, difference between IBR & CBR & understand role of occupational therapist in the team
2. Describe the components in wellness program in occupational therapy
3. Understand the term community integration, mobility & strategies to enhance the community integration
4. Understand about low cost aids & appliances used in Occupational Therapy intervention
5. Understand the organisation of Community based rehabilitation centre
6. Enumerate various additive therapies & explain their uses, describe about assistive technologies used in

persons with disabilities

7. Identify need for various adjunctive therapies to occupational therapy & discuss their benefits to persons with disabilities
8. Understand Physical agent modalities, its principles & implementation in Occupational Therapy intervention

Skills:

1. Understand role of occupational therapy intervention in disaster management
2. Identify the environmental & architectural barriers, plan intervention to overcome them
3. Evaluate the disability as per Gazette guidelines. Laws for certification, perform Disability assessment for person with disability
4. Identify occupational demands in driving & plan strategies for driving rehabilitation
5. Evaluate various factors responsible for successful mobility & adaptations used for wheelchair mobility & seating adaptations
6. Identify pain management & plan intervention in occupational therapy

Attitude:

1. The teaching and training in "CB OT & Rehabilitation" must aim at developing the attitude in students to apply the

   knowledge & skills he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes of therapy.
3. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

Competencies table: Community Occupational Therapy & Rehabilitation

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COMMUNITY OCCUPATIONAL THERAPY									
Topic: Community Based Rehabilitation –Introduction				**No of competencies: 5**					
COTR 1.1	Define Community Based Rehabilitation	K	KH	Y	Lecture	written			
COTR 1.2	Explain models, structure, process and outcome of CBR.	K	KH	Y	Lecture, DOAP	Written			
COTR 1.3	Discuss the Role of Occupational Therapy and the contributions of other health professionals in CBR.	K	KH	Y	Lecture	Written			
COTR 1.4	Describe Difference between CBR and IBR	K	KH	Y	Lecture	Written			
COTR 1.5	Explain Treatment approach Alternatives	K	KH	Y	Lecture	written			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Wellness program & Preventive Occupational Therapy				**No of competencies: 4**					
COTR 2.1	Define Health, Health promotion & wellness	K	KH	Y	Lecture	written			
COTR 2.2	Explain the hypothesis of association of occupation with balance & participation to promote Health	K	K	Y	Lecture	viva			
COTR 2.3	Discuss research related to wellness & health promotion	K	K	Y	Lecture	Viva, written			
COTR 2.4	Describe the wellness & health promotion in Occupational therapy	K	KH	Y	Lecture	written			
Topic: Community Integration			**No of Competencies: 6**						
COTR 3.1	Identify community integration factors	K	K	Y	Lecture	written			
COTR 3.2	Describe the approaches used in Fall prevention to enhance mobility and safety	K	KH	Y	Lecture	written			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COTR 3.3	Enumerate the factors required for Driving Skills	K	K	Y	Lecture	Written, Viva voce			
COTR 3.4	Identify Prerequisite for Driving skills	K	KH	Y	Lecture	written			
COTR 3.5	Demonstrate Visual perceptual assessment for driving	K	SH	Y	Lecture/ DOAP	Written, Viva voce, Skill assessment			
COTR 3.6	Describe The occupational therapy intervention to improve/enhance driving skills	K, S	KH	Y	Lecture, DOAP session	Written, Viva voce			
Topic: OT in occupational hazards			**No of Competencies: 2**						
COTR 4. 1	Identify Occupational Hazards	K	K	Y	Lecture	Written, Viva voce			
COTR 4. 2	Describe the strategies for management of prevention of occupational hazards	K	K	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Occupational therapy in Disaster management				**No of Competencies: 3**					
COTR 5.1	Describe Anticipated calamities or Disaster in India	K	K	Y	Lecture	Written, Viva voce			
COTR 5.2	Identify the role of Occupational therapy in prevention of disaster	K	K	Y	Lecture	Written, Viva voce			
COTR 5.3	Describe the role of Occupational therapy in Acute & post disaster events as a team member	K	K	Y	Lecture	Written, Viva voce			
Topic: Environmental Vs. Architectural Barriers				**No of Competencies: 4**					
COTR 6. 1	Describe various factors in Assessment of Environment	K	K	Y	Lecture	Written, Viva voce			
COTR 6. 2	Describe the strategies to manage & overcome architectural barriers	K	KH	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COTR 6. 3	Indian & international guidelines for barrier free environment (Toilet, Kitchen, bed room, Ramp/stairs, public transport facility etc.)	K	KH	Y	Lecture	Written, Viva voce			
COTR 6. 4	Web accessibility	K	KH	Y	Lecture	Written, Viva voce			
Topic: Disability & Health evaluation, certification & rights to disabled person							**No of Competencies: 5**		
COTR 7.1	Describe International Classification of Functioning, Disability & Health: WHO's ICF 2001 & older editions of ICIDH	K	SH	Y	Lecture	Written, Viva voce			
COTR 7.2	Discuss Magnitude of disability problems, its causes & future trends	K	KH	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COTR 7.3	Describe Persons with Disability Act (1995), National Trust Act 1999, RCI Act 1992, Right to Person with Disabilities (RPwD) Act (2016) by Government of India	K	KH	Y	Lecture	Written, Viva voce			
COTR 7.4	Identify & describe the concepts of disability evaluation and certification in India and its Social Legislation	K	SH	Y	Lecture	Written, Viva voce			
COTR 7.5	Describe the role of Occupational Therapy in Prevention & detection of disability	K	KH	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
REHABILITATION									
Topic: Driving Rehabilitation for persons with Disabilities					**Competencies: 3**				
COTR 8.1	Describe the skills required in Driving	K	KH	Y	Lecture	Written, Viva voce			
COTR 8.2	Enumerate the factors affecting driving skills	K	KH	Y	Lecture	Written, Viva voce			
COTR 8.3	Describe standardised Assessments used in Driving	K	SH	Y	Lecture, DOAP	Written, Viva voce			
Topic: Mobility & seating			**No of Competencies: 5**						
COTR 9.1	Identify needs of assessment mobility aids	K	K	Y	Lecture	Written, Viva voce			
COTR 9.2	Describe assessment factors for mobility aids	K	KH	Y	Lecture	Written, Viva voce			
COTR 9.3	Discuss the prescription of mobility & seating aids & appliances	K	SH	Y	Lecture, DOAP	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
COTR 9.4	Identify the needfor selection of Assistive aids for mobility & ambulation	K	KH	Y	Lecture	Written, Viva voce			
COTR 9.5	Describe the factors considered for fitting of Assistive devicesfor ambulation	K	KH	Y	Lecture	Written, Viva voce			
Topic: Wheelchair & seating training & adaptations				**No of Competencies: 4**					
COTR 10.1	Describe Wheel chair selection process	K	KH	Y	Lecture	Written, Viva voce			
COTR 10.2	Describe Wheel chair assessment, assessment for adaptations	K	SH	Y	Lecture, DOAP	Written, Viva voce			
COTR 10.3	Describe types, parts, adaptations in wheelchair	K	SH	Y	Lecture, DOAP	Written, Viva voce			
COTR 10.4	Describe training wheelchair maneuvering & safety assessment in wheelchair	K	SH	Y	Lecture, DOAP	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Low cost aids & appliances			**No of Competencies: 3**						
COTR 11.1	Identify needs of low cost appliances	K	K	Y	Lecture	Written, Viva voce			
COTR 11.2	Describe innovative low cost aids & appliances	K	KH	Y	Lecture	Written, Viva voce			
COTR 11.3	Describe various therapeutic equipment, splints, adaptive devices used in CBR setup	K	KH	Y	Lecture	Written, Viva voce			
Topic: Organization & administration of CBR center				**No of Competencies: 3**					
COT R 12.1	Describe the principles of organization & administration.	K	KH	Y	Lecture	Written, Viva voce			
COT R 12.2	Prepare Organizational chart	K	K	Y	Lecture	Written, Viva voce			
COT R 12.3	Describe procedure for starting a new Rehabilitation Centre, survey required & planning	K	KH	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Additive Therapy		**No of Competencies: 5**							
COTR 13.1	Enumerate the principals & the modalities used in Ayurveda, Yoga and Naturopathy, Unani, Siddha, Homeopathy	K	K	N	Lecture	Written, Viva voce			
COTR 13.2	Describe the various approaches & techniques used in Virtual Reality	K	KH	Y	Lecture	Written, Viva voce			
COTR 13.3	Describe about Assistive & adaptive Technology	K	KH	Y	Lecture	Written, Viva voce			
COTR 13.4	Describe the various new approaches in rehabilitation such as Tele-rehabilitation and Robotics	K	KH	Y	Lecture	Written, Viva voce			
COTR 13.5	Describe Computer / IT application in rehabilitation	K	KH	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Discuss Adjunctive Therapy to OT			**No of Competencies: 3**						
COTR 14.1	Introduction to physiotherapy: Understand scope & importance of prevention, remediation of movement dysfunction and various techniques	K	K	N	Lecture	Written, Viva voce			
COTR 14.2	Introduction to speech & language therapy: Understanding speech, communication, language & swallowing problems in children & adults and intervention for the same	K	K	N	Lecture	Written, Viva voce			
COTR 14.3	Assistive technology solutions: Describe the concepts in assistive technology solutions	K	K	Y	Lecture	Written, Viva voce			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Pain Management in Occupational Therapy No of competencies: 3									
COTR 15.1	Define & classify pain	K	K	Y	Lecture	Written, Viva voce			
COTR 15.2	Describe the various assessment scales in pain	K	KH	Y	Lecture	Written, Viva voce			
COTR 15.3	Describe various modalities used in Pain management such as Kinesio- taping Aquatic therapy, Myofascial pain Syndrome management (Myofascial releaseand other pain management such as Taichi etc.) (To be used as an adjunct to Occupational Therapy intervention program only)	K	SH	N	Lecture	Written, Viva voce, Skill assessment			

