

Gopal Narayan Singh University
Jamuhar, Sasaram, Rohtas (Bihar)
Faculty of Medicine



ORDINANCES AND SYLLABUS GOVERNING
TO 05 YEARS (04 YEARS + 01 YEAR INTERNSHIP)
BACHELOR OF OCCUPATIONAL THERAPY [BOT]
PROGRAMME

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10/05/25

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Bachelor of Occupational Therapy (BOT), NPIAS



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Curriculum of Bachelor of Occupational Therapy

(4 + 1 = 5 years Program)

Introduction:

The purpose of this curriculum is to delineate the cognitive, affective and psychomotor skills deemed essential for completion of this program and to perform as a competent Occupational Therapist.

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 patient education about various occupational therapy interventions to the patient and care givers.

Expectations from the future Occupational Therapy graduates

1. Coursework entitles independent Occupational Therapy assessment and treatment in any healthcare delivery centers in India by the graduates.
2. 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 red and yellow flags.
3. Course works will develop skill in the graduates for physical/ functional diagnosis, treatment planning, management, administration of Occupational Therapy treatment.
4. Graduates can find employment opportunities in hospitals/nursing homes/sports teams/fitness centers/Community Rehabilitation /Health planning boards/health promotions services in both private and public sectors / rehabilitation centers/ leprosy center/ pediatric center/ geriatric center/ industrial sectors/ Schools/ sports sectors as well as in independent occupational therapy clinics.
5. 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

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advances, new technology and research. The professional should opt for continuous professional education credits offered by national and international institutes.

6. Terminal Objectives (Expected Outcomes):
7. 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 patients and clients across the lifespan and along the continuum of care from wellness and prevention to rehabilitation of dysfunction.
8. The graduate will utilize critical inquiry and evidence-based practice to make clinical decisions essential for autonomous practice.
9. 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.
10. The graduate will demonstrate lifelong commitment to learning and professional development.

Eligibility for admission:

Selection procedure:

He/she has passed the Higher Secondary (10+2) or equivalent examination by recognized any Indian board or a duly constituted Board with pass marks and (45 %) in aggregate of physics, chemistry and biology (Botany & Zoology),

1. 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: Physics, Chemistry, Biology and English up to 12th Standard level.
2. Candidates who have passed the Senior Secondary school Examination of National Open School with a minimum of 4 subjects with any of the following group subjects with pass marks (min.45 % marks).
 - a. English, Physics, Chemistry, Botany, Zoology
 - b. English, Physics, Chemistry, and Biology
3. He/she has attained the age of 17 years as on - current year.

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- A. He/she has to furnish at the time of submission of application form, a certificate of Physical fitness from a registered medical practitioner to the effect, that the candidate is physically fit to undergo bachelor of Occupational Therapy program.
4. Admission to Bachelor of Occupational Therapy course shall be made on the basis of eligibility and an entrance test of GNSU /NEET to be conducted for the purpose. No candidate will be admitted on any ground unless he/she has appeared in the University Entrance admission test.
- Entrance test, to be conducted by the university/Government/any Competent Authority as per the syllabus under 10 +2 scheme.
 - Successful candidates on the basis of written test will be called for counselling (s) nominated by the University or the board.
 - During subsequent counselling (s) the seat will be allotted as per the merit of the candidate depending on the availability of seats on that particular day.
 - 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.
 - The name of the student (s) who remain (s) absent from classes for more than 15 days at a stretch after joining the said course without giving any notice will be governed as per the respective University rules.

Duration of the course: 5 yrs (4+ 1yr internship)

Annual Pattern: 4 years [40 weeks per year) (39 hr /week x 40 weeks)

Academic training, excluding internal and university examination, extracurricular activities, Public Holidays and Vacations.

Teaching Hours: 1560 hrs/ year Total of 6240 hours for 4yrs annual pattern)

Internship: 01-year (52 WEEKS) full-time rotatory internship program.

A minimum of 1944* hours of internship (to be completed in 52 weeks).

*Duty hours may vary according to hospital/institutes.

Total hours: 8184 includes classroom teaching (didactic lecture, case study discussion, seminars, small group presentation in the presence of teacher), Practical, Tutorials Laboratory work & Clinical learning.

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Medium of Instruction:

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

Educational Methods

The range of educational methods may include case studies, learning with and from recipients of occupational therapy, discussions, skills training, assignments, reflective exercises, projects, literature review, experimental learning, problem-based learning, inter-professional learning, lectures, problem-based learning, 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, external examiners, educational experts etc.

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.

Attendance:

A candidate has to secure minimum-

1. 75% attendance in theoretical
2. 85% in Skills training (practical) for qualifying to appear for the final examination.

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

Commencement of the course:

The course shall commence from 1st July of an academic year

Commencement of Examination:

University exams will be conducted annually in the month of April/May.

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Marks qualifying for pass:

50% marks in aggregate in theory and Practical is required.

Promotion criteria:

Students may be permitted to next year only if the number of failed subjects is two or less than two. Students must clear these subjects before appearing for the final examination of next year. For example, failed subjects of I year must be cleared before appearing for final 2nd year examination and before the 3rd year examination in case of failed subjects of 2nd year and so on.

Note: Which are not mentioned in the above, we follow GNS University examination policy.

Only after passing in all the subjects in all years, he/she will be allowed to undergo an internship.

Review of answer papers of failed candidates:

As per GNSU Norms.

Re-admission after break of study:

1. 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
2. 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
3. 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.
4. All re-admissions of candidates are subjected to the approval of the Vice Chancellor.
5. 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.

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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.

Discharge from the program:

1. "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."
2. "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."
3. "The course of study shall mean and include all the undergraduate, post graduate diploma/degree broad and super specialty courses in medical and all the other Faculties of the University".
4. The above Regulations shall be applicable to all students already admitted and to be admitted to a course of study in a University."
5. "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 students manual) to this effect."

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Migration/transfer of candidates:

The Vice Chancellor shall have the powers to place any migration/transfer he deems fit in the Board of Management and get approval for grant of permission for migration/transfer to candidates undergoing course of study in another University as prescribed by university

Classification of successful candidates:

A successful candidate

1. 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.
2. 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.
3. 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.

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Credit and grading And Transcript

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

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 in a 15–20 week schedule.

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)

1 credit = Theory = 15 Hours

Practical / Clinical – 30 Hours

Field work = 45 Hours

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, D and F.

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Marks equivalence table Grades and Grade Points:

Letter Grade	Grade Point	Range of Marks *
O (Outstanding)	10	90 - 100
A+ (Excellent)	9	80 - 90
A (Very Good)	8	70 - 80
B+ (Good)	7	60 - 70
B (Average)	6	50 - 60
F -FAIL	-	Below 50
Ab (Absent)	-	-

Annual Grade Point Average (AGPA): It is a measure of performance of work done in a year. It is ratio of total credit points secured by a student in various courses registered in a year and the total course credits taken during that year. It shall be expressed up to two decimal places.

Cumulative Grade Point Average (CGPA): It is a measure of overall cumulative performance of a student overall year. 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.

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Computation of AGPA and CGPA

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

- i. 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
- ii. The CGPA is also calculated in the same manner taking into account all the course undergone by a student over all the years of a program, i.e.

$$CGPA = \sum(C_i \times A_i) / \sum C_i$$

Where A_i is the AGPA of the i^{th} years and C_i is the total number of credits in that year. 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 year. 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.

Practical / Demonstrations/ Laboratory work, 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, 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 course period & 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 fieldwork site should be in proportion to the number of available patients.

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Elective Subjects: It is proposed to allow students during 4th year of BOT to elect their choice of area of speciality which they would wish to practice after graduation or do post-graduation in that speciality area.

Guidelines for Electives Module 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.

Purpose of Electives

1. **Customization:** Elective courses allow students to tailor their educational experience to their interests, strengths, and career goals.
2. **Diversification:** Elective courses help students develop a well-rounded education by exposing them to a variety of subjects beyond their major or core requirements.
3. **Specialization:** Elective courses can also allow students to delve deeper into specific topics within their field of study.
4. **Flexibility:** Elective courses provide students to choose courses that fit their interests, learning style.
5. **Personal growth:** Elective courses can help students develop new skills, discover new passions, and grow both academically and personally.

Objectives

1. To provide an opportunity, where an undergraduate occupational therapy student can explore their deeper interest areas, by working in a specialty in hospital/ community setting or undertake a project under an identified expert.
2. To help the student in identifying his/her/their future career path by direct experiences in diverse areas. A direct individual experience will help in developing self-directed learning skills.

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3. To allow flexible learning options in the curriculum and may offer a variety of options including clinical electives, laboratory postings or community exposure in areas that students are not normally exposed as a part of regular curriculum.
4. This will also provide opportunity for students to do a project, enhance self-directed learning, critical thinking and research abilities.

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INTERNSHIP

1. About the internship:

- The clinical work after completing the 4 years course, minimum 52 weeks (1year) full-time internship in preventive and applied therapy. 1 year of continuous clinical practice will enhance skills of the students in clinical reasoning, judgment, programme planning, intervention, evaluation of intervention, follow up, referral, and documentation pertaining to all the dysfunctions and impairments learnt throughout the curriculum of four years.
- Internship shall be part of the curriculum of the bachelor of Occupational Therapy and shall be called "ROTATORY CLINICAL INTERNSHIP" Internship is a phase of training where in a graduate is expected to conduct actual practice of occupational therapy and acquired skills under supervision so that he/she may become capable of functioning independently. Students will use a variety of learning activities to fully explore areas of practices in clinical fieldwork. 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 Internship should be on rotation basis and should cover clinical branches concerned with Occupational therapy both inpatient and outpatient services OR Field work is distributed throughout every year of the curriculum. 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.
- Responsibilities during internship: During the internship period candidates should show at least 6 calendar months attendance. They must engage in practice/ skill-based learning of professional conduct. Their learning outcomes must be maintained and presented in the form of logbooks, case studies, research project report.
- Each student is expected to maintain a log book as proof of the clinical caseload in each assignment during the internship.
- Internship will be considered to be completed only on the successful presentation of the group project/group seminars/presentation of pilot research studies which includes the appropriate title of the study, literature review, selection of assessment instruments, data

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collection, and data analysis, concluding data which encourages students' insight into ethics of research & research findings.

- Interns should be paid a stipend during the internship on par with medical/dental graduates.
- Evaluation of interns: All interns will be assessed based on their satisfactory attendance, performance in the postings/ research labs and the presentation of the logbook.
- *Assessment may be done by conducting exams at the end of the internship on their project work, clinical work etc.
- It is mandatory to complete a minimum 52 weeks of internship in the same institute & a maximum 26 weeks may be allowed for the externship if opted by the student
- 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 (with the respective council/ Occupational Therapy commission)
- It is suggested to assign the last two internship placement in the elective subjects opted by the candidate in 4 th year which will help the students in specialisation areas for higher education.

2. Objectives: The internship program aims to enable students to learn salient issues of occupational therapy clinical practice. At the end of internship, the student will:

- Understand safety regulations regarding self and others throughout the occupational therapy process; identify safety hazards and implement safety procedures.
- Effectively interact 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 private health insurance plans, Employee's state insurance corporation schemes, and community-

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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.
- Attend ward rounds and interact with the interdisciplinary team.
- Understand the application of the occupational therapy consultative process with individual clients, groups, organizations or communities.
- Independently conduct the occupational therapy evaluation, use reasoning in deciding specialized assessments, interpret evaluation findings and identify meaningful outcomes with a client-centred perspective contextually relevant solution
- Learn to implement evidence-based practice
- 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.

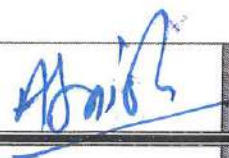
3. Eligibility: Those candidates declared to have passed the all year including final year examination in all subjects will be eligible for internship/field work/externship which should be done in any of the medical colleges/district hospitals/rehabilitation centres recognized by the affiliated university,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

4. Duration:

a) Total duration- One year or twelve months (52 weeks)

The students are expected to work for a minimum 39 hours/per week × 52 weeks=2028 hrs.*

**Duty hours may vary according to hospital/ Institute*



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b) Time Distribution

Distribution of Work		Hours
1	*Clinical /Field work	1826
2	**Reflective Writing (log book)	52
3	***Project Work	90
4	****Transition Seminars/workshop	48
	Total	2016

**Reflective Writing

Documenting the records in the log book which includes evaluation of patients/ clients, goals, intervention plan, the therapeutic procedures of intervention during the clinical field work.

***Project Work

Presentation of research study conducted on evidence-based practice, attributes to conducting literature review, collecting data during field work, analysing data & finding results.

****Transition Seminars

Participation in transition seminars/ workshops and related interaction.

5. The title during placement of internship would be Occupational Therapy intern/ B.OT. Intern. The internship time period provides the students the opportunity to continue to develop confidence and increased skill in simulation and treatment delivery. Students will demonstrate competence in beginning, intermediate, and advanced procedures in both areas. Students will participate in advanced and specialized treatment procedures. The student will complete the clinical training by practicing all the skills learned in classroom and clinical instruction. The students are expected to work for a minimum of 39 hours in a week. The mentioned internship our may exceed depend upon policy of hospital/institute.

Distribution of assignment period throughout the internship of 52 weeks:

S No	Departments of Occupational Therapy	Period
1	Orthopaedics & sports clinic	8 weeks
2	Psychiatry	8 weeks
3	Neuro & Neurosurgery	8 weeks
4	Paediatrics & Neonatology	8 weeks

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5	Burns, Hand & Plastic Surgery	4 weeks
6	Community based Rehabilitation	8 weeks
7	Oncology	2 weeks
8	Medicine	2 weeks
9	Surgery	2 weeks
10	Cardio- Respiratory	2 weeks

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6. Documentation Prepared by Intern During Internship

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

- A) Based on SOAP format
 - 1) Subjective examination (symptomatic)
 - 2) Objective examination (measurable, observable)
 - 3) Action/Analysis (interpretation of current condition/intervention provided)
 - 4) Plan of action
 - 5) Written or verbal feedback to the client or other relevant carers
 - 6) Discharge plan documented
 - 7) Agreement to treatment plan by the patient or "person responsible"

Progress Documentation: Progress documentation 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

Case Presentations: 12 case presentations are mandatory during the one-year internship.

- I. **Research Project** - The candidate shall submit a project under the supervision of Occupational Therapy faculty during the internship. The project may be a case study or of recent techniques or literature reviews and etc. to make the student to have research mind and to facilitate for higher studies.

