

# Ordinance & Syllabus

of

# Bachelor in Occupational Therapy



Atal Bihari Bajpayee Medical University UP  
Session 2021-22 Onwards (Semester System)

These ordinances shall be called "The Ordinances & Regulations, Syllabus and Scheme of Examination pertaining to norms for the Bachelor of Occupational Therapy course"

*Ricsham*  
RUCHI NAGAR, BUCKSHER  
(Dr. R.K. SHARMA)  
13/7/22

*Nirupama*  
(Dr. NIPESH SHRIYASR)

*Dr. Kamal Kant*

*13/7/22*



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**Atal Bihari Vajpayee Medical University, Lucknow, U.P.**

**No. of Seats:** Not more than 60 seats in a college. (Seats in already existing /affiliated colleges will remain as it is.)

**No. of Occupational Therapy Beds:** The Bed: Student ratio in the College should be 1:3

**HUMAN RESOURCES REQUIREMENT FOR COMMENCING BOT DEGREE PROGRAM:**

**Teaching faculty:** Teacher student ratio must be (1:10) Teacher: Student.

**Non-Teaching Staff** such as Librarian, Asst. Librarian, Clerk-2, Computer operator-1, Lab assistant for each Lab, Driver, Peon must be at least 7.

Pay Scales of Teaching and Non-Teaching Staff will be as per latest U.G.C Norms.

**Qualifications, Experience and Other Eligibility Requirements for Appointment of Occupational Therapy Faculty Members**

**I. ASSISTANT PROFESSOR:**

Bachelor Degree in Occupational Therapy (B.O.T./ B.O.Th.), Master Degree in Occupational Therapy (M.O.Th/ M.Sc. O.T/M.O.T./ MSOT) with at least 55% marks (or an equivalent grade in a point scale wherever the grading system is followed) from a recognized University.

**II. ASSOCIATE PROFESSOR:**

- i) Essential: A Master Degree in Occupational Therapy (M.O.T./M.O.Th./M.Sc. O.T./ MSOT) with eight years' experience as Assistant Professor.
- ii) Desirable: Higher Qualification such as Ph.D. degree in Occupational Therapy or related field recognized by the U.G.C, and published work of high standard in peer-reviewed or UGC - listed journals.

**III. PROFESSOR:**

- i) Essential: Master's Degree in Occupational Therapy (M.O.T./ M.O.Th./M.Sc. O.T./MSOT), with three years' experience as Associate Professor.
- iii) Desirable: Higher Qualification such as Ph.D. degree in Occupational Therapy or related field recognized by the U.G.C, and published work of high standard in peer-reviewed or UGC - listed journals.

**IV. PRINCIPAL /DEAN:**

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- i) Essential: Master's Degree in Occupational Therapy (M.O.T./M.O.Th./M.Sc. O.T./MSOT) with fifteen/ eighteen years total teaching experience. Senior most Professor shall be designated as the Principal / Dean (Occupational Therapy).
- iv) Desirable: Higher Qualification such as Ph.D. degree in Occupational Therapy or related field recognized by the U.G.C, and published work of high standard in peer-reviewed or UGC - listed journals.

All teaching faculty should be full-time. The University will conduct regular faculty development programs, refresher courses, orientation programs, induction programs for developing the teaching and research skills of the faculty.

**ACADEMIC FACILITIES:**

A. **Academic Block:** The minimum required area in the academic block for urban areas is 4000 Sq Meter (43040 Sq Ft) and for rural areas is 8000 Sq Meter (86080 Sq Ft). In case of more than one course in that building there must be an additional 2000 Sq. meter more area per course. There should be minimum 10 sq.ft. space per student in classrooms, 15 sq. ft. space per student in laboratories. The space in clinical areas shall depend on the number of students posted in the clinics at a time.