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Physical agent modalities in adjunct to Occupational Therapy (PAMOT) **No of competencies: 1**									
COTR 16.1	Describe the application of Physical agent modalities (as an adjunct to OT only) to improve occupational performances	K	SH	Y	Lecture	Written, Viva voce, Skill assessment			

Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedell Crepeau, Ellen S. Cohn, Barbara A. Boyt Schell. Published by Lippincott Williams & Wilkins.
2. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins.
3. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby. Occupational Therapy and Physical Dysfunction: Principles, Skills and Practice by Annie Turner, Marg Foster, Sybil E. Johnson. Published by Churchill Livingstone.
4. Physical Rehabilitation by Susan B. O'Sullivan, Thomas J. Schmitz. Published by F. A. Davis Company. Indian Reprint by Jaypee Brothers.
5. Atlas of Orthoses and Assistive Devices by Bertram Goldberg, John D. Hsu. Published by F. A. Davis Company.
6. Community Based Rehabilitation by Malcolm Peat. Published by W. B. Saunders
7. WHO International Classification of Functioning manual
8. Hunter, Mackin, Callahan's Rehabilitation of the Hand and Upper Extremity by Evelyn Mackin, Anne D.Callahan. Published by Mosby
9. Yogic Exercises, physiologic and psychic processes by S. Dutta Ray. Published by Jaypee Brothers.
10. Physical Agent Modalities: Theory and Application for the Occupational Therapist by Alfred G. Bracciano. Published by Thorofare NJ SLACK Inc

OCCUPATIONAL THERAPY PRACTICES IN PSYCHIATRY

Course Description : This course offers the student to learn the foundational concepts of occupational therapy in psychiatry. It includes standardised and non-standardised occupational therapy psychiatric evaluations and assessments. The course introduces the student to various occupational therapy psychiatric settings and teaches theoretical and practical skills in using appropriate Models/ Frames of references/ Approaches for Occupational Therapy intervention throughout human lifespan.

Goal: The broad goal of Occupational therapy in psychiatry subject, is to enable the undergraduate student, to be an active participant in learning the knowledge, skills, behavioral, and attitudinal attributes, for assessing and providing occupational therapy intervention in psychiatry.

Course Objectives:

A. **Knowledge**: At the end of the course, the student shall be able to:

1. Outline the history and evolution of occupational therapy in psychiatry.
2. Apply the foundational knowledge of occupational therapy in psychiatry.
3. Relate to the various settings of occupational therapy in psychiatry.
4. To study the theory and practical skills in using appropriate Models/ Frames of references/ Approaches for Occupational Therapy intervention throughout human lifespan

B. *Skills:*

1. Select and perform the various evaluations and assessments used in occupational therapy in psychiatry.
2. Document occupational therapy assessment and intervention based on Occupational therapy practice framework.
3. Develop clinical skills to apply therapeutic use of self, activity prescription and grading, and environmental modifications.

C. *Attitude:*

1. Develop an empathetic and humanitarian approach.
2. Value confidentiality and priorities of the service seeker.
3. Respect towards the service seeker.

Course Outcome:

1. Know the history and evolution of occupational therapy mental health.
2. Describe the foundational knowledge of occupational therapy mental health.
3. Demonstrate the skills needed for occupational therapy assessment and intervention of various psychiatry conditions.

Scheme of examination for University Practical exam 100 Marks

Short case	Long Case	Viva voce	Communication skills	Total
25 marks	**50marks**	**20 marks**	**5 marks**	**100 marks**

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Competencies table: OCCUPATIONAL THERAPY PRACTICES IN PSYCHIATRY

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY PRACTICES IN PSYCHIATRY								
Topic: Theoretical basis of occupational therapy in Psychiatry **No. of competencies: 5**								
OTPSY 1.1	Enlist key milestones and advancements in the history of occupational therapy in Psychiatry.	K	K	Y	Lecture	Written, Viva voce		
OTPS 1.2	Explain historical context influencing contemporary practices and approaches in Psychiatry occupational therapy.	K	K	Y	Lecture	Written, Viva voce		
OTPSY 1.3	Explain major medical and psychological theories commonly applied in occupational therapy for Psychiatry interventions. i. Theory of object relations ii. Developmental theory iii. Behavioral theory iv. Cognitive Behavioral Therapy v. Client-centered therapy	K	K, KH	Y	Lecture	Written, Viva voce	OTDP II	