The interns shall maintain a record of work which is to be verified and certified by the Occupational Therapy faculty under whom he/she works. Based on the record of work and project, The Internship completion shall be reported in the form of grades by the HOD/principal while issuing a "Certificate of Satisfactory Completion" of internship following which University shall award the BOT degree.

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All internees will be assessed based on their satisfactory attendance, performance in the postings/and the presentation of the logbook and project. The credits and hours of internship will be mentioned in the transcript.

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

Attendance 10%, log book 60% & Project work 30%.

7. EVALUATION OF STUDENTS UNDER PRACTICAL/INTERNSHIP

S.N.	Description	Satisfactory/ Unsatisfactory
1	Attendance	
2	Discipline and general behaviour 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	

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Skills Based Outcomes and Monitor Able Indicators for Bachelor of Occupational Therapy

1. Consults with the client to obtain information about his/her health, associated history, previous health interventions, and associated outcomes.
2. Collects assessment data relevant to the client's needs and occupational therapy practice.
3. Be able to conduct the patient evaluation and assessment as per condition.
4. Analysing Assessment findings & Establish an Occupational Therapy diagnosis and prognosis.
5. Develops and recommends an intervention strategy.
6. Be able to prepare the patient (physically and emotionally) and as well as the equipment to be used as per the treatment plan
7. Implements intervention.
8. Be able to accurately explain the treatment plans and able to demonstrate and teach the home program
9. Advise patient/ caregiver on appropriate nutrition, joint protection techniques, work simplification methods on Ergonomics guidelines
10. Evaluate the effectiveness of interventions.
11. Be able to complete accurate treatment documentation.
12. Develops, builds, and maintains rapport, trust, and ethical professional relationships through effective communication.
13. Establishes and maintains inter-professional relationships, which foster effective client-centered collaboration.
14. Understand the principles of continuous quality improvement.
15. Be able to carry out the daily/weekly Quality Control (QC) checks.
16. Be able to review the literature & present it in the journal club.
17. Be able to suggest implementation of research findings.
18. Be able to suggest/ initiate topics for Occupational Therapy research
19. Be able to interpret, apply, and disseminate information as a member of the Occupational Therapy team.

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“Competency-based Undergraduate Curriculum in Occupational Therapy”

Section 1- Practical Competencies for the Occupational Therapy Graduate

The Foundational Elements of Practice

1. Adheres strictly to the Code of Ethics established by the National Council of Occupational Therapy in India, in addition to all relevant federal, state, and facility regulations.
2. Ensures compliance with safety regulations and accurately reports incidents.
3. 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.

Core principles

4. Confidently, and accurately communicates the values, beliefs, and distinct perspective of the occupational therapy profession to clients and other relevant parties.
5. Expresses, in a clear, confident, and accurate manner, the importance of occupation as both an approach and desired outcome of occupational therapy to clients and other relevant parties.
6. Effectively communicates the responsibilities of occupational therapy practitioners to clients and other pertinent individuals with clarity, confidence, and precision.

Assessment and analysis

7. Adequately supports the evaluation process using a clear and logical rationale that considers client information, contexts, theories, frames of reference, and/or practice models.
8. Acquires adequate and essential information from pertinent sources during the assessment procedure.
9. Utilizes appropriate screening and assessment tools based on diverse factors.
10. The client's occupational profile and occupational performance are determined by conducting interviews and utilizing other appropriate evaluation methods.
11. Acknowledges that assessment involves evaluating and analyzing client factors and contexts that either facilitate or impede occupational performance.

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12. 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.
13. Modifies evaluation procedures based on client factors and contexts.
14. Analyzes & interprets the client's strengths and challenges in occupational performance.
15. 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

16. 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.
17. Formulates a client-centered plan that is accurate and appropriate based on the evaluation results, contexts, theories, frames of reference, and/or practice models.
18. Decisions regarding interventions are based on research, evidences and relevant resources
19. 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.
20. Executes intervention plans that are client-cantered and emphasize the importance of occupation.
21. Selects and, when necessary, adjusts the intervention strategy in order to attain predetermined objectives that align with the desired outcomes.
22. Modifications are made to the task and/or environment in order to enhance the client's performance.
23. Modifies the intervention plan and a determination is made regarding the need to continue or discontinue services based on the client's status.
24. Documentation is used to illustrate the effectiveness of interventions by capturing the client's response to services.

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Quality & Patient Safety

25. Ensure that information is recorded in accordance with the latest laws, rules, ordinances, and customs of the State of India.
26. Participate in systematic initiatives for quality assurance and improvement.
27. Contribute to and/or engage in research and development within registered areas of expertise.
28. Ensuring the safety of intervention recommendations and informing individuals about potential hazards, when necessary, is a crucial aspect of accountability.
29. Establishes a safe environment for individuals, their families, and others, while also ensuring the proper upkeep of equipment used in occupational therapy treatments.
30. 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

31. 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.
32. Exhibits understanding of costs and funding systems associated with occupational therapy services, including federal, state, third party, and private payers, through practice or discussion.
33. The individual displays a strong understanding of the organization.
34. Meets the productivity standards or volume of work that occupational therapy students are expected to achieve.
35. Provide supervision for students participating in occupational therapy training.
36. Offer advisory support to official authorities, commercial enterprises, non-profit organizations, and non-governmental entities.

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Communication and Professional Behaviours

37. Exhibits the ability to communicate clearly and effectively, using both verbal and nonverbal methods.
38. Guarantees the production of documentation that is both clear and precise.
39. 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.
40. The professional takes responsibility for developing professional competence by actively pursuing learning opportunities and collaborating with fieldwork educators and other professionals.
41. Demonstrates the ability to promptly and constructively address feedback received.
42. Demonstrates consistent adherence to acceptable work behaviours.
43. Showcases proficient time management skills.
44. Manages relationships effectively through therapeutic use of self and adjusts approach to meet the needs of clients and others.
45. Demonstrates respect for diversity factors of others. Examples: culture, socioeconomic status, beliefs, identity

Digital Competence

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

Sustainable Development

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

Disasters & Crisis

51. Engages in the activities conducted by specialized organizations established in response to significant accidents and disasters.

52. Adapt their activities to the unique circumstances that arise during crises and catastrophic situations.

53. 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.

Section 2- Subject-wise outcome (table of topic and outcome)

Section 2 contains core subject-wise outcomes so called “sub-competencies” that must be achieved at the end of instruction in that subject. These are organised in tables. The core subject outcomes are in the first part. Outcomes (competencies) in each subject are grouped according to topics number-wise. It is important to review the individual outcomes (competencies) in the light of the topic outcomes as a whole. For each competency outlined - the learning domains (**Knowledge, Skill, Attitude, 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.

The number of topics and competencies in each subject are given below.

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Topics & Outcomes of First Year BOT subjects

SN	Subjects	Codes	Number of topics	Number of Outcomes
1	Human Anatomy	AN	25	206
2	Human Physiology	PI	11	104
3	Biochemistry	BC	06	52
4	Fundamentals of OT I	FOT I	07	54
5	Fundamentals of OT II	FOT II	09	36
6	English & Communication Skills	ENCS	03	15
7	Environmental Sciences	EVS	03	20

Topics & Outcomes of Second Year BOT subjects

SN	Subjects	Codes	Number of topics	Number of Outcomes
1	Pharmacology	PH	03	27
2	Pathology & Microbiology	PM	41	194
3	Psychology	PSY	11	49
4	Biomechanics & Kinesiology	BMK	13	56
5	OT Diagnostics & Practice I	OTDP I	09	61
6	OT Diagnostics & Practice II	OTDP II	09	39
7	First Aid & Emergency	FAE	05	44
8	Computer Sciences	COMP	04	10

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Topics & Outcomes of Third Year BOT subjects

SN	Subjects	Codes	Number of topics	Number of Outcomes
1	Medicine & Cardiovascular Medicine	MCV	03	21
2	Neurology & Paediatrics	NP	20	42
3	Occupational Therapy in Medical Conditions	OTMC	09	46
4	Work Physiology & Ergonomics	WPERG	14	54
5	Surgery & Orthopaedics	SO	17	83
6	Psychiatry	PS	08	29
7	Occupational Therapy in Surgical Condition	OTSC	10	73
8	Research Methodology & Biostatistics	RMB	21	31

Topics & Outcomes of Fourth BOT subjects

SN	Subjects	Codes	Number of topics	Number of Outcomes
1	Occupational Therapy in Musculoskeletal Condition	OTMSK	10	40
2	Occupational Therapy Services and Management	OTSM	08	26
3	Community Medicine, Public Health & Sociology	CMS	13	36
4	Community Occupational Therapy and Rehabilitation	COTR	16	60
5	Occupational Therapy Practices in Psychiatry	OTPSY	08	31
6	Occupational Therapy in Paediatric Condition	OTPC	10	65
7	Occupational Therapy in Neurological Condition	OTNC	15	50

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Section 3: Definitions used

Lecture	Any instructional large group method including 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.

LEVELS OF COMPETENCIES

K	Knowledge	S	Skill	A	Attitude	C	Communication
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Domains of Learning

K	Knows	A knowledge attribute - Usually enumerates or describes
KH	Knows how	A higher level of knowledge - is able to discuss or analyse
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 behaviour

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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
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Scheme of Examination:

1. Pattern of examinations and setting question paper will be done as per following format.

Examination consists of following components:

Theory			Practical		
IA	UE	Total	IA	UE	Total
20	80	100	20	80	100

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2. Pattern of Question Papers in End-Semester Examinations:

Questions pattern for external examination practical (According to OSCE & OSPE Methodology).

Q.1. Spotting (Where it is applicable)	10 Marks
Q.2. Experiment 1/ Demonstration (Clinical Based)	20 Marks
Q.3. Experiment 2/ Demonstration	20 Marks
Q.4. Practical Record Notebook	10 Marks
Q.5. Viva-Voce	20 Marks

Total: 80 Marks

3. Questions & Answers Pattern for External Examination theory

Time: 3 Hrs.

Maximum Marks: 80

Section A: Compulsory (Multiple choice type)

Q. 1. to 10. All are compulsory 10 × 1 = 10 Marks

Ten Questions covering the entire syllabus

Section B: Short answer type

Q. 1 to 8. Attempt 5 out of 8 Short answer type

Eight Questions covering the entire syllabus 5 × 5 = 25 Marks

Note: Answer the questions in about 100 words only.

Section C: Long (Descriptive Essay) answer type

Q. 1 to 5. Attempt 3 out of 5 Long answer type

Five Questions covering the entire syllabus 3 × 15 = 45 Marks

Note: Answer the questions in about 250 words only.

Total: 80 Marks

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4. 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.
5. 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 internal assessment.
6. Mandatory 50% passing marks in theory and practical (practical = practical/clinical + viva).

Internal Assessment (IA):

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

Internal assessment (Theory Paper):

Internal-I	Internal -II	Total
20	20	20

Note: Best one internal examination is considered

Internal assessment (Practical Paper):

Internal -I	Internal -II	Total
20	20	20

Note: Best one internal examination is considered

For a candidate who fails in a subject(s), his/ her marks of internal assessment will be carried forward, the results of IA should be displayed on the notice board within a 1-2 week 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.

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Question Papers and Evaluation:

The question papers for the annual theory examinations shall be set and evaluation of answer books shall be done by the examiners (Internal as well as External ordinarily in the ratio of 50:50) out of the Panel of Examiners recommended by the Dean/Director/Board of Studies of the Department concerned on the basis of their expertise/ specialization.

Moderation of Question Papers: In the case of unavailability of external examiners, the Vice-Chancellor may allow the setting and evaluation to be done by the internal examiners only.

The question papers shall be moderated by a Board of Moderators to be appointed by the Controller of Examinations out of the panel drawn by Head/In- charge of the concerned department. The Assistant Professor, having five years of teaching experience, may also be included in the panel of moderators.

In the case of the practical examination of the courses, the assessment shall be jointly undertaken by the internal and external examiners. For the assessment of practical component, half of the examiners in the team shall be invited from outside the University from amongst the panel of examiners (ordinarily not below the rank of Assistant Professor with two-year experience) approved by the competent authority.

In case of the Project reports, and Internship, the assessment shall be jointly carried out by the internal and external examiners. External examiners shall be invited from amongst the panel of examiners (ordinarily not below the rank of Assistant Professor with three-year experience) approved by the competent authority.

Practical/Clinical Examination

Include assessment in the psychomotor and effective 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 (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.

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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 / examiner of same university.



10/5/20



Competency-Based Undergraduate Curriculum

Bachelors of Occupational Therapy

BOT (Annual Pattern)

**Distribution of Teaching Hours, Credits &
Examinations**

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Structure of First Year

Course Code	Course Title	Credit		Marks Distribution		
		Theory	Practical	IA	UE	Practical
BOT C 101	Human Anatomy	12	4	20	80	80
BOT C 102	Human Physiology	12	4	20	80	80
BOT C 103	Biochemistry	4	-	20	80	-
BOT C 104	Fundamentals of OT I	6	4	20	80	80
BOT C 105	Fundamentals of OT II	6	4	20	80	80
Not For University Examination						
BOT AEC 106	English & Communication Skills	4	-	20	80	-
BOT AEC 107	Environmental Sciences	4	-	20	80	-
	Total	48	16	140	560	320
	Supervised Clinical Training / Field Work	8 Credit = 360 Hrs.				

Second Year Structure

Course Code	Course Title	Credit		Marks Distribution		
		Theory	Practical	IA	UE	Practical
BOT C 201	Pharmacology	3	-	20	80	-
BOT C 202	Pathology & Microbiology	6	-	20	80	-
BOT C 203	Psychology	6	1	20	80	-
BOT C 204	Biomechanics & Kinesiology	6	4	20	80	80
BOT C 205	OT Diagnostics & Practice I	6	4	20	80	80
BOT C 206	OT Diagnostics & Practice II	6	4	20	80	80
Not For University Examination						
BOT SEC 207	First Aid & Emergency	2	1	20	80	-
BOT AEC 208	Computer Sciences	2	1	20	80	-
	Total	37	15	160	640	240
	Supervised Clinical Training / Field Work	13 Credit = 585 Hrs.				