Space allotment	Total area required (sq. ft.)
*Department Office	500
* Principal's Office	300
* H.O. D/ Professor's Office	400
Associate Professor's office	400
Assistant Professor's office	1200

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Common room for Staff	300
Seminar room/Mini Auditorium	1200
Conference Hall	2500
Class Rooms (with LCD projector, Audio Visual aids).	3200
Girls common room (with bed and attached washroom)	400
Boys Common room	200
Library with Reading Room	2500
Hostel for Girls	
Hostel for Boys	
Out-door Occupational Therapy department (Minimum 50 patients/day)	2500
Laboratories	Minimum Required Area

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Human Anatomy Lab	1200 sq. ft.
Human Physiology Lab	1200 sq. ft.
Biochemistry & Biophysics Lab	1200 sq. ft.
Splint and Assistive devices Lab	1200 sq. ft.
Sensory Integration Lab	1200 sq. ft.
Biomechanics & Kinesiology Lab	1200 sq. ft..
Musculoskeletal Occupational Therapy Lab	1200 sq. ft.
Neuro Occupational Therapy (separate pediatrics and adults' sections) Lab	1200 sq. ft.
Cardio-respiratory Occupational therapeutics (COPD)	1200 sq. ft.
Activity of Daily Living Labs	1200 sq. ft.
Pediatrics Labs	1200 sq. ft.

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**B. Hospital:** Own hospital/ Attached hospital with 100 beds in which Orthopedic, Neurology, Cardiothoracic, ICU, Emergency and trauma, Gynecology. Occupational Therapy department is mandatory. Student: Patient Ratio in hospital and Occupational Therapy OPD should be 1:5. In case of an attached hospital there should be a maximum distance of 5 Km from the academic block of the College. The college must have its own/ tie-up with at least five PHCs/NGOs/Special Schools for Community based rehabilitation training.

**Selection procedure:**

1. He/she has passed the Higher Secondary (10+2) or equivalent examination recognized by any Indian University or govt. recognized Board. With –Physics, Chemistry and Biology as major subjects with 50% marks in PCB for General/OBC Category and 45% marks in PCB for SC/ST Category.
  - a. Candidates who have passed the Senior Secondary school Examination of National Open School. Physics, Chemistry, Biology, English.
2. He/she has attained the age of 17 years as on 31<sup>st</sup> December of the year of admission.
3. Admission will be done through a common entrance test at the State Level /or through score of a National Level Entrance Exam on merit basis. The candidate must obtain at least 50% marks in the entrance examination to get admission.

**Reservation for disability:** 5% percent Horizontal reservation will be considered for Loco-motor disabled candidates only with a disability of loco-motor to the tune of maximum 40% to the lower extremity and other eligibility criteria with regard to qualification will be same as prescribed for unreserved category candidates.

**Caste Certificate:** Caste certificate issued by the competent authority as approved by Govt. of Uttar Pradesh will be acceptable.

**Duration of the course**

Duration of the course shall be 4 ½ years (8 Semester examination pattern + 6 months internship). (Total of 4780 hours in theory, practical & clinical) and minimum 960 hours of internship (to be completed in six months duration).

**Minimum Course Total hours- 6651**

**Medium of instruction:**

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

**Commencement of the course-**

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First Semester	Odd Semester	August
Second Semester	Even semester	February
Third Semester	Odd Semester	August
Fourth Semester	Even semester	February
Fifth Semester	Odd Semester	August
Six Semester	Even semester	February
Seventh Semester	Odd Semester	August
Eight Semester	Even semester	February

The course shall commence no later than August for Odd semester and February for even semester.

**Commencement of examination-**

University examinations will be conducted one time in one Semester.

**Working days during the year-**

Each semester shall consist not less than 100 working days excluding examination days.

**Marks qualifying for pass-**

50% marks in theory and practical marks separately are required.

**Attendance:**

A candidate has to secure minimum-

1. 75% attendance in theoretical lectures
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 in medical illness /disposition etc.

**Assessment:**

Assessments should be completed by the academic staff, based on the compilation of the student's theoretical & clinical performance throughout the training program. To achieve this, all assessment forms and feedback should be included and evaluated.

The passing marks for every subject in the year should be 50% marks in theory and practical considered separately.