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
	vi. Neurosciences theories vii. Psychiatric and psychosocial rehabilitation viii. Explanatory models from other cultures ix. Development of Adaptive Skills x. Role Acquisition and Social Skills Training xi. Psychoeducation xii. Sensory Integration/Processing xiii. Cognitive theories							
OTPSY 1.4	Explain mental health and well-being, including key components, factors influencing mental well-being, and strategies for promoting and maintaining positive mental health.	K	K	Y	Lecture	Written, Viva voce		
OTPSY 1.5	Discuss the various mental health factors that impact human occupation across the lifespan, considering developmental stages and life transitions.	K	K, KH	Y	Lecture	Written		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Specific client factors related to mental health		**No. of competencies: 2**						
OTPSY 2.1	Define, classify, and describe neuropsychology and effect on occupational performance of the factors given below: i. Cognitive Skills ii. Cognitive Beliefs iii. Sensory Skills iv. Communication and Social Skills v. Coping Skills vi. Motivation vii. Emotion Regulation viii. Pain Regulation	K, S,A, C	SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 2.2	Describe evaluation and intervention of the factors given below: i. Cognitive Skills ii. Cognitive Beliefs iii. Sensory Skills iv. Communication and Social Skills v. Coping Skills vi. Motivation vii. Emotion Regulation viii. Pain Regulation	K, S,A, C	SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Assessment and Outcome Measurements in occupational therapy practices in psychiatry No. of competencies: 2								
OTPSY 3.1	Document Occupational therapy assessment and intervention in psychiatry based on Occupational Therapy Practice Framework.	K, S,A, C	K/S	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 3.2	Describe various methods of assessment and outcome measurements used in psychiatric occupational therapy practice, including both standardized and non-standardized approaches.	K	SH	Y	Lecture, DOAP	Written, Viva voce, Skill assessment, Practical		
Topic: Occupational therapy settings in mental health No. of competencies: 2								
OTPSY 4.1	Describe occupational therapy functioning in various psychiatric settings.	K	KH	Y	Lecture	Written/Viva voce		
OTPSY 4.2	Identify and describe the role of an occupational therapist as a team member in various psychiatric settings.	K	KH	Y	Lecture	Written		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Mental health occupational therapy interventions to support occupations				**No. of competencies: 11**				
OTPSY 5.1	Discuss various types of therapeutic media commonly used in psychiatric occupational therapy interventions.	K, S,A, C	K, S	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.2	Explain and demonstrate therapeutic use of self.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.3	Explain and demonstrate use of environment for occupational therapy practices in psychiatry.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPS 5.4	Explain and demonstrate use of occupation and activity for occupational therapy in psychiatry.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPSY 5.5	Explain and demonstrate use of physical activity for mental well- being.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.6	Explain and demonstrate use of play in occupational therapy practices in psychiatry.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.7	Explain and demonstrate use of vocation in occupational therapy practices in psychiatry.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.8	Explain and demonstrate therapeutic management of symptoms and behaviors.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPS 5.9	Explain and demonstrate group therapy.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPSY 5.10	Explain and demonstrate stress management techniques.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
OTPSY 5.11	Explain and demonstrate use of virtual reality.	K, S,A, C	K, SH	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		
Topic: Occupational therapy practices in psychiatry for children and adolescents No. of competencies: 4								
OTPSY 6.1	Explain neuropsychiatry of neurodevelopmental disorders relevant to occupational therapy process and practice.	K	K	Y	Lecture, DOAP	Written, Viva voce		
OTPS 6.2	Define, classify, and enumerate clinical presentation of neurodevelopmental disorders.	K	K	Y	Lecture, DOAP	Written, Viva voce		
OTPSY 6.3	Enlist common medical treatments and the effects of medications used in managing neurodevelopmental disorders.	K	K	Y	Lecture, DOAP	Written, Viva voce		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPSY 6.4	Explain occupational therapy assessment and management for the following Neurodevelopmental disorders: ● Intellectual Disabilities ● Communication Disorders ● Autism Spectrum Disorder ● Attention-Deficit Hyperactivity Disorder ● Specific Learning Disorder ● Motor Disorders	K, S,A, C	K/S	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		IV BOTh OT in Paediatrics
Topic: Mental health occupational therapy in adults		**No. of competencies: 4**						
OTPSY 7.1	Explain neuropsychiatry of adult psychiatric disorders relevant to occupational therapy process and practice.	K	K	Y	Lecture, DOAP	Written, Viva voce		
OTPSY 7.2	Define, classify, and enumerate clinical presentation of adult psychiatric disorders.	K	K	Y	Lecture, DOAP	Written, Viva voce		
OTPSY 7.3	Enlist common medical treatments and the effects of medications used in managing adult psychiatric disorders.	K	K	Y	Lecture, DOAP	Written, Viva voce		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPSY 7.4	Discuss occupational therapy assessment and management for the following: ● Schizophrenia Spectrum and other Psychotic Disorders ● Catatonia Disorders ● Bipolar and related Disorders ● Anxiety Disorders ● Obsessive Compulsive and related Disorders ● Trauma & Stressor related Disorders ● Dissociative Disorders ● Feeding and Eating Disorders ● Elimination Disorders ● Sleep-Wake Disorders ● Sexual Dysfunctions ● Gender Dysmorphia ● Disruptive, Impulse- control, and Conduct Disorders ● Substance-related and Addictive Disorders ● Neurocognitive Disorders ● Personality Disorders ● Paraphilic Disorders	K, S, A, C	K, S		Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		

Course Code	Objectives/Competency Students should be able to	Domains of Learning	Competencies	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Psychosocial aspects of disability No. of competencies: 1								
OTPSY 8.1	Explain occupational therapy assessment and intervention for psychosocial aspects of disability.	K	KH	Y	Lecture	Written/Viva voce		

Reference Books:

1. Occupational Therapy in Mental Health A Vision for Participation, Catana Brown
2. Occupational Therapy and Mental health, Jennifer Creek
3. Mental Health Concepts and Techniques for the Occupational Therapy Assistant, Mary Early
4. Occupational Therapy in Psychiatry and Mental health, Crouch- Rosemary
5. Payne's Handbook of Relaxation Techniques, Rosemary Payne, Marie Donoghy
6. Occupational Therapy for Children and Adolescents, Case-Smith

Occupational Therapy in Paediatric Conditions

COURSE DESCRIPTION: This course intends to familiarize students with terminology & abbreviations for efficient & effective chart reviewing & documentation for occupational therapy in paediatric conditions. It also gives overview of etiology as well as primary & secondary clinical characteristics, complications and their management. Discusses & integrates subsequent occupational therapy management of Neurodevelopment disorders, genetic disorders, and musculoskeletal conditions, infective conditions of CNS in paediatrics, with reference to red flag indicators, indications, contraindications & precautions to formulate appropriate therapeutic intervention.

GOAL: The goal to teach the undergraduate students OT in Pediatrics is to have the knowledge, skills and behavioural attributes to function effectively as an occupational therapist and subsequently improve functional independence and Quality of Life of the patient.

OBJECTIVES:

A. KNOWLEDGE:

At the end of the course, the student shall be able to:

1. Identify the clinical presentation of common paediatric conditions with special reference to Neurodevelopmental conditions like cerebral palsy, Autism, ADHD and other conditions like congenital, metabolic and muscular disorders
2. Outline and apply various modalities and methods of management including various approaches, exercise protocol, splinting process.
3. Recognize atypical behaviour in children and its OT management
4. Plan and provide occupational therapy treatment under supervision for occupational performance areas of independent living/daily living skills, play/leisure skills, social skills, pre-vocational/work adjustment skills

B. SKILLS:

At the end of the course, the student shall be

1. Develop clinical skills (history taking, clinical examination and other instruments of examination) to know the clinical manifestations and its impact on function.
2. Perform simple assessments using standardised methods, test batteries and instruments to assess performance components.
3. Assist the common bedside evaluations and assessment procedures related to paediatric conditions and be able to document their findings and intervention.

C. ATTITUDE:

1. The teaching and training in "OT in paediatric condition" must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.
2. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes of therapy
3. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

Scheme of examination for University Practical exam

Short case	Long Case	Viva voce	Communication skills	Total
25 marks	50marks	20 marks	5 marks	100 marks

Competencies table: Occupational Therapy in Paediatric Conditions

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OCCUPATIONAL THERAPY IN PAEDIATRIC CONDITIONS								
Topic: Development, Milestones and Reflexes			**No of Competencies: 3**					
OTPC 1.1	Demonstrate developmental Milestones and physiological measures in typical and child with developmental delay. (Physical, sensory motor, Cognitive perceptual, play and social and emotional)	K, S, A, C	KH, SH	Y	Lecture, Observation, DOAP, Case study, Case presentation	Written, Viva, Practical, OSCE	FOT II, OTDP2, Developm-ental Psychology	OT in Neurological Conditions, OT Practices in Psychiatry
OTPC 1.2	Demonstrate the normal and abnormal reflex patterns.	K, S, A	KH, SH		Lecture, practical, case presentation	Written, Viva, practical, DOAP		
OTPC 1.3	Explain the Paediatric occupational dysfunctions using the ICF and OTP Frameworks.	K, S	KH, SH		Lecture, Case Presentation	Written, Viva, Practical	OTDP II	
Topic: Approaches used in Paediatric Occupational therapy			**No of Competencies: 15**					

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 2.1	Describe the principles and application of various evidence based treatment approaches used in paediatric OT.	K	KH	Y	Lecture, Case study, case presentation, seminar	Written, Viva Voce, Practical		
OTPC 2.2	Document the OT assessment and intervention in Paediatric conditions based on Occupational Therapy Practice	K	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment ,		
OTPC 2.3	Discuss Philosophy of neurodevelopmental treatment	K	KH		Lecture	Written/ Viva Voce	OTDP I	
OTPC 2.4	Identify Key Principles of NDT-preparation of movement patterns , developmental sequences, sensorimotor experience ,key points of control, All day management	K/S	SH		Lecture/ DOAP session	Written/ Viva voce/Skill assessment /Practical	OTDP I	
OTPC 2.5	Document about Integrating NDT with Occupational Functioning Model in developmental Disorders	K/S	KH		Lecture/ DOAP session	Written/ Viva voce	OTDP I	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 2.6	Describe a Model for Sensory Processing Underlying Concepts for Sensory- Processing Patterns based on Sensory Integration Therapy	K	KH		Lecture	Written	OTDP I	
OTPC 2.7	Identify Patterns of Sensory Processing from Dunn's Model in children with Sensory processing disorders	K/S	SH		Lecture/DOAP session	Written/Viva voce/Skill assessment /Practicals	OTDP I, psychology, Psychiatry	
OTPC 2.8	Define Goals of Occupational Therapy Using Sensory Integration Strategies	K/S	KH		Lecture/ DOAP session	Written/ Viva voce	OTDP I, psychology, Psychiatry	
OTPC 2.9	Discuss Report Preparation for Sensory processing issues	K	KH		Lecture	Written/ Viva Voce	OTDP I, psychology, Psychiatry	
OTPC 2.10	Demonstrate the Sensory motor approaches such as Roods for improving Motor control	K/S	SH		Lecture/ DOAP session	Written/ Viva voce/Skill assessment /Practicals	OTDP I Neurology	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 2.11	Describe & discuss the use Play therapy in Paediatric Occupational therapy settings	K	KH		Lecture, small group discussion, Case based, study	Written/ Viva Voce	OTDP II	
OTPC 2.12	Describe adjunctive treatment measures in paediatric occupational therapy not limited to CIMT, , MFR, KT, HWT, Yoga, Animal assisted therapy, Aqua therapy, AAT.	K	KH,SH		Lecture/ DOAP session/case study/ seminar/ presentations	Written/ Viva voce/Skill assessment /Practical		
OTPC 2.13	Explain Classification-various neurological & neurosurgical Conditions & their considerations	K	KH		Lecture, DOAP	Written		
OTPC 2.14	Describe OT & Family based intervention in Occupational Therapy	K	KH		Lecture, DOAP	Viva, written	OT DP II	
OTPC 2.15	Demonstrate the appropriate documentation after follow up	K, S	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical	Paediatrics	