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Third Year Structure

Course Code	Course Title	Credit		Marks Distribution			
		Theory	Practical	Theory		Practical	
				IA	UE	IA	UE
BOT C 301	Medicine & Cardiovascular Medicine	5	1	20	80	-	-
BOT C 302	Neurology & Paediatrics	5	1	20	80	-	-
BOT C 303	Occupational Therapy in Medical Conditions	6	3	20	80	20	80
BOT C 304	Work Physiology & Ergonomics	6	1	20	80	-	-
BOT C 305	Surgery & Orthopaedics	5	1	20	80	-	-
BOT C 306	Psychiatry	3	1	20	80	-	-
BOT C 307	Occupational Therapy in Surgical Condition	6	3	20	80	20	80
BOT C 308	Research Methodology & Biostatistics	3	-	20	80	-	-
Total		39	11	160	640	40	160
Supervised Clinical Training		15 Credit = 675 Hrs.					

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Fourth Year Structure

Course Code	Course Title	Credit		Clinical	Marks Distribution		
		Theory	Practical		Theory		Practical
					IA	UE	IA
BOT C 401	Occupational Therapy in Musculoskeletal Condition	5	1	4	20	80	20
BOT C 402	Occupational Therapy Services and Management	3	-	-	20	80	-
BOT C 403	Community Medicine, Public Health & Sociology	3	-	-	20	80	-
BOT C 404	Community Occupational Therapy and Rehabilitation	4	1	-	20	80	-
BOT C 405	Occupational Therapy Practice in Psychiatry	4	1	4	20	80	20
BOT C 406	Occupational Therapy in Paediatric Conditions	5	1	4	20	80	20
BOT C 407	Occupational Therapy in Neurological Conditions	5	1	4	20	80	20
Not For University Examination							
	Project Work	-	2		50*	-	-
		33	7	24	190	560	80
							320

Fifth Year Structure (Internship)

Course Code	Course Title	Credit	Marks Distribution	
BOT SEC 401	BOT Internship	48	IA	200

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Course Title/ Subject Name: HUMAN ANATOMY

Course Code/ Subject Code: BOT C 101

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.

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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

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Competency Based Syllabus:

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		
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	K	KH	Y	Lecture	Written, Viva voce		

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examples									
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	KH	Y	Lecture, DOAP session	Written, Viva voce			
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	Medicine, OTM		
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			
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								

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	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				
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	Viva voce, Practicals				

AN 7.6	Describe scaphoid fracture and explain the anatomical basis of avascular necrosis	K	KH	N	DOAP session	Viva voce
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	brachial plexus				Lecture	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	
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	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment	

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	anatomy								
AN 8.15	Explain anatomical basis of Injury to axillary nerve during intramuscular injections	K	KH	N	Lecture	Viva voce			
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, Orthopaedics		
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			

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Topic: Upper limb regions -Forearm & Hand		No of competencies -21				
		K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment
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	Written, Viva voce, skill assessment
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	Written, Viva voce, skill assessment
AN 9.3	Identify & describe flexor retinaculum with its attachments	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment
AN 9.4	Explain anatomical basis of carpal tunnel syndrome	K	KH	Y	Lecture	Written, Viva voce
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	Written, Viva voce, skill assessment
AN 9.6	Describe & demonstrate movements of thumb and muscles involved	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment
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	Written, Viva voce, skill assessment
AN 9.8	Describe anatomical basis of Claw hand	K	KH	Y	Lecture	Written, Viva voce

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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	Written, Viva voce, skill assessment	
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	Written, Viva voce, skill assessment	
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	Written, Viva voce, skill assessment	
AN 9.12	Describe the anatomical basis of Wrist drop	K	KH	Y	Lecture	Written, Viva voce	
AN 9.13	Identify & describe compartments deep to extensor retinaculum	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment	
AN 9.14	Identify & describe extensor expansion formation	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment	
AN 9.15	Describe and explain Fascia of upper limb and compartments, veins of upper limb and its lymphatic drainage	K	KH	Y	Lecture	Written, Viva voce	
AN 9.16	Describe dermatomes of upper limb	K	KH	N	Lecture	Written, Viva voce	
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,	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written, Viva voce, skill assessment	

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	wrist joint & first carpometacarpal joint	K	KH	N	Lecture	Written	
AN 9.18	Describe Sternoclavicular joint, Acromioclavicular joint, Carpometacarpal joints & Metacarpophalangeal joint	K	KH	N	Lecture	Written	
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	Viva voce, skill assessment	
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	Viva voce, skill assessment	
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	Viva voce, skill assessment	
Topic – Thoracic cage							
AN 10.1	Identify and describe the salient features of sternum, typical rib, 1 st rib and typical thoracic vertebra	K/S	SH	Y	Lecture, DOAP session	Viva voce/skill assessment	Orthopaedics
AN 10.2	Identify & describe the features of 2 nd , 11 th and 12 th ribs, 1 st , 11 th and 12 th thoracic 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	

✓ Ans Ans Ans

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					session		
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 oesophagus	K/S	SH	Y	Practical, Lecture, DOAP session	Written/ Viva voce/ OSPE	
Topic: Lungs & Trachea							
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	
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							
AN 13.1	Understand Various imaging techniques with Principles of plain radiograms and CT scan,	K	KH	N	Lecture	Written	

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	Ultrasonography,								
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		

Competency Table: Human Anatomy

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			
AN 14.3	Describe the importance of ossification of lower end of femur & upper end of tibia	K	KH	Y	Lecture	Viva voce/ Practicals	Medicine, Orthopaedics		

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			

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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	
AN 15.4	Describe and demonstrate boundaries, floor, roof and contents of femoral triangle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	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	
AN 15.9	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved,	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment	

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	blood and nerve supply, bursae around the hip joint								
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			

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Topic - Lower limb Region - Knee, Leg & Foot						No of competencies - 16		
	Describe and demonstrate major muscles of anterolateral compartment of leg with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/skill assessment	Orthopaedics	
AN 16.1								
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		
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		

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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	
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

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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 7 th cervical vertebra	K/S	SH	N	DOAP session	Viva voce	
AN 17.4	Describe & demonstrate muscles of facial expression and their nerves 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	
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	Describe & demonstrate attachments of	K/S	SH	N	Lecture, Practical	Written/ Viva	

17.13	1) inferior belly of omohyoid, 2) scalenus anterior, 3) scalenus medius & 4) levator scapulae				voce
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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	
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 &	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/	

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AN 18.10	submandibular ganglion Describe the basis of formation of submandibular stones	K	KH	N	Lecture	Written	
Topic - Vertebral column, Spinal Cord							
AN 19.1	Describe the parts, extent, attachments, modifications of deep cervical fascia	K	KH	Y	Lecture	Written	
AN 19.2	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 19.3	Demonstrate & describe the origin, parts, course & branches subclavian artery	K/S	KH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/	Surgery, Orthopedics
AN 19.4	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 19.5	Describe the course and branches of IX, X, XI & XII nerve in the neck	K	KH	Y	Lecture	Written	
AN 19.6	Describe the anatomically relevant clinical features of Thyroid swellings	K	KH	N	Lecture	Written	
AN 19.7	Describe the clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib	K	KH	N	Lecture	Written	
AN 19.8	Describe the contents of the vertebral canal	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment	
AN 19.9	Describe the boundaries and contents of Suboccipital triangle	K	KH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/skill assessment	
AN 19.10	Describe the curvatures of the vertebral column	K	KH	Y	Lecture	Written/ Viva voce	

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AN 19.11	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 voce/OSPE	
AN 19.12	Explain the anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida	K	KH	N	Lecture	Written	
AN 19.13	Identify external features of spinal cord	K/S	SH	Y	Practical, Lecture, Small group discussion,	Written/ Viva voce/	OTOC, OTNC
AN 19.14	Describe extent of spinal cord in child & adult with its clinical implication	K	KH	Y	Lecture	Written/ Viva voce	
AN 19.15	Draw & label transverse section of spinal cord at mid-cervical & mid-thoracic level	K	KH	Y	Lecture	Written/ Viva voce	
AN 19.16	Enumerate ascending & descending tracts at mid thoracic level of spinal cord	K	KH	Y	Lecture	Written/ Viva voce	
AN 19.17	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, DOAP session	Written/ 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	Written/ Viva voce	
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	K	KH	N	Lecture	Written	

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	medial & lateral medullary syndrome								
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			
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, O TNC	Physiology	
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	Enumerate parts & major connections of	K	KH	Y	Lecture	Written/ Viva voce			

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19.17	basal ganglia & limbic lobe					voce	
AN 19.18	Describe boundaries, parts, gross relations, major nuclei and connection of dorsal thalamus, hypothalamus, epithalamus, metathalamus 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	
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,	Written/ Viva voce/skill assessment	

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							DOAP session		
Topic: Perennial Region, Sacral Plexus		Number of competencies: 8							
AN 21.1	Describe the (position, features, important peritoneal 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	Describe 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	
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	Surgery, 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	

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AN 22.4	Explain the anatomical basis of hypoglossal nerve palsy	K	KH	N	Lecture	Written	
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	

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Reference Book

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

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Course Title/ Subject Name: HUMAN PHYSIOLOGY

Course Code/ Subject Code: BOT C 102

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.

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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. ATTITUDE

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

Objectives/Competency Students should be able to		Domains of Learning	Competencies levels K/KH/ SH/PS	Y/N	Core Teaching Learning methods	Assessment methods	Vertical Integration	Horizontal Integration
HUMAN PHYSIOLOGY								
Topic: General Physiology		Number of competencies: 7						
PI 1.1	Introduction to Physiology, Organisation 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		
Topic: Haematology		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 Haemoglobin and explain its breakdown. Describe	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

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	variants of haemoglobin											
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 of anaemias & Jaundice	K	KH	Y	Lecture, Small group discussion	Written/Viva voce						
PI 2.6	Describe WBC formation (granulopoiesis) and its regulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce						
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- Visitto 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/Viva voce						
Topic: Cardiovascular Physiology (CVS)												
PI 3.1	Classify muscle tissue	K	KH	Y	Lecture	Written/ Viva voce	Medicine, OTM					

Number of competencies: 13

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	according to structure & action	K	KH	Y	Lecture	Written/ Viva voce	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	
P 3.6	Describe generation, conduction of cardiac impulse	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 3.7	Describe and discuss haemodynamics of circulatory system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 3.8	Describe and discuss local and systemic cardiovascular regulatory mechanisms	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 3.9	Describe the factors	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	

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	affecting heart rate, regulation of cardiac output & blood pressure				group discussion			
P 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		
P 3.11	Describe the pathophysiology of shock, syncope and heart failure.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
P 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		
P 3.13	Describe interpretation of normal ECG in a volunteer or simulated environment	K	KH	Y	Lecture, DOA P sessions	Practical/OSPE/Viva voce		
Topic: Respiratory Physiology								
P 4.1	Describe the functional anatomy of respiratory tract	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP II, OTMC, Medicine	

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P 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	
P 4.3	Describe and discuss the transport of respiratory gases: Oxygen and Carbon dioxide	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 4.4	Describe and discuss the physiology of high altitude and deep sea diving	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 4.5	Describe and discuss the pathophysiology of dyspnoea, hypoxia, cyanosis asphyxia; drowning, periodic breathing	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 4.6	Describe and discuss lung function tests & their clinical significance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 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)

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P 5.1	Describe structure and function of kidney	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Medicine, OTMC
P 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	
P 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	
P 5.4	Describe & discuss the significance & implication of Renal clearance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 5.5	Describe the renal regulation of fluid and electrolytes & acid-base balance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 5.6	Describe the innervations of urinary bladder, physiology of micturition and its abnormalities	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
Topic: Endocrine Physiology							
P 6.1	Describe the physiology of bone and calcium metabolism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	

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P 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	
P 6.3	Describe the physiology of Thymus & Pineal Gland	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 6.4	Describe function tests: Thyroid gland; Adrenal cortex, Adrenal medulla and pancreas	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 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	

Competency Table: Human Physiology

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Topic: Nerve and Muscle Physiology

No of Competencies-(15)

P 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	
P 7.2	Describe the types, functions & properties of nerve fibers	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	FOT I
P 7.3	Describe the degeneration and regeneration in peripheral nerves	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	FOT I
P 7.4	Describe the structure of neuro-muscular junction and transmission of impulses	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	FOT I
P 7.5	Discuss the action of neuro-muscular blocking agents	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 7.6	Describe the pathophysiology of Myasthenia gravis	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Medicine, OTNC
P 7.7	Describe the different types of muscle fibres and their structure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 7.8	Describe action potential and its properties in different muscle types (skeletal & smooth)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 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	

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P 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
P 7.11	Explain energy source and muscle metabolism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 7.12	Explain the gradation of muscular activity	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 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	
P 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
Topic - Gastro-intestinal Physiology No of competencies - (8)							
P 8.1	Describe the structure and functions of digestive system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 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	
P 8.3	Describe GIT movements, regulation and functions. Describe defecation reflex.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	

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	Explain role of dietary fibre.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
P 8.4	Describe the physiology of digestion and absorption of nutrients	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
P 8.5	Describe the source of GIT hormones, their regulation and functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
P 8.6	Describe the Gut-Brain Axis	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
P 8.7	Describe & discuss the structure and functions of liver and gallbladder	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		
P 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		
Topic - Reproductive Physiology								
No of competencies – (5)								
P 9.1	Describe and discuss sex determination; sex differentiation and their abnormalities and outline psychiatry and practical implication of sex determination.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Orthopaedics
P 9.2	Describe and discuss puberty: onset, progression, stages; early and delayed puberty and outline	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		

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	adolescent clinical and psychological association.								
P 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			
P 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			
P 9.5	Describe and discuss the physiological effects of sex hormones	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
Topic--Neurophysiology									
P 10.1	Describe and discuss the organization of nervous system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
P 10.2	Describe and discuss the functions and properties of synapse, reflex, receptors	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
P 10.3	Describe and discuss somatic sensations & sensory tracts	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Medicine, OTSCII		
P 10.4	Describe and discuss motor tracts, mechanism of maintenance of tone, control of body movements,	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTSC I, Medicine		

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	posture and equilibrium & vestibular apparatus								
P 10.5	Describe and discuss structure and functions of reticular activating system, autonomic nervous system (ANS)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTSC I, Medicine		
P 10.6	Describe and discuss Spinal cord, its functions, lesion & sensory disturbances	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	FOT I, OTSC I, OTOC, OTNC, Orthopaedics	Anatomy	
P 10.7	Describe and discuss functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system and their abnormalities	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Medicine, OTDP II, OTNC		
P 10.8	Describe and discuss behavioural and EEG characteristics during sleep and mechanism responsible for its production	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTPSY, Psychology		
P 10.9	Describe and discuss the physiological basis of memory, learning and speech	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Psychology, OTMC, OTPSY		
P 10.10	Describe and discuss chemical transmission in the nervous system. (Outline the psychiatry element).	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
P 10.11	Demonstrate the correct clinical examination of the nervous system: Higher	S	P	Y	DOAP sessions	Skill assessment/ Viva voce/OSCE	OTDP I, OTDP II, OTNC		

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	functions, sensory system, motor system, reflexes, cranial nerves in a normal volunteer or simulated environment								
P 10.12	Identify normal EEG forms	S	S	Y	Small group teaching	OSPE/Viva voce			
P 10.13	Describe and discuss perception of smell and taste sensation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP II, OTNC		
P 10.14	Describe and discuss pathophysiology of altered smell and taste sensation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	OTDP II, OTNC		
P 10.15	Describe and discuss functional anatomy of ear and auditory pathways & physiology of hearing	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Surgery, OTSC		
P 10.17	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	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Surgery, OTSC		
P 10.18	Describe and discuss the physiological basis of lesion in visual pathway	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	Surgery, OTSC		
Topic- Integrated Physiology									
No of Competencies-(9)									
P	Describe and discuss	K	KH	Y	Lecture, Small group	Written/Viva voce			

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11.1	mechanism of temperature regulation				discussion		
P 11.2	Describe and discuss adaptation to altered temperature (heat and cold)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce	
P 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	
P 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	
P 11.5	Describe physiology of Infancy	K	KH	N	Lecture, Small group discussion	Written/Viva voce	
P 11.6	Interpret growth charts	K	KH	N	Small group teaching	Practical/OSPE/Viva voce	
P 11.7	Interpret anthropometric assessment of infants	K	KH	N	Small group teaching	Practical/OSPE/Viva voce	
P 11.8	Discuss the physiological effects of meditation	K	KH	N	Lecture, Small group discussion	Written/Viva voce	

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P 11.9	Describe and discuss physiology of aging; free radicals and antioxidants	K	KH	N	Lecture, Small group discussion	Written/Viva voce	
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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

Bachelor of Occupational Therapy (BOT), NPIAS

Course Title/ Subject Name: BIOCHEMISTRY

Course Code/ Subject Code: NPIAS BOT C 103

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.