**Skill based Outcomes and Monitorable Indicators:** Competency Statements to be tested through written and practical examinations

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Sl. No.	Items for observation during presentation	Poor	Below Average	Average	Good	Very Good
		0	1	2	3	4
1.	Article chosen was					
2.	Extent of understanding of scope and objectives of the paper by the candidate.					
3.	Whether cross-references have been consulted.					
4.	Whether other relevant publications consulted.					
5.	Ability to respond to questions on the paper / subject.					
6.	Audio – Visual aids used.					
7.	Ability to defend the paper.					
8.	Clarity of presentation.					
9.	Any other observation.					
<b>Total Score</b>						

#### SCHEDULE-II

#### MODEL CHECK LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the Trainee :

Date :

Name of the Faculty / Observer:

Sl No.	Items for observation during presentation	Poor	Below Average	Average	Good	Very Good
		0	1	2	3	4
1.	Completeness & Preparation					
2.	Clarity of presentation.					
3.	Understanding of subject.					
4.	Whether other relevant publications consulted.					
5.	Whether cross-references have been consulted.					
6.	Ability to answer the questions.					
7.	Time scheduling.					
8.	Appropriate use of audio – visual aids.					
9.	Overall performance.					
10.	Any other observation.					
<b>Total Score</b>						

#### **PROGRAM EDUCATION OBJECTIVES (PEOs)**

The overall objectives of the learning outcome-based curriculum framework (LOCF) for BOT are as follows:

PEO No.	Education Objective
<b>PEO 1</b>	Students will be able to apply fundamental body of knowledge and clinical competency in Occupational Therapy to achieve professional excellence.

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<b>PEO 2</b>	Students will execute application of clinical and practical skills in Occupational Therapy
<b>PEO 3</b>	Students will practice the profession by ethical norms and communicate effectively with the multi-disciplinary team.
<b>PEO 4</b>	Students will acquire creative proficiency in interpersonal and collaborative skills to identify, assess and formulate problems and execute the solution.
<b>PEO 5</b>	Students will be able to imbibe the culture of entrepreneurship, research, innovations, and incubate new avenues for professional growth.
<b>PEO 6</b>	Students will display lifelong learning process for a highly productive career and will be able to relate the concepts of Occupational Therapy towards serving the cause of the society.

### GRADUATE ATTRIBUTES

S No.	Attribute	Description
1.	Professional Knowledge	Develop scientific knowledge and understanding to practice as a health care professional
2.	Clinical / practical skills	Apply clinical / practical skills to prevent, assess and manage quality health care services
3.	Communication	Displays empathetic and professional communication skills to patients/clients, care-givers, other health professionals and other members of the community
4.	Cooperation/Team work	Ability to practice collaboratively and responsibly with multidisciplinary team members to deliver high quality health care

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5.	Professional ethics	Ability to resolve ethical issues and practice the ethical values in the professional life
6.	Research / Innovation-related Skills	A sense of enquiry and investigation with ability to raise questions and translate the evidence into clinical practice.
7.	Critical thinking and problem solving	Ability to think critically and provide solutions for real life situations
8.	Reflective thinking	Employ reflective thinking along with sense of awareness of one self and society
9.	Information/digital literacy	Excel in use of information communication and technology in ongoing learning situations
11.	Multi-cultural competence	Ability to effectively engage and respond in a multicultural society
12.	Lifelong Learning	Demonstrate the ability to acquire knowledge and skills that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to demands of work place through knowledge/skill development/reskilling.

**PROGRAM OUTCOMES (POs):**

After successful completion of Master of Physiotherapy program, students will be able to:

PO No.	Attribute	Competency
PO 1	Professional knowledge	Possess and apply <b>scientific knowledge</b> to work as a member of health care system
PO 2	Clinical/ Technical skills	Employ <b>clinical skills</b> to provide quality healthcare services

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PO 3	Team work	Demonstrate <b>team work</b> with shared goals with the interdisciplinary health care team to improve societal health
PO 4	Ethical value & professionalism	Possess and demonstrate <b>ethical values and professionalism</b> within the legal framework of the society
PO 5	Communication	<b>Communicate</b> professionally with the multidisciplinary health care team and the society
PO 6	Evidence based practice	Demonstrate high quality <b>evidence based practice</b> that leads to excellence in professional practice
PO 7	Life-long learning	Enhance knowledge and skills with the use of recent technology for the <b>continual improvement</b> of professional practice
PO 8	Entrepreneurship, leadership and mentorship	Display <b>entrepreneurship, leadership and mentorship</b> skills to practice independently as well as in collaboration with the multidisciplinary health care team

**Program Outcomes (POs) and Course Outcomes (COs) Mapping**

Sem.	Program Outcomes	Course Code	Course Name	Course Outcomes
I Sem	PO1- Professional Knowledge	BOT-101	Human Anatomy I (Including Applied Anatomy)	CO1