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
Topic: Introduction to Neurodevelopmental Disorders No of Competencies: 4								
OTPC 3.1	Define and Explain Classification of neurodevelopmental disorders with emphasis on Intellectual Disabilities, Communication Disorders, Autism Spectrum Disorder, Attention - Deficit Hyperactive Disorder, Specific Learning disorder, and other Sensory Processing dysfunctions	K,S	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical	Paediatrics	
OTPC 3.2	Explain the occupational dysfunctions in NDD (ICF and OTP Frameworks).	K, S	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical		
OTPC 3.3	Enlist Treatment Approaches using Motor, Sensory, cognitive, perceptual and client centred based interventions.	K, S	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 3.4	Alternative treatment Management in the management of Neurodevelopmental disorders	K, S	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical		
Topic :Early Intervention No of competencies 6								
OTPC 4.1	Discuss importance of Early intervention in developmental disabilities	K	KH	Y	Lecture	Written/ Viva voce	Paediatrics	
OTPC 4.2	List Legislation & influences on services for children with developmental deviations	K	KH		Lecture	Written		
OTPC 4.3	Identify Goal intervention of early	K, S	SH		Lecture, DOAP session	Written, Viva voce, Skill assessment, Practical		
OTPC 4.4	Discuss the Role of occupational therapy	K	KH		Lecture	Written, Viva voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 4.5	Choose Service delivery in early intervention program	K	KH		Lecture	Written		
OTPC 4.6	Inform Parent about role of Occupational Therapy & choose appropriate professional interaction	K, C	KH		Lecture, DOAP session	Written, Viva voce		
Topic - Cerebral Palsy No of competencies -11								
OTPC 5.1	Describe Historical Perspective	K	KH	Y	Lecture	written	OTD P I	CBOT & R
OTPC 5.2	Identify Scope of cerebral Palsy	K	KH		Lecture	written		
OTPC 5.3	Demonstrate Comparison of normal & abnormal development	K/S	SH		Lecture, DOAP session	Written, Viva voce, skills assessment, Practicals		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 5.4	Enumerate and describe the various Assessments in cerebral palsy	K	KH,SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical		
OTPC 5.5	Classify Types of cerebral palsy	K	KH		Lecture	written		
OTPC 5.6	Demonstrate understanding of Consequences of abnormal neurological patterns of development	K	KH		Lecture	Written, Viva voce		
OTPC 5.7	Identify the Dysfunctions in oral motor abilities	K	KH		Lecture	written		
OTPC 5.8	Identify & discuss Assessment of oral Motor disabilities	K	SH		Lecture, DOAP	Viva, skills assessment, Practicals		
OTPC 5.9	Identify the treatment approaches for oral motor disabilities	K	KH		Lecture	Written, Viva voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 5.10	Describe Overview of treatment methods in cerebral Palsy	K	KH		Lecture, DOAP	Written, Viva voce		
OTPC 5.11	Document Occupational Therapy treatment in cerebral Palsy	K, S	SH		Lecture, DOAP	Written, Viva voce, skills assessment		
Topic: Other Neurodevelopmental disorders No of competencies- 4								
OTPC 6.1	Discuss Incidence of Autism , ADHD & seizures disorders & their aetiology	K	KH	Y	Lecture	Written, Viva voce	Psychology	
OTPC 6.2	Describe the Developmental characteristics of Autism, ADHD & seizures disorders	K	KH		Lecture	Written, Viva voce		
OTPC 6.3	Describe Treatment & prognosis in Autism ,ADHD & seizures disorders	K	KH		Lecture	Written, Viva voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 6.4	Document Role of Occupational Therapy in the treatment of Autism, ADHD & seizures disorders	K, S, C	SH		Lecture, DOAP	Written, Viva voce, skills assessment		
Topic: OT in Neonatal Intensive care unit		**No of competencies- 6**						
OTPC 7.1	Understand the scope of Occupational Therapy & knowledge required for competent practice in the neonatal intensive care unit (NICU).	K	KH	Y	Lecture	Written, Viva voce		
OTPC 7.2	To understand the traditional occupational therapy approach of rehabilitation and developmental stimulation with current concepts of individualized developmentally supportive care in the NICU	K	KH		Lecture	Written, Viva voce		
OTPC 7.3	Define and compute postconceptional, chronologic, and corrected age.	K	KH		Lecture	Written, Viva voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 7.4	Identify potential negative effects of light, sound, and caregiving practices on infants in the NICU.	K, C	SH		Lecture, DOAP	Written, Viva voce, Skill assessments		
OTPC 7.5	Identify the basic principles and Techniques of developmentally supportive care & positioning in the NICU.	K, S	KH		Lecture, DOAP	Written, Viva voce		
OTPC 7.6	Understand the (limited) appropriate use for range of motion and splinting in the NICU	K	KH		Lecture	Written, Viva voce		
Topic: Occupational Therapy in Preschool -School setup No of competencies -10								
OTPC 8.1	List Legislation aspect of school based Occupational therapy	K	KH	Y	Lecture	Written	Psychology	
OTPC 8.2	Demonstrate understanding of Team approach in school set up	K, A, C	KH		Lecture	Viva voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 8.3	Interpret outcome of school based Assessment & inform team members, parents	K, S, C	KH		Lecture	Written, Viva voce		
OTPC 8.4	Present Program planning & documentation	K, S	SH		Lecture, DOAP	Written, Viva voce, Practicals		
OTPC 8.5	Identify components for Implementing program	K, S	KH		Lecture, DOAP	Written, Viva voce		
OTPC 8.6	Identify factors that contribute to typical or atypical development of visual perception	K, S	KH		Lecture, DOAP	Written, Viva voce		
OTPC 8.7	Choosing the Most Appropriate Type of Assessment	K	KH		Lecture	Written		
OTPC 8.8	Describe models and theories that may be used in structuring intervention plans for children who have problems with visual-perceptual skills	K	KH		Lecture	Written		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 8.9	Outline the intervention strategies & development of skills	K	KH		Lecture	Written		
OTPC 8.10	Demonstrate skills for assisting children in improving or compensating for problems with visual-perceptual skills	K, S	KH		Lecture, DOAP session	Written, Viva voce		
Topic : OT in degenerative & genetic disorders, Neural tube defects (Spina Bifida, Muscular dystrophy)								**No of competencies-4**
OTPC 9.9	List Etiology & Define Terms Neural Tube defects	K	KH	Y	Lecture	Written	Neurology, Orthopaedi -cs	
OTPC 9.2	Describe Neurological & Neurosurgical concerns, Functional limitations in neural tube defects	K	KH		Lecture	Written, Viva Voce		
OTPC 9.3	Discuss Orthopaedic concern	K	KH		Lecture	Written, Viva Voce		

Code No	Objectives/Competency Students should be able to	Domains of Learning	Competencies levels	Core Y/N	Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
OTPC 9.4	Describe Occupational Therapy Role in treatment	K, S	SH		Lecture, DOAP session	Written, Viva voce, Skill assessment, Practical		
Topic: OT in Paediatric oncology No of competencies-2								
OTPC 10.1	Identify conditions in paediatric oncology Enumerate occupational therapy goals in intervention	K	KH	N	Lecture	Written, Viva Voce	Surgery	
OTPC 10.2	Identify the Use of Play in Intervention	K	KH		Lecture, DOAP	Written, Viva Voce		

Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedell Crepeau, Ellen S. Cohn, Barbara A. Boyt Schell. Published by Lippincott Williams & Wilkins.
2. Occupational Therapy for Physical Dysfunction by Catherine A. Trombly, Mary Vining Radomski. Published by Lippincott Williams & Wilkins.
3. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby.
4. Occupational Therapy for Children by Jane Case-Smith. Published by Elsevier – Mosby.
5. Frames of Reference for Pediatric Occupational Therapy by Paula Kramer, Jim Hinojosa Published by Lippincott Williams and Wilkins.
6. Sensory Integration Therapy: Process & Practice by Anita Bundy
7. Treatment of Cerebral palsy & Motor delay by Sophie Levitt,Wieley-Blackwell,A John Weley & sons Ltd Publication publication Finnies Handling of young child with cerebral palsy at Home by Eva Bower;Elsevier publication
8. Illingworth's The development of the infant & young child (Normal & abnormal 0,Ronald Illingworth,,MKC Nair,paul Russell; Elsevier publication
9. Occupational therapy for children by Jane case smith,Jane Clifford O'Biren ,Mosby Elsevier publication

Annexure-I

BOT First Year Examination

Month…….Year……

Paper Code:

Subject –	
Time : 3 Hrs	**Maximum Marks : 100**

Section A

Multiple Choice Questions (MCQs) (L1, L2) 20 questions with one mark each

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20

Q.1	**Short Answer Questions (SAQs):(L2)** **Attempt any 6 questions out of 8**	**6x5=30 marks**
a.		*[CO: ____ ; L:____]*
b.		*[CO: ____ ; L:____]*
c.		*[CO: ____ ; L:____]*
d.		*[CO: ____ ; L:____]*
e.		*[CO: ____ ; L:____]*
f.		*[CO: ____ ; L:____]*
g.		*[CO: ____ ; L:____]*
h.		*[CO: ____ ; L:____]*

Section B

Q.2	**Brief Answer Questions (BAQs):(L2, L3)** **Attempt any 3 questions out of 5**	**3x10=30marks**
a.		*[CO: ____ ; L:____]*
b.		*[CO: ____ ; L:____]*
c.		*[CO: ____ ; L:____]*
d.		*[CO: ____ ; L:____]*
e.		*[CO: ____ ; L:____]*

Q.3	**Long Answer Questions (LAQs): (L3)** **Attempt any 1 question out of 2**	**20x1=20 marks**
a.		*[CO: ____ ; L:____]*
b.		*[CO: ____ ; L:____]*

****Difficulty distribution pattern as Easy (L1), Moderate (L2) and Difficulty (L3)***

Question Paper Structure:

Subject Code **Subject Abb.**

BOT (Main/ Remanded) Examination Month /Year
Subject Name
Paper I
(Sections A & B)

Time: 3 hrs **Maximum Marks: 100**

Use a separate answer book for each Section. For each section, student shall be allowed to take only one supplementary copy along with one main answer book
(Any Question having parts should be answered as whole at one place only)

Answers of MCQs are to be given on the OMR answer sheet. This OMR answer sheet will be collected from the examinees after 30 minutes of the commencement of the examination. Answers of MCQs, if written in the answer book, shall not be evaluated by the examiner.

BOT First Year Examination
Month…….Year……
Paper Code:

Subject –	
Time : 3 Hrs	**Maximum Marks : 50**

Multiple Choice Questions (MCQs) (L1, L2) 15 questions with one mark each
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Q.1	**Short Answer Questions (SAQs):(L2)** **Attempt any 4 questions out of 6**	**4x5=20 marks**
1.	*[CO: ____ ; L:____]*	
2.	*[CO: ____ ; L:____]*	
3.	*[CO: ____ ; L:____]*	
4.	*[CO: ____ ; L:____]*	
5.	*[CO: ____ ; L:____]*	
6.	*[CO: ____ ; L:____]*	

Q.2	**Brief Answer Questions (BAQs):(L2, L3)** **Attempt any 2 questions out of 4**	**2x10=20marks**
1.	*[CO: ____ ; L:____]*	
2.	*[CO: ____ ; L:____]*	
3.	*[CO: ____ ; L:____]*	
4.	*[CO: ____ ; L:____]*	

Difficulty distribution pattern as Easy (L1), Moderate (L2) and Difficulty (L3)

Question Paper Structure:

Subject Code **Subject Abb.**

BOT (Main/ Remanded) Examination Month /Year

Subject Name **Paper I**

Time: 3 hrs **Maximum Marks: 50**

Use a separate answer book for each Section. For each section, student shall be allowed to take only one supplementary copy along with one main answer book
(Any Question having parts should be answered as whole at one place only)

Answers of MCQs are to be given on the OMR answer sheet. This OMR answer sheet will be collected from the examinees after 30 minutes of the commencement of the examination. Answers of MCQs, if written in the answer book, shall not be evaluated by the examiner.

Annexure-II

I BOT

HUMAN PHYSIOLOGY (PI) (100 marks)

Section A

Multiple Choice Questions (MCQs) (L1,L2) (20 marks)

1. The pacemaker of the heart that normally determines heart rate is the:
   a) Atrioventricular (AV) node
   b) Sinoatrial (SA) node
   c) Purkinje system
   d) Bundle of His
2. Which hormone increases blood glucose by stimulating glycogenolysis and gluconeogenesis?
   a) Insulin
   b) Glucagon
   c) Aldosterone
   d) Growth hormone
3. The primary site of erythropoietin production in adults is the:
   a) Liver
   b) Red bone marrow
   c) Kidney (peritubular interstitial cells)
   d) Spleen
4. In a normal ventilatory cycle, the greatest change in alveolar ventilation occurs with a change in:
   a) Tidal volume
   b) Dead space
   c) Respiratory rate alone
   d) Functional residual capacity
5. The motor unit recruitment pattern during increasing voluntary force follows:
   a) Small-to-large (size principle)
   b) Large-to-small
   c) Random recruitment
   d) Only type II fibers recruited first
6. The primary neurotransmitter at the neuromuscular junction is:
   a) Norepinephrine
   b) Acetylcholine
   c) Dopamine
   d) GABA
7. Which part of the nephron is impermeable to water under normal circumstances (without ADH)?
   a) Proximal tubule
   b) Descending limb of the loop of Henle
   c) Ascending limb of the loop of Henle
   d) Collecting duct
8. The rising phase of a neuronal action potential is primarily due to:
   a) Opening of voltage-gated K+ channels
   b) Opening of voltage-gated Na+ channels
   c) Opening of chloride channels
   d) Closing of Na+/K+ ATPase
9. Stroke volume is increased by all of the following except:
   a) Increased venous return
   b) Increased sympathetic stimulation
   c) Increased afterload
   d) Increased myocardial contractility
10. The chloride shift (Hamburger phenomenon) in RBCs facilitates:
    a) Oxygen uptake in tissues
    b) CO_2 transport as bicarbonate from tissues

c) Iron recycling
d) Platelet aggregation

11. Which immunoglobulin is the most abundant in primary immune response and can cross the placenta?
    a) IgA
    b) IgM
    c) IgG
    d) IgE
12. The primary mechanism by which parathyroid hormone (PTH) increases serum calcium is:
    a) Increasing renal phosphate reabsorption
    b) Stimulating osteoclast-mediated bone resorption
    c) Decreasing vitamin D activation
    d) Increasing intestinal calcium excretion
13. The major buffer system in extracellular fluid is:
    a) Haemoglobin buffer
    b) Phosphate buffer
    c) Bicarbonate buffer
    d) Protein buffer
14. Respiratory center sensitivity to CO2 is mediated mainly by:
    a) Peripheral chemoreceptors in carotid bodies
    b) Central chemoreceptors in medulla
    c) Baroreceptors in aortic arch
    d) Stretch receptors in lungs
15. Cardiac output (CO) equals:
    a) Heart rate × total peripheral resistance
    b) Stroke volume × heart rate
    c) Stroke volume × end-diastolic volume
    d) Heart rate ÷ stroke volume
16. The primary effect of aldosterone on the kidney is to:
    a) Increase water reabsorption by opening aquaporins
    b) Increase sodium reabsorption and potassium secretion in the distal nephron
    c) Decrease sodium reabsorption in proximal tubule
    d) Inhibit renin release
17. Which receptor type mediates slow, long-lasting sympathetic effects via cAMP?
    a) Nicotinic receptors
    b) Muscarinic M2 receptors
    c) Beta-adrenergic receptors
    d) GABA receptors
18. The hormone primarily responsible for milk ejection (let-down reflex) is:
    a) Prolactin
    b) Oxytocin
    c) Estrogen
    d) Progesterone
19. Which blood gas change is most characteristic of acute respiratory acidosis?
    a) Decreased PaCO2, increased HCO3-
    b) Increased PaCO2, normal HCO3- (initially)
    c) Increased PaO2, decreased PaCO2
    d) Decreased PaCO2, decreased H+ concentration
20. The maximum work rate sustainable by aerobic metabolism is limited primarily by:
    a) Muscle glycogen stores
    b) Cardiac output and oxygen delivery
    c) Pulmonary diffusion capacity only
    d) Neural fatigue alone