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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		
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 &	K	KH	Y	Lecture	Written/ Viva voce		

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	their biological importance								
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			
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	Written/ Viva			

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BC 3.6	Describe Glycolysis (Aerobic and Anaerobic)	K/S	SH	Y		discussion, DOAP session 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					
BC3.10	Describe Biochemical aspects of digestion and absorption of proteins	K	KH	Y		Lecture,	Written/ Viva voce/					
BC3.11	Describe Fate of amino acids in the body (deamination, Transamination, transmethylation), fates of ammonia and urea cycle & disorders	K	KH	N		Lecture	Written					
BC3.12	Describe Biochemical aspects of digestion and absorption of lipids	K	KH	N		Lecture	Written					
BC3.13	Describe. Beta oxidation of fatty acids and its energetics Ketogenesis, ketolysis &	K	KH	N		Lecture	Written					

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	ketosis								
BC3.14	Describe Cholesterol and its importance (No biosynthesis y	K	KH	N	Lecture	Written			
BC3.15	Explain Classification and functions of Lipoproteins	K	KH	N	Lecture	Viva voce			
BC3.16	Describe Fates of- acetyl CoA and glycerol	K	KH	N	Lecture	Written			
BC3.17	Describe Catabolism of purines and related disorders	K	KH	N	Lecture	Written			
BC3.18	Describe Lipid Profile- Triacylglycerol, cholesterol (HDL, LDL & VLDL)	K	KH	Y	Lecture	Written/ Viva voce	Patology, Microbiology		
BC3.19	Describe. Catabolism of purines and related disorders	K	KH	N	Lecture	Written			
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			

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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	
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
BC4.10	Describe Thermogenesis and specific dynamic action	K	KH	N	Lecture	Written	
BC4.11	Discuss the Balance diet for normal adult and role of fibres in diet	K	KH	N	Lecture	Written	
BC4.12	Describe Nitrogen balance and its significance.	K	K	Y	Lecture	Written/ Viva voce	
BC4.13	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	
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	

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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) – Harp

Bachelor of Occupational Therapy (BOT), NPIAS

Course Title/ Subject Name: FUNDAMENTALS OF OCCUPATIONAL THERAPY – I

Course Code/ Subject Code: BOT C 104

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

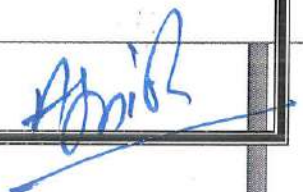
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1. Analyse various Therapeutic activities & match them with clients demands for participation in daily skills
2. Demonstrate assessment skills for ROM & muscle strength

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



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Sr. 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
FUNDAMENTS OF OCCUPATIONAL THERAPY - I									
Topic: Introduction to Occupation, Occupational Science and Occupational Therapy									
Number of Competencies: 8									
Number of procedures for certification : (NIL)									
FOT I 1.1	Define and describe occupation, theory of occupation and evolutionary traits.	K/C	K	Y	Lecture	Written			
FOT I 1.2	Enumerate and describe dimensions of occupation.	K	K/KH	Y	Lecture	Written			
FOT I 1.3	Enumerate and describe forms of occupation.	K	K/KH	Y	Lecture	Written			
FOT I 1.4	Explain the need to understand occupation.	K	K	N	Lecture	Written			
FOT I 1.5	Understand the philosophy and concept of occupation.	K	K	Y	Lecture	Written			
FOT I 1.6	Explain therapeutic application of occupation.	K/C	K/KH	Y	Lecture	Written			
FOT I 1.7	Explain occupational science and application of its theory to occupational therapy.	K/C	K/KH	Y	Lecture	Written			

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FOT I 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)			
FOT I 2.1	Describe the Historical Context of Occupational Therapy Across the World	K	K	Y	Lecture	Written/ Viva-Voce		
FOT I 2.2	Explain the influences on Evolution of Occupational Therapy	K	K/KH	Y	Lecture	Written		
FOT I 2.3	Explain Rehabilitation philosophy	K	K	Y	Lecture	Written		
FOT I 2.4	Describe Principles of Physical Medicine and Rehabilitation	K	K/KH	Y	Lecture	Written		
FOT I 2.5	Enlist International /National/State Organizations of Occupational Therapy	K	K	Y	Lecture	Written		
FOT I 2.6	Describe how Professional Organizations Supports Professional Development and Enlist Benefits of Professional Associations	K/A/C	K	Y	Lecture	Written/ Viva-Voce		

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FOT I 2.7	Historical Context of Occupational Therapy in India Including State Council Organizations and NCAHP (National Council for Allied Health professionals)	K	K	Y	Lecture	Written		
FOT I 2.8	Describe composition and Functions of AIOTA and ACOT	K	K	Y	Lecture	Written		
Topic: Human Development and Maturation		Number of competencies : 4 Number of procedures for certification : (NIL)						
FOT I 3.1	Define and describe importance of knowledge of human development.	K/C	K	Y	Lecture	Written		
FOT I 3.2	Describe aspects of human development.	K/C	K	Y	Lecture	Written		
FOT I 3.3	Describe factors influencing human growth and development.	K/C	K	Y	Lecture	Written		
FOT I 3.4	Describe general principles of human development and specific principles of maturation.	K/C	K	Y	Lecture	Written		Anatomy

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Topic: Principles and Methods of Assessments		Number of Competencies: 18		Number of procedures for certification: (NIL)			
		K/C	K	Y	Lecture	Written	
FOT I 4.1	Define active, passive, and functional range of motion (ROM), total active and total passive motion.	K/C	K	Y	Lecture	Written	
FOT I 4.2	Describe various methods of range of motion evaluation.	K/C	K	Y	Lecture	Written	
FOT I 4.3	Enlist the purposes of measuring joint range of motion	K/C	K	Y	Lecture	Written	
FOT I 4.4	Enlist precautions for and contraindications to joint measurement	K/C	K	Y	Lecture	Written	
FOT I 4.5	Understand and recognize norms of joint range of motion of various 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	
FOT I 4.6	Describe various types of goniometers and parts of goniometers.	K/C	K	Y	Lecture	Written	

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FOT I 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		
FOT I 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		
FOT I 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		
FOT I 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	K/S/A/C	K/KH/SH/P	Y	Lecture, DOAP	Written, Practical		

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FOT I 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		
FOT I 4.17	Define and explain muscle endurance and general endurance or aerobic capacity.	K/C	K	Y	Lecture	Written		
FOT I 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)				
FOT I 5.1	Explain principles of therapeutic exercises.	K/C	K	Y	Lecture	Written		
FOT I 5.2	Enumerate purposes and indications of therapeutic exercises.	K/C	K	Y	Lecture	Written		
FOT I 5.3	Enumerate precautions and contraindications of therapeutic exercises.	K/C	K	Y	Lecture	Written		
FOT I 5.4	Determine pre-requisites of prescriptions of therapeutic	K/C	K	Y	Lecture	Written		

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	exercises.									
FOT I 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				
FOT I 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				
FOT I 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				
FOT I 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				
FOT I 6. Topic : Activity Analysis		Number of Competencies: 4		Number of procedures for certification : (NIL)						
FOT I 6.1	Explain principles of activity analysis with respect to biomechanical, sensory motor	K/C/A	K	Y	Lecture	Written				

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	& socio-cultural aspects including the criteria for selection of an activity for a client.									
FOT I 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				
FOT I 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				
FOT I 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				

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Topic : Media, Methods and Therapeutic and Physical Agent Modalities **Number of Competencies: 4**

Number of procedures for certification : (NIL)

	Define media, methods and modalities.	K/C	K	Y	Lecture	Written		
FOT I 7.1								
FOT I 7.2	Describe the phases of tissue healing.	K/C	K	Y	Lecture	Written		
FOT I 7.3	Describe the appropriate indications, precautions and contraindications for use of superficial thermal agents, deep thermal agents, and electrotherapeutic agents.	K/C	K	Y	Lecture	Written		
FOT I 7.4	Enlist the role of physical agent modalities in occupational therapy practice.	K/C	K	Y	Lecture	Written		

Competency Table: FUNDAMENTALS OF OCCUPATIONAL THERAPY – I

Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth Blesedel ICrepeau, Ellen S. Cohn, Barbara A. Boyt Schell.
2. Occupational Therapy - Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti. Published by Mosby

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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

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Course Title/ Subject Name: FUNDAMENTALS OF OCCUPATIONAL THERAPY – II

Course Title/ Subject Name: BOT C 105

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:

E. 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.

F. Skills

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

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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.

G. 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



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Competency Table: FUNDAMENTALS OF OCCUPATIONAL THERAPY - II

Sr. 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									
1. Topic: Code of Ethics and Conduct in Occupational Therapy					Number of Competencies: 5				
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			
FOT II 1.4	Enumerate the code of ethics and the principles of American Occupational	K	K	Y	Lecture	Written			

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Therapists' Association (AOTA) and All India Occupational Therapists' Association (AIOTA), National Commission of Allied & Healthcare Professionals (NCAHP)										
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				
FOT	Describe Domains (Occupations,	K	K/KH	Y	Lecture	Written, viva				

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II 2.3	Contexts, Performance Patterns, Performance Skills & Client Factors) and Practice (Evaluation, Intervention & Outcomes) of OTPF									
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										
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				
Topic: Documentation of Occupational Therapy Services										
Number of competencies: 3										
FOT II 4.1	Describe the terms Screening, Evaluation	K	K	Y	Lecture	Written, viva				

	and Assessment									
FOT II 4.2	Differentiate standardized, non 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				
FOT II 5.3	Discuss and understand principles and Specific Techniques in ADL Training for: Weakness, Low Endurance, Limited Range of Motion, Incoordination, Loss of Use	K	K/KH	Y	Lecture, demonstration	Written, viva				

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[illegible]

Topic: Tools, Equipment and Materials Used in Splint Fabrication	Number of Competencies: 4
Number of procedures for certification: (NIL)	

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FOT II 8.2	Identify and explain the uses of various equipments 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		
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	K	KH	Y	Lecture	Written, viva		

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hand splints										
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					

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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 Gardine.

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Course Title/ Subject Name: ENGLISH & COMMUNICATION SKILLS

Course Code/ Subject Code: BOT AEC 106

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:

D. 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.

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Competency Table: English & Communication Skills

Number	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
Topic No 2	Concept, Purpose & Process of Communication skills No of Competencies: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

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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
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	K/A/C	K/KH	Y	Lecture, Small group discussion	Written, Viva Voce/Role Play/Seminar/Group Assignment

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	and soft copy [In various National portals e.g. Digi locker]					
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)

Course Title/ Subject Name: ENVIRONMENTAL SCIENCES

Course Code/ Subject Code: BOT AEC 107

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.

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Competency Table: Environmental Sciences

Number	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
Topic: Introduction to Ecology and Biology Number of Competencies: 8								
EV 1.1	Explain the concepts of ecosystems and ecology	K	K	Y	Lecture	Written		
EV 1.2	Describe Biotic and abiotic components of ecosystem and the Interactions between populations and communities in an ecosystem	K	KH	N	Lecture	Written		
EV 1.3	Describe cycling and importance of essential and nonessential chemicals in biosphere	K	KH	Y	Lecture	Written		
EV 1.4	Describe the two main kingdoms of Biology i.e. plant and animal kingdoms	K	K	Y	Lecture	Written		
EV 1.5	Discuss the functioning of basic unit of life i.e. cell	K	K	Y	Lecture	Written		
EV 1.6	Enumerate Principles of biological diversity	K	K	Y	Lecture	Written		

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EV 1.7	Enumerate causes and consequences of biodiversity loss	K	K	Y	Lecture	Written	
EV 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			
				fortifications: (NIL)			
EV 2.1	Enumerate the various forms of energy	K	K	Y	Lecture	Written	
EV 2.2	Describe the effect of the various forms of energy on the climate of the planet	K	KH	Y	Lecture	Written	
EV 2.3	Explain economics of energy use	K	K	Y	Lecture	Written	
EV 2.4	Enumerate the factors that determine the climate of our planet	K	K	Y	Lecture	Written	
EV 2.5	Explain the natural variability and variations in climate due to anthropogenic causes	K	KH	Y	Lecture	Written	
EV 2.6	Discuss the policies related to climate change	K	K	Y	Lecture	Written	
EV 2.7	Describe Procedures, tools and techniques for Environmental Impact Assessment	K	K	Y	Lecture	Written	

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(EIA)								
EV 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)								
EV 3.1	Explain the concept of Environmental Law and Governance	K	K	Y	Lecture	Written		
EV 3.2	Describe Formulation of Environmental Policy, and its Implementation and Evaluation	K	KH	Y	Lecture	Written		
EV 3.3	Explain Environmental Ethics and Justice	K	KH	Y	Lecture	Written		
EV 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

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SECOND YEAR

Course Title/ Subject Name: PHARMACOLOGY

Course Code/ Subject Code: BOT C 201

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)

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COMPETENCY TABLE: PHARMACOLOGY

Number	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 P	Vertical Integration	Horizontal Integration
PHARMACOLOGY									
Topic: General Pharmacology									
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.	K	K	Y	Lecture	Written/ Viva voce			
Inflammatory/Immune Diseases									

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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		
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 Erythematosus, Scleroderma, Demyelinating Disease	K	K	Y	Lecture	Written/ Viva voce		

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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		
Cardiovascular Pharmacology -								
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		

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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		
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		

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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		
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		

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PH 3.11	Describe Hormones and drugs affecting endocrine functions Used in Treatment of Diabetes Mellitus: Insulin, Oral Hypoglycemic.	K	KH	Y	Lecture	Written/ Viva voce	Physiology
Geriatrics							
PH 3.12	Discuss the adverse effects of special concern in the Elderly, Dementia, and Postural hypotension.	K	K	Y	Lecture	Written/ Viva voce	
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. Bhandarkar

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Course Title/ Subject Name: Pathology and Micro biology

Course Code/ Subject Code: BOT C 202

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 patient. 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.