Q1. Short Answer Questions (SAQs): (L2)
(Attempt any 6 questions out of 8) (6x5=30 marks)

a. Describe the Frank–Starling mechanism and its significance for stroke volume regulation.
b. Explain the renal handling of glucose and the clinical basis of renal glycosuria and threshold.
c. Define action potential refractory periods (absolute and relative) and explain their functional importance in cardiac rhythm.
d. Describe insulin's effects on carbohydrate metabolism in muscle and liver and clinical implications for exercise in people with diabetes.
e. Outline the physiology of synaptic transmission at a chemical synapse and one pharmacological mechanism that can modulate it.
f. Explain the physiological basis of ventilation–perfusion (V/Q) matching and the effect of V/Q mismatch on gas exchange.
g. Describe how the autonomic nervous system activity alters pupil size, naming the receptors and pathways involved.
h. Explain the physiological mechanisms of fever (pyrexia), the role of cytokines, and hypothalamic set-point change.

Section B

Q2. Brief Answer Questions (BAQs): (L2,L3)
(Attempt any 2 questions out of 5) (3x10=30marks)

a. A patient presents with orthostatic dizziness. Explain the short-term physiological responses that normally prevent orthostatic hypotension and possible reasons these might fail.
b. Analyse the physiological changes during sustained aerobic exercise (cardiovascular, respiratory, metabolic) and implications for graded return-to-activity programs.
c. A child presents with polyuria and polydipsia. Compare pathophysiology and physiology-based bedside tests that help differentiate diabetes mellitus from diabetes insipidus. (5 marks)
d. Describe mechanisms of acid-base compensation for metabolic acidosis and how the respiratory and renal systems contribute over time. (5 marks)
e. Correlate the pathophysiology of heart failure with reduced ejection fraction (HFrEF) to common signs (e.g., pulmonary oedema, fatigue) and explain the rationale for ACE inhibitors in management. (5 marks)

Q3.Long Answer Questions (LAQs): (L3)

Attempt any 1 question out of 2 **(1x20=20 marks)**

a. A 65-year-old patient with chronic hypertension presents with exertional dyspnea Using physiology:
   i) Analyse how long-standing hypertension leads to left ventricular hypertrophy and eventual heart failure.
   ii) Describe the compensatory mechanisms (neurohormonal and hemodynamic) and how they become maladaptive.
   iii) Outline OT-relevant assessment priorities and design an activity program that accounts for cardiac physiology and safety (include monitoring parameters and red flags).

b. A young adult with repeated syncope during high-intensity sports has been found to have exercise-induced hypoxemia.
   i) Explain physiological determinants of oxygen delivery during exercise and possible causes of exercise-induced desaturation (cardiac shunts, diffusion limitation, V/Q mismatch, anaemia). ii) Propose investigations to differentiate these causes and interpret what key results would suggest each cause. iii) Recommend OT adaptations and pacing strategies to maintain participation while investigations and management proceed.

BIOCHEMISTRY (BC) (50 marks)

Multiple Choice Questions (MCQs) (10 mark)

- Answer all 10 questions. Each question carries 1 mark.

1. The primary source of immediate energy in the body is:
   a) Protein
   b) Glucose
   c) Fatty acid
   d) Urea
2. The enzyme that begins starch digestion in the mouth is:
   a) Pepsin
   b) Salivary amylase
   c) Lipase
   d) Trypsin
3. The storage form of glucose in the body is:
   a) Lactose
   b) Glycogen
   c) Sucrose
   d) Cellulose
4. The main protein responsible for oxygen transport in blood is:
   a) Albumin
   b) Haemoglobin
   c) Collagen
   d) Keratin
5. The end product of amino acid nitrogen metabolism is:
   a) Uric acid
   b) Urea
   c) Creatine
   d) Glucose
6. A deficiency of vitamin C causes:
   a) Rickets
   b) Scurvy
   c) Beriberi
   d) Pellagra
7. The principal lipid transported in plasma is:
   a) Triglyceride
   b) Glycogen
   c) Starch
   d) Cellulose
8. DNA is composed of:
   a) Amino acids
   b) Nucleotides
   c) Fatty acids
   d) Monosaccharides
9. The hormone that lowers blood glucose is:
   a) Glucagon
   b) Insulin
   c) Adrenaline
   d) Cortisol
10. The biochemical basis of dehydration commonly involves loss of:
    a) Water and electrolytes
    b) Only protein
    c) Only glucose
    d) Only vitamins

Q1. Short Answer Questions (SAQs): Answer 4 out of 6): (L2) (20 marks)

a. Define enzymes and briefly explain their clinical significance in diagnosis.
b. Describe the biochemical functions of carbohydrates in the human body.
c. Explain the role of proteins and mention two examples of plasma proteins.
d. Briefly describe fat-soluble vitamins and mention one deficiency disease for any two of them.
e. Explain the importance of water and electrolytes in maintaining homeostasis.
f. What are nucleic acids? Briefly explain their significance in heredity.

Q2. Brief Answer Questions (BAQs): Answer 2 out of 3): (L2,L3) (2x10=20 marks)

a. A patient with poorly controlled diabetes mellitus has fatigue and frequent urination. Explain the biochemical basis of diabetes and mention one laboratory marker used for monitoring.
A. A malnourished child presents with weakness, oedema, and poor wound healing. Analyse the biochemical importance of proteins and identify possible nutritional deficiencies.
B. A person on a restricted diet develops muscle cramps and weakness. Discuss the likely electrolyte imbalance and explain its biochemical significance for normal muscle and nerve function.

Annexure-III

I BOT

Human Anatomy

CO1: Gain comprehensive knowledge of the human body's structure and function, including normal anatomical position, planes, relations, comparisons, laterality, and movements.

CO2: Describe different types of cells and explain their structure and functions in health and disease.

CO3: Identify and describe the major components of the skeletal system, classify different types of bones, and provide an example of each type.

CO4: Learn and identify the major components of the integumentary system and explain their functions in protection, thermoregulation, and sensation.

CO5: Differentiate the three types of muscle tissue and describe the overall functions of the muscular system in movement, posture, and heat production.

CO6: Learn and identify the major components of the digestive, circulatory, respiratory, endocrine, reproductive, and urinary systems and describe their functions.

CO7: Learn and explain the major components of the nervous system, identify parts of the brain and other key organs, and relate their functions to clinical practice.

CO8: Recognise the importance of in-depth anatomical knowledge for medical education, appreciate the role of theoretical knowledge in clinical practice, and assess how these skills support future professional roles and overall medical training.

Human Physiology

CO1: Understand the physiology and basic regulatory concepts governing life processes at molecular, cellular, tissue, organ, and system levels, and define homeostasis and its mechanisms in maintaining a constant internal environment.

CO2: State the functions of each organ system, explain the mechanisms by which they operate, and relate these functions to their anatomy and histology.

CO3: Understand and demonstrate the interrelations among organ systems and predict their integrated responses to physiological and pathological stresses.

CO4: Explain the physiology of the neuromuscular system, including regulation of strength and velocity of contraction via muscle receptors and nervous system interactions.

CO5: Describe the function of the cardiovascular, circulatory, and respiratory systems at rest and during exercise, and their adaptations to training.

CO6: Explain the pathophysiology of common diseases related to major organ systems and link these to underlying physiological mechanisms.

CO7: Perform, analyse, and report physiological experiments and observations; recognise principal tissue structures; identify blood cells and their features on a film.

CO8: Clinically examine the cardiovascular and respiratory systems, record BP and pulse at rest and in different postures, and demonstrate effective, sensitive, and respectful communication with patients and colleagues while applying newly gained knowledge in practice.

Biochemistry

CO1: Explain the scientific basis for understanding mechanisms of metabolic and functional disturbances, including the principles governing the structures of macromolecules, their role in molecular recognition, and the molecular and functional organisation of the cell and its subcellular components.

CO2: Describe the chemistry and metabolism of carbohydrates, lipids, and proteins, along with purines, pyrimidines, and minerals; explain the integration and homeostasis of these metabolic pathways and

their related disorders.
CO3: Understand the processes of acid–base and water–electrolyte balance and imbalance, explain the concept and role of enzymes, and recognise the biochemical functions of vitamins and the clinical manifestations of their deficiencies.

Fundamentals of OT I
CO1: Remember and understand the conceptual foundations of ethics and documentation in occupational therapy.
CO2: Understand the therapeutic relationship among rehabilitation team members, the patient, and the therapist.
CO3: Understand assessment methods to improve participation in social and community life.
CO4: Understand the use of therapeutic activity and apply activity analysis to select appropriate activities for therapeutic use.
CO5: Understand principles and applications of ROM and muscle strength assessment and their importance in occupational therapy; demonstrate assessment skills for ROM and muscle strength.
CO6: Analyse therapeutic activities in relation to clients' demands for participation in daily skills and demonstrate respect and empathy in conduct with patients.

Fundamentals of OT II
CO1: Remember and understand the conceptual foundations of ethics and documentation in occupational therapy.
CO2: Understand the therapeutic relationship between the patient and the therapist.
CO3: Understand the role of activities of daily living in maintaining health, well-being, and participation in social and community life.
CO4: Understand the concept of work and work evaluation and apply this knowledge to support return to work in future practice.
CO5: Understand basic hand functions, assessment tools, equipment, materials, and tools used in occupational therapy; demonstrate making a paper pattern of commonly used hand splints using splint-making principles.
CO6: Analyse jobs with respect to psychological and physical demands and demonstrate respect and empathy in conduct with patients.

English & Communication Skills (NUE)
CO1: Converse and write texts/documents in English; remember and understand the importance and process of communication.
CO2: Explain education and career skills, planning, decision-making, organisation, culture, and etiquette.
CO3: Describe methods of creating a first impression and demonstrate appropriate self-introduction and presentation (physical appearance) at university and during academic meetings and conferences.

Environmental Sciences (NUE)
CO1: Remember and understand the ecological and biological concepts of the environment.
CO2: Explain forms of energy, effects of climate change, and conservation methods related to greenhouse gas emissions.
CO3: Understand and be aware of environmental policy, governance, and ethics.

II BOT

Pathology & Microbiology

CO1: Describe the aetiology, pathogenesis, and clinico-pathological correlation of common infectious and non-infectious diseases.

CO2: Describe cellular changes after cell injury, the healing process, and the normal and altered functions of organ systems in disease, with their clinical significance.

CO3: Understand common haematological disorders, necessary diagnostic investigations, and the effects of haematological diseases on the human body.

CO4: Describe the disease process, diagnosis, the role of immunity, and define characteristics of microorganisms causing diseases.

Pharmacology

CO1: Describe concepts of pharmacology, including pharmacokinetics and pharmacodynamics, and discuss the effects of commonly used drugs on body function and different cell types.

CO2: Discuss therapeutic and adverse effects, contraindications, and precautions for commonly used drugs in pain, inflammatory, cardiovascular, respiratory, neurological, and oncological disorders.

CO3: Explain the effects of commonly prescribed drugs on exercise and movement and identify red and yellow flags for occupational therapy prescription based on pharmacological effects.

Psychology

CO1: Describe the fields of psychology, schools of thought, and explain terms such as attention, perception, motivation, emotion, cognition, and thinking.

CO2: Describe the principles of learning and various aspects of psychosocial learning and psychological maturation during human development, growth, and ageing.

CO3: Describe aspects of school psychology, including psychological and behavioural issues in school children and their therapeutic interventions.

CO4: Describe abnormal behaviours, clinical symptoms, psychosocial management, intellectual disabilities, developmental disorders of childhood and adolescence, and related psychosocial interventions.

CO5: Describe neuropsychological experiments on the sensory system, learning, memory, perception, emotion, motor behaviours, reaction time, motivation, rewards, and attention; understand skills to assess these domains and describe psychosocial aspects of industrial psychology.

Biomechanics & Kinesiology

CO1: Explain biomechanics and kinesiology related to the human body and their application in occupational therapy.

CO2: Describe concepts of orthoses, splinting, and adaptive devices and their application to occupational therapy.

CO3: Develop, design, and fabricate orthoses based on biomechanical principles; demonstrate skills in designing and fabricating splints, orthoses, and adaptive devices.

CO4: Describe the importance of mobility in participation in life skills; demonstrate effective transfer techniques, wheelchair mobility, gait analysis, and pathological gaits.

CO5: Develop skills to assess the effect of patho-mechanics on joints and apply general biomechanics to analyse movements; demonstrate safe transfer techniques and assess mobility skills in dependent patients.

CO6: Apply knowledge and skills for the benefit and welfare of patients; develop a sense of responsibility, behavioural skills, and a humanitarian approach while communicating with patients, relatives, society, and co-professionals about orthoses and adaptive devices.

Occupational Therapy Diagnostics And Process -I

CO1: Understand growth and development and its theoretical basis in a typically developing human being.

CO2: Explain the concept of spatiotemporal adaptation in occupational therapy.

CO3: Explain the concept of development of muscle tone and abnormalities in tone; describe characteristics of coordinated movements.
CO4: Describe various neurophysiological techniques of intervention, developmental reflexes, and their assessment.
CO5: Develop skills to assess coordination and developmental reflexes; demonstrate neurophysiological techniques on a dummy and use standardised tools for individual muscle testing and assessment of muscle tone.
CO6: Apply knowledge and skills for patient welfare; demonstrate responsible assessment of physical dysfunctions, safe handling in neurophysiological techniques, and a humanitarian approach in communication with patients, relatives, and co-professionals.

Occupational Therapy Diagnostics And Process -II
CO1: Explain models and frames of reference in occupational therapy.
CO2: Explain the concept of occupational adaptation.
CO3: Describe the concepts of functional cast bracing and play as an occupational therapy modality.
CO4: Describe evaluation of physical dysfunction in sensation, perception, cognition, and developmental reflexes; develop skills to assess sensations, perception, and cognition.
CO5: Demonstrate designing of functional cast bracing and use of standardized tools for hand function assessment.
CO6: Apply knowledge and skills for patient welfare; demonstrate responsible assessment of physical dysfunctions, safe handling in neurophysiological techniques, clinical reasoning in intervention planning, and a humanitarian approach in communication with patients, relatives, and co-professionals.

Computer Science (NUE)
CO1: Describe basic parts and operation of computers and smartphones; understand their smart use in occupational therapy and daily activities.
CO2: Demonstrate smart typing, file navigation, and digital skills to create and edit documents, spreadsheets, and presentations, including use of Indian languages.
CO3: Use email effectively, safely create and upload videos, and navigate websites for professional and academic communication.

First aid and emergency care (NUE)
CO1: Define basic principles of first aid, explain various systemic disorders, and describe poisoning, foreign objects, and basic life support.
CO2: Demonstrate the management of injuries and wounds, first-aid measures for systemic disorders, burns, poisoning, foreign objects, and apply basic life support procedures.
CO3: Apply knowledge and skills for the benefit and welfare of patients, show responsibility towards holistic patient care and prognostic outcomes, and develop behavioural skills and a humanitarian approach in communication with patients, relatives, society, and co-professionals.

III BOT

Medicine & Cardiovascular Medicine

CO1: Describe the diagnostic process of common clinical disorders, including infectious, nutritional, tropical, cardiovascular, and environmental diseases.

CO2: Explain the modes of management, including drug therapeutics, dosage, side effects, toxicity, interactions, indications, and contraindications.

CO3: Interpret common diagnostic and investigative procedures and recognise appropriate referral requirements.

CO4: Demonstrate clinical skills in history taking, clinical examination, routine investigations, and bedside evaluation of medical and cardiovascular conditions.

CO5: Recognise acute emergencies and geriatric disorders and describe their management, primary care, and referral.

Occupational Therapy in Medical Conditions

CO1: Identify clinical presentation of common medical conditions (cardiovascular, pulmonary, HIV, Rheumatoid Arthritis, Leprosy, haemophilia).

CO2: Outline and apply management modalities, including approaches, exercise protocol, and splinting process.

CO3: Recognise geriatric disorders and obesity with OT management; plan and provide OT treatment for daily living, pre-vocational, play/leisure, and social skills.