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Competency Table: Pathology and Microbiology

PATHOLOGY									
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning method	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
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:	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

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	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			
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			

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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	
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	
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	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	General Surgery

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healing and its types										
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	
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					

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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 neoplasms.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	
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
Topic: Immunopathology and AIDS		Number of competencies: (07)			Number of procedures that require certification: (NIL)		

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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	
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	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

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	autoimmune diseases.											
Topic: Infections and Infestations												
PA 9.1	Define and describe the pathogenesis and pathology of malaria.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce				General Medicine		Microbiology
PA 9.2	Define and describe the pathogenesis and pathology of cysticercosis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce				General Medicine		Microbiology
PA 9.3	Define and describe the pathogenesis and pathology of leprosy.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce				General Medicine		Microbiology
PA 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												
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		

Number of procedures that require certification: (NIL)

Number of competencies: (03)

Number of procedures that require certification: (NIL)

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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 caused by 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 protein-calorie malnutrition and starvation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	Biochemistry, Pediatrics	
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)				

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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
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							
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 anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	General Medicine

Number of competencies: (02) **Number of procedures that require certification: (NIL)**

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Topic: Macrocytic anaemia		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		
PM 14.2	Describe laboratory investigations of macrocytic anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	General Medicine		
PM 14.3	Identify and describe the peripheral blood picture of macrocytic anaemia.	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 anaemia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce	General Medicine		
Topic: Haemolytic anaemia		Number of competencies: (05)				Number of procedures that require certification: (NIL)			
PM 15.1	Define and classify haemolytic anaemia	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	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	Biochemistry, General Medicine		

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	anaemia.											
PM 15.3	Describe the pathogenesis, features, hematologic indices and peripheral blood picture of sickle cell anaemia 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 anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce				Biochemistry, General Medicine		
PM 15.5	Describe the peripheral blood picture in different haemolytic anaemias	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce				General Medicine		
Topic: Aplastic anaemia		Number of competencies: (01)		Number of procedures that require certification: (NIL)								
PM 16.1	Enumerate the etiology, pathogenesis and findings in aplastic anaemia	K	K	N	Lecture, Small group discussion	Written/ Viva voce				General Medicine		
Topic: Leukocyte disorders		Number of competencies: (02)		Number of procedures that require certification: (NIL)								

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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)	
Topic: Lymph node and spleen							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
PM 18.3	Describe and discuss the pathogenesis, pathology and the differentiating features of Hodgkin's and non-Hodgkin's	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery

	Lymphoma												
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			
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			

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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 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
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	K	KH	Y	Lecture, Small group	Written/ Viva voce	

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	describe the principles and procedure of autologous transfusion				discussion				
Topic: Clinical Pathology		Number of competencies: (01)			Number of procedures that require certification: (NIL)				
PM 20.1	Describe abnormal findings in body fluids in various disease states	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Gastrointestinal Tract		Number of competencies: (06)			Number of procedures that require certification: (NIL)				
PM 21.1	Describe the etiology, pathogenesis, pathology and clinical features of oral cancers	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Dentistry
PM 21.2	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 21.3	Describe and etiology and pathogenesis and	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery

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	between direct and indirect hyperbilirubinemia								
PM 22.2	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 22.3	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 22.4	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		

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PM 22.5	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 23.1	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
PM 23.2	Describe the etiology, gross and microscopic appearance and complications of lung abscess	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	Microbiology
PM 23.3	Define and describe the etiology, types, pathogenesis, stages, morphology and complications of Obstructive airway disease (OAD) and bronchiectasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	Physiology, General Medicine
PM 23.4	Define and describe the etiology, types, pathogenesis, stages, morphology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	General Medicine

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	microscopic appearance and complications of tuberculosis									
PM 23.5	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 23.6	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			
PM 23.7	Define and describe the etiology, types, exposure, genetics	K	KH	N	Lecture, Small group discussion	Written / Viva voce	General Medicine, Community			

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	environmental influence, pathogenesis, morphology, microscopic appearance and complications of mesothelioma									Medicine	
Topic: Cardiovascular system											
Number of competencies: (09) Number of procedures that require certification: (NIL)											
PM 24.1	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 24.2	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	
PM 24.3	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 24.4	Describe the etiology,	K	KH	Y	Lecture, Small group	Written/ Viva voce				General Medicine	Microbiology

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	pathophysiology, pathology, gross and microscopic features, criteria and complications of rheumatic fever				discussion				
PM 24.5	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		
PM 24.6	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 24.7	Describe the etiology, pathophysiology, pathology, gross and microscopic	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	General Medicine		

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	morphology, clinical and laboratory and urinary findings, complications of renal failure									
PM 25.3	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 25.4	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		
PM 25.5	Define and classify glomerular diseases. Enumerate and describe the etiology, pathogenesis, mechanisms of	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine		

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	acute tubular necrosis									
PM 25.10	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			
PM 25.11	Define classify and 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 25.12	Define classify and describe the genetics, inheritance, etiology, pathogenesis, pathology, laboratory, urinary findings,	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	General Medicine, Pediatrics			

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PM 25.13	distinguishing features, progression and complications of cystic disease of the kidney 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 25.14	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 25.15	Describe the etiology, genetics, pathogenesis, pathology, presenting features	K	KH	N	Lecture, Small group discussion	Written/ Viva voce	General Medicine	

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	and progression of thrombotic angiopathies											
PM 25.16	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			
Topic: Male Genital Tract Number of competencies: (05) Number of procedures that require certification: (NIL)												
PM 26.1	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 26.2	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			

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PM 26.3	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 26.4	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 26.5	Describe the etiology, pathogenesis, pathology and progression of prostatitis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce	General Surgery	
Topic: Female Genital Tract								
Number of competencies: (09)				Number of procedures that require certification: (NIL)				
PM 27.1	Describe the epidemiology,	K	KH	Y	Lecture, Small group	Written/ Viva voce	Obstetrics & Gynaecology	

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	pathogenesis, etiology, pathology, screening, diagnosis and progression of the carcinoma of the cervix				discussion				
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	
PM 27.4	Classify and describe the etiology, pathogenesis, pathology, clinical morphology, clinical course, spread and complications of ovarian tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

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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 & Gynaecology	
PM 27.6	Describe the etiology and morphologic features of cervicitis.	K	KH	N	Lecture, Small group discussion	Written/ Viva voce	Obstetrics & Gynaecology	
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	
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	

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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
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	K	KH	Y	Lecture, Small group	Written/ Viva voce	Human Anatomy,

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	etiology, pathogenesis, pathology and iodine dependency of thyroid swellings			discussion			Physiology, General Medicine, General Surgery	
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 discussion	Written/ Viva voce	Physiology, General Medicine	
PM 29.4	Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features, complications and progression of	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	Physiology, General Medicine	

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	diabetes mellitus											
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			
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			

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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
Topic: Bone and soft tissue							
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
PM 30.2	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	Orthopaedics
							Microbiology

Number of competencies: (05) Number of procedures that require certification: (NIL)

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	laboratory features, diagnostic criteria and complications of rheumatoid arthritis											
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	
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
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	
MICROBIOLOGY								
Topic: General Microbiology and Immunity		Number of competencies: (10)		Number of procedures that require certification: (NIL)				

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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	
PM 34.4	Choose the most appropriate method of sterilization and disinfection to be used in specific situations in the laboratory, in clinical and	K	KH	Y	Small group discussion, Case discussion	Written/Viva voce/OSPE		General Surgery	

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	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.							
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	

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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
Topic: Gastrointestinal and hepatobiliary system								
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	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce	General Medicine	Pharmacology, Pathology

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	the laboratory diagnosis of the diseases caused by them										
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			
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			

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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
Topic: Musculoskeletal system skin and soft tissue infections									
certification: (NIL)									
PM 37.1	Enumerate the microbial agents causing anaerobic infections. Describe the etiology, clinical course and laboratory diagnosis of anaerobic infections	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PM 37.2	Describe the etiology, clinical course and laboratory diagnosis of bone & joint infections	K	KH	Y	Lecture	Written/ Viva voce		Orthopaedics	
PM 37.3	Describe the etiology, clinical course and laboratory diagnosis of skin and soft tissue and discuss the clinical	K	KH	Y	Lecture	Written/ Viva voce		Dermatology, Venereology & Leprosy, General Surgery	

	course and the laboratory diagnosis											
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				
PM 40.2	Describe the etio-pathogenesis and discuss the laboratory diagnosis of sexually	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy, Obstetrics & Gynaecology				

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	transmitted infections. Recommend preventivemeasures												
PM 40.3	Describe the etio-pathogenesis, the 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			
Topic: Zoonotic diseases and miscellaneous													
	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	K	KH	Y	Lecture	Written/ Viva voce				General Medicine			Pathology

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	discuss the factors contributing to the occurrence of OI, and the laboratory diagnosis											
PM 41.3	Describe the role of oncogenic viruses in the evolution of virus associated malignancy	K	KH	Y	Lecture	Written		General Medicine		Pathology		
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	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce						

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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

Bachelor of Occupational Therapy (BOT), NPIAS

Course Title/ Subject Name: PSYCHOLOGY

Course Code/ Subject Code: BOT C 203

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 behaviour. 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 behaviour for applying in the therapeutic environment. They will have proficiency based on written evaluation. They understand abnormal behaviours 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

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- 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.

SKILLS:

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

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

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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 1.2	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		
PSY 1.6	Define& explain term Motivation.	K	K, KH	Y	Lecture	Written		OTDP II

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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	
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	Describe the social influence on the	K	KH	Y	Lecture	Written	

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4.2	social perception.											
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						
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

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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	
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	

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Patterns of abnormal Behaviour-Personality Disorders							
PSY 7.7	Describe the types personality disorders.	K	K	Y	Lecture	Written	
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	

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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	

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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	K	KH	Y	Lecture,	Written	
Topic: Behaviour Disorders of childhood							
PSY 9.1	Explain & classify maladaptive behaviours.	K	K	Y	Lecture	Written	
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	

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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
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Recommended Books

1. Morgan C.T., King R. A., Weijz J. R. Schopler J. (1993). Introduction to Psychology, 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

Bachelor of Occupational Therapy (BOT), NPIAS

Course Title/ Subject Name: BIOMECHANICS & KINESIOLOGY

Course Code/ Subject Code: BOT C 204

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:

B. 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

C. 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

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- 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:

- 1. 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.
- 2. It is necessary to develop in students a sense of responsibility towards assessment of mobility skills.
- 3. Understanding of safe transfer techniques & their importance to the dependent patients.
- 4. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

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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 I 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,	Written		

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Topic - Am, R

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BMK 3.1	Describe the components in human Joints	K	K	Y	Lecture	written	Anatomy
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	

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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								
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		

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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/s mall group discussion /DOAP session, Skill training	Written Skill assessment, practical, OSPE	
BMK 5.6	Describe goals of Lower extremity orthoses & classify orthoses.						
BMK 5.7	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/s mall group discussion /Skill training	Written Skill assessment, practical, OSPE	
Topic 6: Adaptive devices		No of competencies :2					

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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/s small group discussion /Skill training			
Topic: Lower Extremity Joint Complexes								
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	K	KH	Y	Lecture	Written, Small group discussion		

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	mechanism								
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			

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BMK 7.8	Understand the concepts & functions of arches of Foot.	K	KH	Y	Lecture	Written, Small group discussion	
Topic: Temporomandibular 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	Written	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	Written	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 1 Cond
10.2	Demonstrates the ideal posture & understands the factors affecting the posture	K	KH	Y	Lecture, Small group	Written,	

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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	1 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	K	KH	Y	Lecture, group discussion,	Written, Skill		

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	positioning.				case study	assessment	
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,	Written	

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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		
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		

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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		
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 in Med cond, OT in surg cond, OT in neurological I Cond	
13.2	Description of vicarious movements	K	KH	Y	Lecture, Seminar	written		

Recommended Books:

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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

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Course Title/ Subject Name: OCCUPATIONAL THERAPY DIAGNOSTICS AND PROCESS – I

Course Code/ Subject Code: BOT C 205

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:

1. Understand the growth and development along with its theoretical basis in a typically developing human being.
1. Explain the concept of spatiotemporal adaptation in Occupational Therapy.
2. Explain the concept of development of muscle tone & abnormality in tone
3. Describe the Characteristics of coordinated movements.
4. Describe various neurophysiological techniques of intervention.
5. Describe the & developmental reflexes & assessment.
6. Describe evaluation of Physical Dysfunction for Muscle strength, Coordination.

SKILLS:

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

1. Develop Skills to assess coordination & Developmental reflexes.

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2. Demonstrate the neurophysiological techniques on dummy.
3. Demonstrate the Use of the standardized tools of Individual Muscle testing & assessment of muscle tone.

ATTITUDE:

1. 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.
2. It is necessary to develop in students a sense of responsibility towards assessment of Physical Dysfunctions
3. Understanding of handling & facilitatory techniques used during application of Neurophysiological techniques
4. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co-professionals



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COMPETENCY TABLE: OCCUPATIONAL THERAPY DIAGNOSTICS AND PROCESS - I

Code	Competency	Domain	Level	Core Y/N	Teaching Learning Method	Assessment	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		
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		

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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,	
OTDP I 2.7	Describe Theory of Learning, Behavioral Theory, Social learning theory and Maturation 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 I 3.2	Describe the Difference between Normal Muscle tone and Abnormal Muscle tone	K S	K, KH	Y	Lecture, DOAP	Written	

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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		
OTDP I 4.6	Understand using standardized and non-standardized test for evaluating coordination.	K, S	K, KH, S, SH	Y	DOAP	written		

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OTDP I 4.7	Demonstrate method of using Standardized assessments for cerebellar signs, Extrapyrarnidal 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	
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 in paediatric

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								conditions	
OTDP I 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			
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,	Y	Lecture,	Written			

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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		
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		
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		

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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 Quadriphonic 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	
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,	Written	

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OTDP					DOAP			
I 8.3	Describe the clinical strategies, those are employed in occupational therapy.	K, C,	K, KH,	Y	Lecture, DOAP	Written		
I 8.4	Define Three-Track Mind concept in clinical reasoning	K, C,	K, KH,	Y	Lecture, DOAP	Written		
I 8.5	Describe the facets of clinical reasoning	K, C,	K, KH,	Y	Lecture, DOAP	Written		
I 8.6	Mentioned the models used in clinical reasoning in occupational therapy?	K, C,	K, KH,	Y	Lecture, DOAP	Written		
Topic :9 Evaluation of Individual Muscle strength								
I 9.1	Describe the screening tests for muscle strength assessment	K	K, KH,	Y	Lecture, DOAP	Written	FOT I	
I 9.2	List the diagnosis for which the MMT is appropriate & List contraindicated with its rationale	K	K, KH,	Y	Lecture	Written		
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		
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		

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OTDP I 9.5	Interpret the results of muscle strength assessment (Weakness, shortening, substitution etc)	K, S	K, KH,	Y	Lecture DOAP	Written Practical
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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 Worthingham's Muscle Testing – Techniques of Manual Examination.
6. Neuro-developmental treatment a guide to clinical practice Judith c. Bierman
7. Brunnstrom's movement therapy in hemiplegia – a neurophysiological approach 2nd edition
8. Frames of references for pediatric occupational therapy (Paula Kramer) 3rd edition
9. Creeks occupational therapy and mental health 5th edition
10. Mental health concepts and techniques for the OTA Mary Beth Early
11. Clinical reasoning in physical disability, Rebecca Dutton

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Course Title/ Subject Name: Occupational Therapy Diagnostic and Process-II

Course Code/ Subject Code: BOT C 206

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 standenderized 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:

D. 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.

E. 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.

F. ATTITUDE:

- a. 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.
- b. It is necessary to develop in students a sense of responsibility towards assessment of Physical Dysfunctions
- c. Understanding of handling & facilitatory techniques used during application of Neurophysiological techniques
- d. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co-professionals
- e. Understand and use of clinical reasoning while planning for intervention.

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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 in Occupational Therapy intervention viz Occupational performance Model of human Occupation, Canadian Model of Occupational performance	K	K, KH		Lecture, DOAP	Written		
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	

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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	
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	

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OTDP II 3.5	Demonstrates the implementation of Occupational adaptation	K/S/C	KH, SH	Y	Lecture, Case study	Written, OSCE	
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	
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	

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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
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, Practical, OSPE	
OTDP II 6.4	Identify the specific standardized sensory assessments & their uses	K	K, KH	Y	Lecture/s mall group discussion /DOAP session	Written	

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OTDP II 6.5	Identify the sensory deficits & give overview of basic principles in sensory re-education	K	K, KH	Y	Lecture/D OAP session	Written	
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	

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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 Tests No of competencies 3							
OTDP II 9.1	Understand need for standardised assessments for hand function evaluation,	K	K, KH	Y	Lecture	Written	FOT II
OTDP II 9.2	Enumerate & Identify various Evaluation tests with respect to Occupational demands	K	K, KH		Lecture	Written	
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	Biomechanics & Kinesiology

Recommended 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

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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
6. Frames of Reference for Pediatric Occupational Therapy by Paula Kramer, Jim Hinojosa
7. Minnesota Manual Dexterity Test: www.physio-pedia.com
8. Jebson - Taylor Hand Function Test. <https://scripobject.com>
9. Perdue Peg board Test. <https://lafayetteevaluation.com>
10. Crowford Small Parts Dexterity Test. <https://www.creativeorgdesign.com>

Bachelor of Occupational Therapy (BOT), NPIAS

Course Title/ Subject Name: FIRST AID AND EMERGENCY CARE

Course Code/ Subject Code: BOT SEC 207

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.

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

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Competency Table: First aid and Emergency

SL. No	Competency	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Teaching Learning Method	Assessment
	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
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	K	K	N	Lecture	Written

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and finger injuries							
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	
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	Discuss about Dog bites, snake bite and others	K	K	N	Lecture	Written	

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3.5	First aid care of animal and insect bite	K, S	K, KH	N	Demonstration	Practical
FAE 3.6						
FAE 3.7	Discuss about Splinter, foreign object in the eye and ear	K	K	N	Lecture	Written
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
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						
FAE 5.1	Explain the Severe and minor burns and scalds, electrical and chemical burns	K	K	N	Lecture	Written
FAE	Discuss about burns to the eye, sun burn and heat stroke	K	K	N	Lecture	Written

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5.2							
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	
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 - L.C. Gupta & Abitabh Gupta, Jaypee Publishers.
3. First Aid and Emergency Nursing - N.N. Yalavyaswamy, CBS Publishers

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Course Title/ Subject Name: COMPUTER SCIENCE

Course Code/ Subject Code: BOT AEC 208

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

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

Skills: -

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

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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
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

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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 Barnes, Publisher Barnes & Nobel
2. Computer Science An overview by J.Glen Bookshear Publisher Denis Brylów, Pearson
3. Cambridge IGCSE computer science course book
4. Computer Science: Very Short Introduction, by Subrata Das Gupta

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BOT THIRD YEAR

Course Title/ Subject Name: MEDICINE & CARDIOVASCULAR MEDICINE

Course Code/ Subject Code: BOT C 301

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;

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

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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 Learning 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, Bed side 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 Cor Pulmonale., Intensive respiratory care (ICU).	K	KK/ H	Y	Lecture, Bed side clinic, small group discussion	Written	Pathology Pharmacology	OT in medical conditions
MCV 1.3	Describe the pathogenesis, clinical features, investigations, complications and brief outline of management of the following autoimmune conditions / diseases: Rheumatoid Arthritis, seronegative Spondylosing Arthritis, SLE, Gout, Still Disease Polymyositis, CREST syndrome	K	K/ SH	Y	Lecture Bed side 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		

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MCV 1.5	Describe the clinical features, 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		
MCV 1.8	Describe the clinical features and management of: Anaemias, Haemophilia, Thalassemia, Leukaemia Hodgkin's diseases	K	K/KH	Y	Lecture, Bed side 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, Bed side 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		
MCV 2.3	Describe Rheumatic heart diseases with their clinical features investigation and management	K	K/KH	Y	Lecture, Small group discussion,	Written		

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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, Bed side clinic Small group discussion,	Written	OT in Medial conditions
MCV 3.2	Describe the clinical features, investigations and management of HIV infections	K	K/KH	Y	Lecture, Bed side 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	

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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

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Course Title/ Subject Name: NEUROLOGY AND PEADIATRICS

Course Code/ Subject Code: BOT C 302

COURSE DESCRIPTION: This course introduces the student to the neurological & pediatric 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 Padiatrics is to have the knowledge, skills and behavioural attributes to function effectively as a clinician.

OBJECTIVES:

G. KNOWLEDGE:

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

1. Understand basics of Diagnostic process of common Neurology and Padiatrics 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.

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H. 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

I. 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.

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Competency Table: NEUROLOGY AND PEADIATRICS

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	
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									

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NP 2.1	Review in brief the Neuropsychologic 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
Topic: Extra Pyramidal lesions									
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									
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									
NP 5.1	Define, Classify & Explain the causes Clinical features investigation, management of Myasthenia Gravis, Motor Neuron Diseases.	K	K	Y	Small group Discussion, Lecture	Written		OT In Neurology	General medicine
Topic Diseases of the peripheral nerves									
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,	Written		OT in	

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Topic	Cerebellar disorders	No of Competencies: 2				Lecture	Neurology
NP 7.1	Define and classify Ataxia	K	K	Y		Small group Discussion, Lecture	OT in Neurology
NP 7.2	Describe the Diagnosis, Prognosis and management of Ataxias	K	K	Y		Small group Discussion, Lecture	OT in Neurology
Topic	Disorders of cranial nerves	No of Competencies: 2					
NP 8.1	Enumerate the clinical features and explain the causes of each cranial nerve affection	K	K	Y		Demonstration Small group Discussion, Lecture	OT in Neurology
NP 8.2	Explain the prognosis & management of each cranial nerve affection	K	K			Small group Discussion, Lecture	
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	OT in Neurology
NP 9.2	Describe the diagnosis and management of degenerative diseases	K	KH			Small group Discussion, Lecture	OT in Neurology
Topic	Infections of the nervous system	No of Competencies: 1					

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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, Cauda equina syndrome.	K	K	Y	Small group Discussion, Lecture	Written		OT in Neurology	General medicine
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
NP 13.3	Describe management of epilepsy	K	K	N	Small group Discussion, Lecture	Written			General medicine

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PEADIATRICS									
Topic	Growth and development	No of Competencies: 8			Lecture				
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		
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,	Written	OT in paediatric	General medicine, Pharmacology	

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NP 14.8	Describe the causes, clinical features, Classification and management of Mental Retardation.	K	K/KH	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
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	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
NP 17.2	Understand Respiratory distress in neonate.	K	K	Y	Written	General medicine

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NP	Understand Aspiration, GERD	K	K	N	Written	OT In Paediatrics	medicine General medicine
17.3							
Topic: Rheumatology							
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	Written	OT in pediatrics	General medicine
NP 18.2	Describe systemic lupus erythematosus	K	K	Y	Written	OT In PAEDS	general medicine
Topic: Nutritional 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	Written	Community medicine	General medicine
Topic: Genetic & 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	Written	OT pediatrics	General medicine

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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
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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

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Course Title/ Subject Name: OCCUPATIONAL THERAPY IN MEDICAL CONDITIONS

Course Title/ Subject Name: BOT C 303

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 an occupational therapist and subsequently improve functional independence and Quality of Life of the patient.

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:

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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.



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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 Learning 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/S H	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	-

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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/S H	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/S H	Y	Group Discussions Demonstrate,	Skill Assessment		

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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/S H/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 aging	K	KH	Y	Lectures	Written Viva	
OTM 3.3	Describe theories of aging	K	KH	Y	Lectures	Written Viva	
OTM 3.4	Identify specialized tools of OT assessment & treatment in geriatrics	K/S	KH/S H	Y	Lectures, Group Discussions	Written Viva. Skill Assessment	

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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, afflictions of the integumentary system	K	KH	Y	Lectures	Written Viva	Medicine
Topic: Immune disorders-HIV No of Competencies							
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	Written	

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					Seminar	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/S H	Y	Lectures, Seminar	Written		
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		

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OTM 6. 4	Discuss & demonstrate occupational therapy management in pulmonary conditions.	K/S	KH/S H	Y	Lectures Practical Bed side Clinic, DOAP	Written Viva, Skill Assessment		
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 haemophilia	K/S	S/SH/ P	Y	Practical Laborator y, Demonstr ate	Skill Assessment, Practical		

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OTM 7.6	Explain energy Conservation & life style modification, dietary measures, patient education in haemophilia	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.	K	K	Y	Lectures	Written Viva	
	Identify and perform Body Composition Assessment	S	SH	Y	DOAP	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	

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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:						
OTM 9.2	Describe OT management and prevention of the infectious diseases like Dengue, Leptospirosis, Malaria, Rabies	K	K	N	Lecture	written	Medicine
OTM 9.3	Describe role of OT in Pandemic diseases like COVID 19	K	KH	N	Lecture	Written	Medicine
		K	KH	N	Lecture	Written	Medicine

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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 – Good gold
- 7) Hand splitting – Fess, Gettle & Strickland.
- 8) Pulmonary rehabilitation, guidelines to success – Hodgkin T.E.
- 9) Physical rehabilitation, assessment, treatment – O'Sullivan.

Bachelor of Occupational Therapy (BOT), NPIAS

Course Title/ Subject Name: WORK PHYSIOLOGY & ERGONOMICS

Course Code/ Subject Code: BOT C 304

COURSE DESCRIPTION: 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

A. 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.

A. SKILL

1. Apply principles of biomechanics and work physiology in OT.

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2. Demonstrate and assess work place layout.

Dr. Anurag D. Singh

Gopal Narayan Singh University, Jamuhar, Rohtas, Bihar

Dr. Anurag D. Singh

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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 Learning 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
Topic: Evaluation of Physical Performance and fitness test No of Competencies: 6								
WP 2.1	Explain aerobic process related to Intensity and duration of	K	KH	Y	Lectures Seminars	Written	Physiology	

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WP 2.2	exercise and recovery. 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	
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 3.1	Understand the role of nutrition on Physical Performance.	K	KH	Y	Lectures Seminars	Written	
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	

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WP 4.2	Describe effects of Acclimatization, effects of altitude, season, smoking, temperature, de conditioning on physical performance	K	KH	Y	Lectures Seminars	Written	
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	

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Ergonomics						
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 centred 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
Topic : Branches of Ergonomics						
No of Competencies: 15						
Branches of Ergonomics Anthropometry-						
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	K	K	Y	Lectures, Small Group	Written, viva
						OTDP I

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	anthropometric data					Discussions	viva	
ERG 3.4	Biomechanics- 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	SH	N		Lectures, Demonstration	Written	OTDP I
	Environmental Physiology							
ERG 3.7	Define & classify the types of environments.	K	K	Y		Lectures, Small Group Discussions	Written, viva	
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 a. Phases of skill learning b. 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	K	K	Y		Lectures, Small Group	Written,	

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	system		K	KH		Y	Discussions Lectures, Small Group Discussions	viva	
ERG 3.12	Describe Information processing theory and the process.		K	KH		Y		Written, viva	psychology
ERG 3.13	Enumerate the Factors affecting man machine system i) Design Factor ii) Environmental Factors iii) Organizational factors		K	K		Y	Lectures, Small Group Discussions	Written, viva	
	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									

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ERG 5.1	Define psychosocial factors.	K	K	Y	Lectures,	Written	
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	

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ERG 8.2	Apply the Ergonomic principles in Occupational Therapy Practice related to: i) Lifting analysis ii) Seating analysis iii) Computer and assistive technology	K/S	KH/SH	Y	Lectures, Demonstration,	Written, Skill assessment	
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Recommended Books

1. Karen Jacobs: Ergonomics for Therapists
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

Course Title/ Subject Name: SURGERY & ORTHOPAEDICS

Course Code/ Subject Code: BOT C 305

COURSE DESCRIPTION: This course intends to familiarize students with principles of orthopaedic surgery along with terminology and abbreviations used in Orthopedics 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, speciality 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 speciality 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.