CO4: Develop clinical skills to assess manifestations and functional impact; perform simple standardised assessments of performance components.

CO5: Assist bedside evaluations for medical and cardiovascular conditions; apply knowledge and skills for patient welfare.

CO6: Develop skills for independent living; participate in patient/family education; show responsibility for holistic care; develop humanitarian communication with patients, relatives, society, and co-professionals.

Neurology and Paediatrics

CO1: Understand the basics of the diagnostic process of common Neurology and Paediatrics disorders related to the profession.

CO2: Outline various modes of management, including medical management, drug therapeutics, side effects, toxicity, interactions, indications, contraindications, and basics of surgical management.

CO3: Propose diagnostic and investigative procedures; understand first-level management of acute emergencies and decide timing and level of referral if required.

CO4: Develop clinical skills for history taking, examination, and evaluation of common Neurology and Paediatrics disorders and emergencies; perform simple routine OT evaluations.

CO5: Assist common clinical assessment procedures for Neurology and Paediatrics conditions; refer patients to secondary/tertiary care after screening if needed.

Work Physiology & Ergonomics

CO1: Identify and understand the physiology of aerobic and anaerobic exercises, processes, and various tests used.

CO2: Understand energy expenditure at work, rest, and leisure; recognise factors affecting physical performance.

CO3: Provide training based on aerobic and anaerobic capacity; recognise physical health, capacity, and longevity in the aged.

CO4: Understand anthropometry, environmental physiology, occupational psychology, and their role in ergonomics; apply ergonomic principles in the office and industry.

CO5: Define work-related musculoskeletal disorders (WRMSDs) and their reduction; optimise man–machine integration; apply ergonomics and work physiology in OT; assess workplace layout

requirements.

Surgery & Orthopaedics
CO1: Understand fracture healing, complications, and management of fractures, dislocations, and deformities of UE, LE, and spine.
CO2: Classify symptoms of degenerative, inflammatory joint conditions, and metabolic disorders; understand the aetiology of work-related musculoskeletal injuries and tumours.
CO3: Understand biomechanics in sports overuse injuries; know aetiology, pathophysiology, diagnosis, and management of common surgical, cardiac, and neurosurgical problems.
CO4: Define fluid and electrolyte replacement therapy, including blood transfusion; describe common malignancies and ENT/gynaecological diseases with their management.
CO5: Develop clinical skills for surgical disorders and emergencies; refer patients after screening; perform routine OT evaluations; assist clinical assessments; apply knowledge for patient welfare with holistic care and humanitarian communication.

Psychiatry
CO1: List general causes and preventive measures in psychiatric disorders; classify psychiatric conditions and understand general treatment protocols.
CO2: Conduct full psychiatric history and mental state examination; explain biological, psychological, and social factors precipitating psychiatric disorders.
CO3: Explain condition and management to patients and relatives; respond empathically to mental illness; treat patients and caregivers with professionalism and confidentiality.

Occupational Therapy In Surgical Conditions
CO1: Demonstrate knowledge of common surgical problems in amputation, burns, PVD, hand injuries, and cancer.
CO2: Acquire knowledge of functional limitations in blind, deaf, and dumb; understand various surgical treatments and procedures.
CO3: Understand occupational therapy protocols for surgical conditions and their expected outcomes; evaluate and assess patients with surgical conditions.
CO4: Perform basic procedures like oedema assessment, splinting, and compression garments; develop motor skills for applying protocols and planning orthosis and prosthesis.
CO5: Evaluate environmental barriers; provide treatment for independent living, pre-vocational, play/leisure, and social skills; show a caring attitude and humanitarian communication with patients, relatives, society, and co-professionals.

Research Methodology & Biostatistics
CO1: Choose the appropriate research design and develop an appropriate research hypothesis for a project.
CO2: Develop an appropriate framework for research studies.
CO3: Know the various statistical methods to solve different types of problems.
CO4: Appreciate the importance of computers in hospitals.

IV BOT

Occupational Therapy in Musculoskeletal Conditions

CO1: Understand Occupational Therapy evaluation and problem identification in Orthopaedic conditions.
CO2: Understand the use of appropriate Models/ Frames of reference/ approaches in Occupational Therapy intervention in Orthopaedic conditions.
CO3: Understand the application and fabrication of orthoses-related Orthopaedic conditions.
CO4: Understand the Occupational Therapy assessment and intervention for injuries, fractures and arthritic conditions of the upper extremity, lower extremity and spine.
CO5: Understand the Occupational Therapy assessment and intervention for metabolic bone disorders and repetitive stress syndrome, Occupational Therapy assessment and intervention for congenital Orthopaedic deformities, and Occupational Therapy assessment and intervention for neuromuscular deformities in Cerebral Palsy and Poliomyelitis and the role of Occupational Therapy in Sports Medicine.
CO6: Select and perform the various evaluations and assessments used in Occupational Therapy in Orthopaedic conditions, document occupational therapy assessment and intervention based on the Occupational therapy practice framework and develop clinical skills to apply therapeutic use of self, activity prescription and grading, and environmental modifications.
CO7: Develop an empathetic and humanitarian approach, value confidentiality and priorities of the service seeker, and respect towards the service seeker.

Occupational Therapy Services & Management

CO1: Understand Bioethics, Occupational Therapy code of ethics, service management, human and non-human environment, and OT process.
CO2: Describe OT practice in different setups, human sexuality, disability management, and stress management strategies.
CO3: Describe evidence-based practice, industrial rehabilitation, ergonomic assessment, and entrepreneurship in OT practice.

Community Medicine, Public Health & Sociology

CO1: Define community medicine, epidemiology, preventive medicine, nutrition, and public health.
CO2: Describe social and behavioural sciences, health programs, international health agencies, occupational health, sanitation, biowaste management, and disaster management.
CO3: Identify community health problems, social problems of disabled individuals, healthcare facilities, and the role of occupational therapists and medical social workers.

Occupational Therapy In Neurological Conditions

CO1: Identify the clinical presentation of common neurological conditions with special reference to conditions like Stroke, Parkinsonism, Multiple Sclerosis and other conditions like metabolic and muscular disorders.
CO2: Outline and apply various modalities and methods of management, including various approaches, exercise protocol, and splinting process.
CO3: Recognize Occupational dysfunctions in relation to person, task and environment due to neurological involvement.
CO4: Plan and provide occupational therapy treatment under supervision for occupational performance areas of independent living/daily living skills.
CO5: Plan and provide occupational therapy treatment under supervision for occupational performance areas of leisure skills and social skills.
CO6: Plan and provide occupational therapy treatment under supervision for occupational performance areas of pre-vocational/work adjustment skills.

Community Occupational Therapy & Rehabilitation

CO1: Describe community-based rehabilitation, the difference between IBR & CBR, the role of the

occupational therapist in the team, wellness program, community integration, mobility, and organisation of the community-based rehabilitation centre.
CO2: Understand low-cost aids & appliances, assistive technologies, additive therapies, adjunctive therapies, and Physical agent modalities used in Occupational Therapy intervention.
CO3: Understand the role of occupational therapy intervention in disaster management, identify environmental & architectural barriers, and plan intervention to overcome them.
CO4: Evaluate the disability as per Gazette guidelines, laws for certification, perform a disability assessment for a person with disability, and identify pain management and plan intervention in occupational therapy.
CO5: Identify occupational demands in driving, plan strategies for driving rehabilitation, and evaluate factors responsible for successful mobility and adaptations used for wheelchair mobility & seating adaptations.

Occupational Therapy Practices In Psychiatry
CO1: Know the history and evolution of occupational therapy in mental health.
CO2: Describe the foundational knowledge of occupational therapy mental health.
CO3: Demonstrate the skills needed for occupational therapy assessment and intervention of various psychiatric conditions.

Occupational Therapy in Paediatric Conditions
CO1: Identify the clinical presentation of common paediatric conditions with special reference to Neurodevelopmental conditions like cerebral palsy, Autism, ADHD and other conditions like congenital, metabolic and muscular disorders.
CO2: Outline and apply various modalities and methods of management, including various approaches, exercise protocol, and splinting process.
CO3: Recognise atypical behaviour in children and their OT management and perform simple assessments using standardised methods, test batteries and instruments.
CO4: Plan and provide occupational therapy treatment for independent living/daily living skills, play/leisure skills, social skills, and pre-vocational/work adjustment skills.
CO5: Develop clinical skills, responsibility, and a humanitarian approach for holistic patient care and communication with patients, relatives, society, and co-professionals.

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