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SKILL

1. Develop clinical skills (history taking, clinical examination and other instruments of examination of various common surgical 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 surgical conditions.

ATTITUDE:

1. The teaching orthopedics 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.

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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 Learning Method	Assessment method	Vertical	Horizontal
SURGERY & ORTHOPAEDICS								
Topic:	General Surgery	No of Competencies: 11						
SO 1.1	Describe classification of wound, stages of healing and their treatment.	K	KH	Y	Lecture, Bed side 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, Bed side 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, Bed side clinic, small group discussion	Written		
SO 1.4	Describe in brief various surgeries of head and neck, their indications and complications	K	KH	Y	Lecture, Bed side 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	K	KH	Y	Lecture, Small group	Written		OT in surgical

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	management with role of burns rehabilitation team				discussion, Bedside clinics			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 Bedside clinics	Written		
SO 1.9	Etiology and management of surgical incontinence and prolapse rectum	K	KH	Y	Lecture, Small group discussion Bedside clinics	Written		
SO 1.10	Hernia- definition, causes, types and management	K	KH	N	Lecture, Small group discussion Bedside clinics	Written		
SO 1.11	Describe postoperative complications of abdominal surgery.	K	KH	Y	Lecture, Small group discussion Bedside clinics	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	OT in surgical conditions

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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	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	
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	Written	Orthopaedics	

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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	
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, Bed side 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						

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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
SO 5.2	Enumerate the indications for and Tracheostomy procedure	K	KH	N	Lectures, 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	
SO 5.7	Describe the etiopathogenesis, clinical features and principles of management of Functional Atonia and Deafness	K	KH	Y	Lecture, Small group discussion, Bedside	Written	

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Topic:	Ophthalmology	No of Competencies: 7				clinics			
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, Small group discussion	Written		
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 extraocular 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/S H	Y		Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		

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Topic:	Obstetrical and Gynaecology	No of Competencies: 9						
SO 7.1	Describe common obstetrical and gynaecological 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
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	

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Topic: Surgical Oncology		No of Competencies: 4				
SO	Topic	K/A/S	K/KH	Y	Lecture, Group discussion	Written/ Viva voce
SO 8.1	Describe Palliative and reconstructive surgeries in head and neck cancer,			Y	Lecture, Group discussion	
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
SO 8.4	Describe surgical management of Cancer of GI tract	K	KH	Y	Lecture, Small group discussion	Written
ORTHO PAEDICS						
Topic	Fractures or injury to the bone	No of Competencies: 06				
SO 9.1	Define and classify fractures	K	K		Y	Lecture
SO 9.2	Enumerate the causes, clinical features & healing of fractures & its complications.	K	K/KH		Y	Lecture
SO 9.3	Describe general principles of management of Fractures of the Upper Extremity,	K	KH		Y	Lecture
						OT in Orthopaedic conditions

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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
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 injuries	K	KH	Y	Lecture	Written	Clinical plastic surgery
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	

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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 13.2	Describe clinical & radiological features of various deformities of spine and extremities,	K	KH	Y	Lecture	Written			
SO 14.3	Describe medical and surgical management with postoperative care for deformities of spine and extremities	K	KH	Y	Lecture	Written			
SO 14.4	Describe different types of congenital anomalies	K	K	Y	Lecture	Written			
SO 14.5	Describe conservative and surgical management for congenital anomalies.	K	KH	Y	Lecture	Written	OT in Orthopaedic conditions		
Topic: Degenerative and Inflammatory Conditions		No of Competencies: 02							
SO 15.1	Describe pathology & clinical manifestations of Degenerative and Inflammatory Conditions	K	KH	Y	Lecture	Written	Pathology		
SO 15.2	Describe management of Degenerative and Inflammatory Conditions	K	KH	Y	Lecture	Written	OT in Orthopaedic conditions		
Topic: Metabolic Disorders		No of Competencies: 02							
SO 16.1	Describe clinical features & management of Osteoporosis. Osteomalacia & Rickets	K	K	Y	Lecture	Written			

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SO 16.2.	Describe management of Osteoporosis Osteomalacia & Rickets	K	K	Y	Lecture	Written	Clinical Endocri nology
Topic: General Orthopaedic Disorders							
No of Competencies: 07							
SO 17.1	Explain the etiology & clinical features of Entrapment nerve injuries & Compartment syndrome,	K	K	Y	Lecture	Written	Clinical Plastic surgery
SO 17.2	Explain the etiology & clinical features of Avascular necrosis of bone in adult and children,	K	K	Y	Lecture	Written	
SO 17.3	Explain the etiology & clinical features Backache / Prolapsed Intervertebral Disc	K	K	Y	Lecture	Written	
SO 17.4	Explain the etiology & clinical features Work related musculoskeletal disorders.	K	K	Y	Lecture	Written	OT in Orthopa edic conditio ns
SO 17.5	Describe management for Entrapment nerve injuries & Compartment syndrome,	K	K	Y	Lecture	Written	
SO 17.6	Describe management for Backache /Prolapsed Intervertebral Disc	K	K	Y	Lecture	Written	OT in Orthopa edic conditio ns
SO 17.7	Describe management for Work related musculoskeletal disorders	K	K	Y	Lecture	Written	OT in Orthopa edic conditio ns
Topic: Tumours of The Musculoskeletal System							
No of Competencies: 02							

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SO 18.1	Define & Classify types of tumours of The Musculoskeletal System	K	K	Y	Lecture	Written	
SO 18.2	Describe general principles of management of tumours of musculoskeletal system.	K	K	Y	Lecture	Written	
Topic: Sports Injuries		No Of Competencies: 02					
SO 19.1	Enumerate upper & lower extremities sports injuries	K	K	Y	Lecture	Written	
SO 19.2	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

Bachelor of Occupational Therapy (BOT), NPIAS

Course Title/ Subject Name: PSYCHIATRY

Course Code/ Subject Code: BOT C 306

COURSE DESCRIPTION: At the end of the course student will attain 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

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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 Learning Method	Assessment method
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	Practical 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
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/S H	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
Topic: Methods of treatment		No of Competencies: 3				

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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	
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. Hypomanic episode	K	K	Y	Lectures	Written, Viva	

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PS 7.4	Explain Onset, etiology, clinical features, course, treatment and prognosis of Mood disorder	K	KH	Y	Lectures	Written	
	Organic brain disorders						
PS 7.5	Explain the terms Delirium, Dementia, Amnesic 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	
	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	K	K	Y	Lectures	Written	

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	disorder, Enuresis, Communication disorder, Learning disorder and Motor skill disorder.							
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		
Cognitive disorder								
PS 7.17	Explain the terms Dementia, Alzheimer's, Pick's disease, Amnesic 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		

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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 V.

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Course Title/ Subject Name: OCCUPATIONAL THERAPY IN SURGICAL CONDITIONS

Course Code/ Subject Code: BOT C 307

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 an 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 dumb.
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

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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 Learning Method	Assessment method	Vertical Integration	Horizontal Integration
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 goals of burns Rehabilitation	K/S/C	K/SH/P	Y	Lecture, Small group discussion, DOAP	Written /viva voice		
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, general surgery
OTS 2.2	Explain Surgical management and	K	K	Y	Lecture	Written /viva voice		Orthopedics, general surgery

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	levels of amputation	K/S	K/SH			Lecture, Small group discussion, DOAP	Written /viva voice	Anatomy	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		
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		
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	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
OTS 3.3	Identify Zones of tendon injury	S	SH	Y		Demonstrate. Practical, Small group Discussion,	Viva, Skill Assessment	Anatomy	Plastic Surgery

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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
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	Written. Viva, Skill Assessment, OSCE, DOP		Orthopedics

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OTS 4.7	Describe Digital Replantation surgery and OT management	K	KH	Y	Discussion, DOAP Lecture, Small group Discussion	Written. Viva	Plastic Surgery
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
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	-

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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	OT Diagnostic II	-
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
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, Skill Assessment		
OTS 6.4	Discuss Psychological & emotional aspects of living with cancer.	K/S/A	SH/S	Y	Demonstrate. Practical, Lecture, Small group Discussion,	Written. Viva, Skill Assessment		
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, restorative, 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		

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OTS 6.8	Demonstrate Postural exercises and body image adjustment training	K/S	KH	Y	Bed Side clinic Demonstration	Skill Assessment, OSCE	
OTS 6.9	Counsel the patient regarding malignant conditions of the breast & body image problem	A/ C	SH	Y	DOAP	Skill assessment	Psychology
Topic: Vascular Conditions		No of Competencies: 8					
OTS 7.1	Define Vascular, Lymphatic & Integumentary disorders & its risk factors	K	K	Y	Lecture	Written	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
OTS 7.6	Demonstrate Exercises for 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 voice/skill assessment	

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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 voice/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	-
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						-

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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 Gynaecology								
OTS10.1	Enumerate Complications related to Pregnancy	K	K	Y	Lecture,	Written. Viva	-	Gynac
OTS10.2	Discuss Effects of aerobic exercises in Antenatal, prenatal, postnatal & during pregnancy	K	KH	Y	Lecture,	Written. Viva	-	
OTS10.3	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
OTS10.4	Demonstrate floor strengthening, Kegel's exercises	S	SH	Y	DOAP, Demonstration	Skill Assessment		
OTS10.5	Discuss Mother & child care	K/S	K	Y	Lecture,	Written. Viva		
OTS10.6	Identify Indications and contraindications to exercises in pregnancy	S	SH	Y	Demonstration, Bed side clinic	Practical, Skill Assessment		
OTS10.7	Explain Back care: Ergonomic education	K/C	KH	Y	Lecture,	Written. Viva		

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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

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Course Title/ Subject Name: RESEARCH METHODOLOGY & BIOSTATISTICS

Course Code/ Subject Code: BOT C 308

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.

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4. Appreciate the importance of Computer in hospital



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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 Learning Method	Assessment method	Vertical Integration	Horizontal Integration
RESEARCH METHODOLOGY & BIOSTATISTIC								
Topic: Stages of research process								
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		
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/S H	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		

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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
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.				
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
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

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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
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	Written

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					discussion	
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
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
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			

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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	
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/S H	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 Bala Rastogi. 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

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FOURTH YEAR

Course Title/ Subject Name: OCCUPATIONAL THERAPY IN ORTHOPEDIC CONDITIONS

Course Code/ Subject Code: BOT C 401

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 appropriate Models/ 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, behavioral, 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 Poliomyelitis.
8. Understand the role of Occupational Therapy in Sports Medicine.

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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.

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COMPETENCIES TABLE: OCCUPATIONAL THERAPY IN MUSCULOSKELETAL CONDITIONS

Number	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 I 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		
OTOC 1.3	Outline the application of appropriate and various Models, Fames of references and approaches as applied to Musculoskeletal Rehabilitation	K, S, A, C	SH, P	Y	Lecture, DOAP	Written, Viva, Practical	7		

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Topic: Fractures of upper and lower extremities		No of competencies: 6	Number of procedures for certification: 0		
OTOC 3.1	Demonstrate Occupational therapy assessment in fractures of upper extremity and lower extremity	K, S, A, C	SH/P	Y	Lecture, Small group discussions, DOAP
				Written, viva, OSCE, practicals	0
OTOC 3.2	Identify limitations in occupational participation and contextual factors and client factors affecting participation in occupations	K, S	SH	Y	Lecture, Small group discussions, DOAP
				Written, viva, OSCE, practicals	0
OTOC 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
					Clinical Orthopaedics, Fundamentals of OT, OTDP II
					Occupational Therapy in Psychiatry, OT in Service Management

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OTOC 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	
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 Orthopaedics OTDP II, Fundamentals of OT II	Occupational Therapy in Psychiatry, Community Based OT &
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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	Rehabilitation, 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	

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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	Occupational Therapy in Psychiatry
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	K, S, A, C	SH, P	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals	0		

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	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.									
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			
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,		
OTOC 6.2	Demonstrate Occupational Therapy management including preventive, accommodative and restorative approaches including joint protection techniques and work	K, S, A, C	SH	Y	Lecture, Small group discussions, DOAP	Written, viva, OSCE, practicals		Ergonomics and Work Physiology		

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	prescription and/or fabrication of orthosis, assistive devices and mobility aids												
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						
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													
OTOC 8.1	Define and classify common congenital musculoskeletal deformities	K	K	Y	Lecture	Written	0					Clinical Orthopaedics,	

Number of competencies: 3 Number of procedures for certification: Nil

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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/Sm all group discussions /DOAP	Written, viva, OSCE, practicals	0	Fundamentals of OT
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/Sm all group discussions /DOAP	Written, viva, OSCE, practicals	0	
Topic: Neuromuscular deformities in Cerebral Palsy and Poliomyelitis								
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

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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

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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	
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	Written	0	

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OTOC 10.7	Discuss the Occupational Therapy role in prevention of sports injuries and rehabilitation and return to sports after injury	K, S		discussions	Lecture, Small group discussions	Written	0	
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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. Magee 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-Hill Companies.

Bachelor of Occupational Therapy (BOT), NPIAS

Course Title/ Subject Name: OCCUPATIONAL THERAPY SERVICES & MANAGEMENT

Course Code/ Subject Code: BOT C 402

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

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COMPETENCIES TABLE: OCCUPATIONAL THERAPY SERVICES & MANAGEMENT

Code	Objectives/Competency Students should be able to	Domains of Learning	Compe tencies	Core Y/N	Teachin g Learnin g methods	Assessment methods	Horizonta l Integratio n	Vertical Integratio n
OCCUPATIONAL THERAPY SERVICES & MANAGEMENT								
Topic: Introduction to Bioethics, Professional Ethics & Development			No of competencies: 4					
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 AOTA and AIOTA	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 and case scenario	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	K, S	KH, SH	Y	Lecture	Written		

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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, C	KH, SH	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
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	K	KH, SH	Y	Lecture,	Written	

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	clinical reasoning in OT practice				DOAP		
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: 4							
OTSM 8.1	Understand Historical overview for industrial rehabilitation	K	KH	Y	Lecture DOAP	Written	
OTSM 8.2	Enumerate and describe industrial rehabilitation services	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	

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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

Bachelor of Occupational Therapy (BOT), NPIAS

Course Title/ Subject Name: COMMUNITY MEDICINE, PUBLIC HEALTH & SOCIOLOGY

Course Code/ Subject Code: BOT C 403

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.

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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

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COMPETENCIES TABLE: COMMUNITY MEDICINE AND SOCIOLOGY

Number	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 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		
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 &	K	KH	Y	Lecture	Written	0		

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Topic :	CMS :	CMS :
		

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sciences									
CMS 5.3	Describe social & behavioural sciences	K	K	Y	Lecture	Written	0		
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		Occupational Therapy in Community Rehabilitation & 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		
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		Occupational Therapy in Community Rehabilitation & 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		

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CMS 9.2	Identifying various aspects of biowaste management	K	KH	Y	Lecture	Written	0	
Topic: Disaster management								
No of competencies: 3								
CMS 10.1	Identify & describe principles in Disaster management	K	K	Y	Lecture	Written	0	Occupational Therapy in Community Rehabilitation & 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	Occupational Therapy in Community Rehabilitation & public health
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	
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	
Topic: Introduction to Ayush								
No of competencies: 1								
CMS 13.1	Identify different healthcare facilities	K	K	Y	Lecture	Written	0	

Bachelor of Occupational Therapy (BOT), NPIAS

provided by AYUSH

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.

Bachelor of Occupational Therapy (BOT), NPIAS

Course Title/ Subject Name: Community Occupational Therapy & Rehabilitation

Course Title/ Subject Name: BOT C 404

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.

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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.

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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 BASED 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, viva			
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			
Topic: Wellness program & Preventive Occupational Therapy			No of competencies: 4						
COTR 2.1	Define Health, Health	K	KH	Y	Lecture	written			

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COTR3.5	Demonstrate Visual perceptual assessment for driving	K	SH	Y	Lecture/D OAP	Written, Viva voce, Skill assessment		
COTR3.6	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								
COTR4.1	Identify Occupational Hazards	K	K	Y	Lecture	Written, Viva voce		
COTR4.2	Describe the strategies for management of prevention of occupational hazards	K	K	Y	Lecture	Written, Viva voce		
Topic: Occupational therapy in Disaster management								
No of Competencies: 3								
COTR5.1	Describe Anticipated calamities or Disaster in India	K	K	Y	Lecture	Written, Viva voce		
COTR5.2	Identify the role of Occupational therapy in prevention of disaster	K	K	Y	Lecture	Written, Viva voce		
COTR5.3	Describe the role of Occupational therapy in acute & post disaster	K	K	Y	Lecture	Written, Viva voce		

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	events as a team member																												
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														
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 ICDH	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														
COTR 7.3	Describe Persons with	K					KH		Y			Lecture			Written,														

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	Disability Act (1995), National Trust Act 1999, RCI Act 1992, Right to Person with Disabilities (RPwD) Act (2016) by Government of India					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		

SECTION II: 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		

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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, Splinting & Braces.	K	SH	Y	Lecture, DOAP	Written, Viva voce		
COTR 9.4	Identify the need for selection of Assistive & Adaptive Devices/aids for mobility, ADL & ambulation	K	KH	Y	Lecture	Written, Viva voce		
COTR 9.5	Describe the factors considered for fitting of assistive & Adaptive devices for 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	K	SH	Y	Lecture, DOAP	Written, Viva voce		

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COTR 13.2

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	Biofeedback, Yoga Therapy, Acupuncture therapy, Dry needling									
COTR 13.3	Describe the various approaches & techniques used in Virtual Reality	K	KH	Y	Lecture	Written, Viva voce				
COTR 13.4	Describe about Assistive & adaptive Technology	K	KH	Y	Lecture	Written, Viva voce				
COTR 13.5	Describe the various new approaches in rehabilitation such as Tele-rehabilitation and Robotics	K	KH	Y	Lecture	Written, Viva voce				
COTR 13.6	Describe Computer / IT application in rehabilitation	K	KH	Y	Lecture	Written, Viva voce				
Topic: Discuss Adjunctive Therapy to O.T No of Competencies: 3										
COTR 14.1	Introduction to physiotherapy: Understand scope & importance of prevention, remediation of movement dysfunction and various techniques. Uses of Physical Agents & Modalities	K	K	N	Lecture	Written, Viva voce				

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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			
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 release and other pain management	K	SH	N	Lecture	Written, Viva voce, Skill assessment			

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	such as Taichi etc.)								
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 improve occupational performances	K	SH	Y	Lecture	Written, Viva voce, Skill assessment			

Reference Books:

1. Willard and Spackman's Occupational Therapy by Elizabeth BlesedellCrepeau, Ellen S. Cohn, Barbara A. BoytSchell. 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

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Course Title/ Subject Name: Occupational Therapy Practices in Psychiatry

Course Code/ Subject Code: BOT C 405

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.

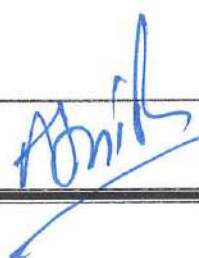
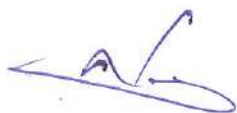
C. Attitude:

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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.



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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		
OTPSY 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	K	K, KH	Y	Lecture	Written, Viva voce	OTDP II	

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	v. Client-centered therapy 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. SensoryIntegration/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		

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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	
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	K, S, A, C	SH	Y	Lecture, Small group discussion	Written, Viva voce, Skill assessment,	

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factors given below:					n, DOAP	Practical		
	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							
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-	K	SH		Lecture, DOAP	Written, Viva voce, Skill assessment, Practical		

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	standardized approaches.								
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		Lecture	Written			
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		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		Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical			
OTPSY 5.4	Explain and demonstrate use of occupation and activity for occupational therapy in	K, S,A, C	K, SH		Lecture, Small group discussion	Written, Viva voce, Skill assessment,			

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	psychiatry.				n, DOAP	Practical	
OTPSY 5.5	Explain and demonstrate use of physical activity for mental well-being.	K, S,A, C	K, SH		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		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		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		Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical	
OTPSY 5.9	Explain and demonstrate group therapy.	K, S,A, C	K, SH		Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical	
OTPSY 5.10	Explain and demonstrate stress management techniques.	K, S,A, C	K, SH		Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical	

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OTPSY 5.11	Explain and demonstrate use of virtual reality.	K, S, A, C	K, SH		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	
OTPSY 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	
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

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Topic: Mental health occupational therapy in adults		No. of competencies: 4						
		K	K	Y	Lecture, DOAP	Written, Viva voce		
OTPSY 7.1	Explain neuropsychiatry of adult psychiatric disorders relevant to occupational therapy process and practice.	K						
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		
OTPSY 7.4	Discuss occupational therapy assessment and management for the following: - Schizophrenia Spectrum and other Psychotic Disorders - Catatonia - Bipolar and related Disorders - Anxiety Disorders - Obsessive Compulsive and related Disorders - Trauma and Stressor-Related Disorders - Dissociative Disorders - Feeding and Eating	K, S, A, C	K, S	Y	Lecture, Small group discussion, DOAP	Written, Viva voce, Skill assessment, Practical		

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OTPSY 8.1	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								
Topic: Psychosocial aspects of disability		No. of competencies: 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 Donogh
6. Occupational Therapy for Children and Adolescents, Case-Smith

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Course Title/ Subject Name: Occupational Therapy in Paediatrics Conditions

Course Code/ Subject Code: BOT C 406

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 aetiology 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

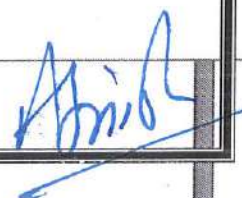
1. Develop clinical skills (history taking, clinical examination and other instruments of examination) to know the clinical manifestations and its impact on function.

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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.



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COMPETENCIES TABLE: OCCUPATIONAL THERAPY IN 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
Occupational Therapy in Paediatrics								
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, Developmental 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								
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	K	KH, SH		Lecture, DOAP session, case study, seminar, presentations	Written, Viva voce, Skill assessment, Practical		

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	Occupational Therapy Practice Framework.						
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
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	K/S	KH		Lecture/ DOAP session	Written/Viva voce	OTDP I ,psychology, Psychiatry

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OTPC	Strategies	K	KH			Lecture	Written/Viva Voce	OTDP I psychology, Psychiatry
OTPC 2.9	Discuss Report Preparation for Sensory processing issues	K	KH					
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
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
Topic: Introduction to Neurodevelopmental Disorders				No of Competencies: 4				
OTPC 3.1	Define and Explain Classification of	K, S	KH, SH			Lecture, DOAP session, case study,	Written, Viva voce, Skill	Paediatrics

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	neurodevelopmental disorders with emphasis on Intellectual Disabilities, Communication Disorders, Autism Spectrum Disorder, Attention - Deficit Hyperactive Disorder, Specific Learning disorder, and other Sensory Processing dysfunctions				seminar, presentations	assessment, Practical	
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	
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 of early intervention	K, S	SH		Lecture, DOAP session	Written, Viva voce, Skill	

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	approaches for oral motor disabilities						voce	
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	
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	

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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	
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	

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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	
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, Orthopaedics
OTPC 9.2	Describe Neurological & Neurosurgical concerns,	K	KH		Lecture	Written, Viva Voce	

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	Functional limitations in neural tube defects								
OTPC 9.3	Discuss Orthopaedic concern	K	KH			Lecture	Written, Viva Voce		
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		

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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 Paediatric 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, Wiley-Blackwell, A John Wiley & sons Ltd Publication publication
8. Finnie's Handling of young child with cerebral palsy at Home by Eva Bower; Elsevier publication
9. Illingworth's The development of the infant & young child (Normal & abnormal 0, Ronald Illingworth, MKC Nair, Paul Russell; Elsevier publication
10. Occupational therapy for children by Jane Case Smith, Jane Clifford O'Brien, Mosby Elsevier publication

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Course Title/ Subject Name: Occupational Therapy in Neurological Conditions

Course Title/ Subject Name: BOT C 407

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.

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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 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.

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COMPETENCIES TABLE: OCCUPATIONAL THERAPY IN NEUROLOGICAL CONDITIONS

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, S, DOAP		Lecture, practical , case presentation	Written, Viva, practical	OTDP I & OTDP II	
Topic: Occupational Therapy Frames of references, models and approaches used in Neurological Conditions.								
N of Competencies – 1								
OTNC 2.1	Choose, describe and demonstrate appropriate and various Models, Frames of references and approaches as applied to Neurological Rehabilitation to promote participation in occupations	K	KH, SH	Y	Lecture, DOAP	Written, Viva, practical		

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	including but not limited to									
	• PEO Model • MOHO • Cognitive Frame of reference • Neurophysiological approaches • Task oriented approach • Rehabilitative Frame of Reference									
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				
Topic: Occupational Therapy Evaluation and interventions in Dysphagia										
No of Competencies – 3										

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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	
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 aetiopathogenesis 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, cognitive-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	

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OTNC 5.4	Describe various Orthotic, Assistive and Augmentative Technologies for the clients with stroke	K	KH,SH		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,SH	Y	Lecture, DOAP	Written, Viva, Practicals	
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, cognitive-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

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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
Topic : Occupational Therapy Evaluation and interventions in Infective conditions of the brain								
No of Competencies – 3								
OTNC 7.1	Describe the aetio-pathogenesis, and symptoms of various infective conditions of the brain for example Intracranial abscess, 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, SH		Lecture, DOAP	Written, Viva, Practical		
OTNC 7.3	Discuss and present the Prognostic determinants.	K	KH		Lecture	Written, Viva		
Topic : Occupational Therapy Evaluation and interventions in Neoplastic conditions of the brain and spinal cord (Intracranial & Spinal Tumors)								
No of Competencies – 4								

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OTNC 8.1	Describe the aetio-pathogenesis, and symptoms of various neoplastic conditions of the brain. Classification of tumours as per WHO classification.	K	KH	Y	Lecture, DOAP, case study, Seminar, Presentatio ns	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, Presentatio ns	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, Presentatio ns	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
Topic : Occupational Therapy Evaluation and interventions in Movement disorders							No of Competencies – 5
OTNC 9.1	Describe the aetio-pathogenesis, 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	

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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,SH		Lecture, DOAP, case study, Seminar, Presentations	Written, Viva voce, Skill assessment, Practical	FOT II, CBOT & R	
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								
OTNC 10.1	Describe the aetio-pathogenesis, 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, SH		Lecture, DOAP	Written, Viva voce, Practical		

Topic: Occupational Therapy Evaluation and interventions in Inflammatory and autoimmune disorders of the brain
No. of Competencies – 3

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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 Neurone, Neuromuscular Junction And Muscles.						
No of Competencies – 3						
OTNC 11.1	Describe the aetio-pathogenesis, 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, SH	Lecture, DOAP	Written, Viva voce, Practical	
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 aetio-pathogenesis, 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	

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OTNC	Discuss and present the Prognostic determinants of Cerebellar dysfunctions.	K	KH	Lecture	Written, Viva voce	No of Competencies – 3
Topic: Occupational Therapy Evaluation and interventions in Vestibular function and dysfunction.						
OTNC 12.3	Describe the aetio-pathogenesis, and symptoms and classification of Vestibular functions and dysfunctions.	K	KH	Y	Written, Viva voce	OTDP I & OTDP II
OTNC 13.1	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	Written, Viva voce, OSCE	
OTNC 13.2	Discuss and present the Prognostic determinants of Vestibular dysfunctions.	K	KH		Written, Viva voce	
Topic: Occupational Therapy Evaluation and interventions in Cranial Nerves function and dysfunctions.						
OTNC 14.1	Describe pathways and functions of cranial nerves. Explain the aetio-pathogenesis of various cranial nerve dysfunctions.	K	KH	Y	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	Written, Viva voce, Practical, OSCE	OTDP II
OTNC 14.3	Discuss and present the Prognostic determinants of Cranial nerve dysfunctions.	K	KH		Written, Viva voce	
Topic: Occupational Therapy Evaluation and interventions in Seizure disorders.						
No of Competencies – 3						

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OTNC 15.1	Describe the aetio-pathogenesis, 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, SH	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