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I Sem	PO1- Professional Knowledge	BOT-102	Human Physiology I (Including Applied Physiology)	CO2
I Sem	PO1- Professional Knowledge	BOT-103	Biochemistry	CO3
I Sem	PO1- Professional Knowledge	BOT-104	Fundamental OT-I	CO4
I Sem	PO1- Professional Knowledge PO5-Communication PO7- Life long Learning	BOT-105	Health Psychology	CO5
I Sem	PO5-Communication PO7- Life long Learning	BOT-106	Remedial English	CO6
II Sem	PO1- Professional Knowledge	BOT-201	Human Anatomy II (Including Applied Anatomy)	CO1 CO7
II Sem	PO1- Professional Knowledge	BOT-202	Human Physiology II (Including Applied Physiology)	CO2 CO8
II Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-203	Fundamental OT-II	CO4 CO9
II Sem	PO1- Professional Knowledge PO5-Communication PO7- Life long Learning	BOT-204	Psychology & Sociology-I	CO10
II Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills PO7- Life long Learning	BOT-205	Yoga-Basic theory, science and techniques	CO11

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<b>II Sem</b>	PO5-Communication PO7- Life long Learning	BOT-206	Computers & Informatics	CO12
<b>III Sem</b>	PO1- Professional Knowledge	BOT-301	Ergo therapeutics-I	CO13
<b>III Sem</b>	PO1- Professional Knowledge	BOT-302	Biomechanics & Kinesiology-I	CO14
<b>III Sem</b>	PO1- Professional Knowledge	BOT-303	Microbiology	CO15
<b>III Sem</b>	PO1- Professional Knowledge PO5-Communication PO7- Life long Learning	BOT-304	Psychology and Sociology-II	CO10 CO16
<b>III Sem</b>	PO4- Ethical Values PO7- Life long Learning	BOT-305	Environmental Science	CO17
<b>III Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills PO5-Communication	BOT-306	Clinical Posting	CO18
<b>IV Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-401	Ergo therapeutics-II	CO13 CO19
<b>IV Sem</b>	PO1- Professional Knowledge	BOT-402	Biomechanics and Kinesiology II	CO14 CO20
<b>IV Sem</b>	PO1- Professional Knowledge	BOT-403	Pathology	CO21
<b>IV Sem</b>	PO1- Professional Knowledge	BOT-404	Pharmacology	CO22

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IV Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-405	First Aid & Emergency Care	CO23
IV Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-406	OT in Work Physiology	CO24
IV Sem	PO4- Ethical Values PO7- Life long Learning	BOT-407	Occupational Therapy Ethics & Laws	CO25
IV Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills PO5-Communication	BOT-408	Clinical posting	CO18
V Sem	PO1- Professional Knowledge	BOT-501	Cardio-Pulmonary Medicine & Surgery	CO26
V Sem	PO1- Professional Knowledge	BOT-502	General Surgery	CO27
V Sem	PO1- Professional Knowledge	BOT-503	General Orthopaedics and Traumatology	CO28
V Sem	PO1- Professional Knowledge	BOT-504	A. Medicine B. Pediatrics	CO29
V Sem	PO1- Professional Knowledge	BOT-505	Psychiatry	CO30
V Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-506	OT in Disaster Management	CO31
V Sem	PO3- Team Work PO5-Communication	BOT-507	Introduction to Health Care Systems	CO32

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V Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills PO5-Communication	BOT-508	Clinical Posting	CO18
VI Sem	PO1- Professional Knowledge	BOT-601	Regional Orthopedics and Diagnostic imaging	CO33
VI Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-602	Clinical Neurology and Neurosurgery	CO34
VI Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills PO3-Team Work PO5-Communication	BOT-603	Community Medicine	CO35
VI Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-604	Ergonomics	CO36
VI Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-605	Assistive Technology Devices	CO37
VI Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-606	Advancement in OT	CO38
VI Sem	PO4- Ethical Values PO7- Life long Learning	BOT-607	Introduction to Quality & Patient Safety	CO39
VI Sem	PO4- Ethical Values PO5-Communication PO7- Life long Learning	BOT-608	Professionalism & Values	CO40
Vi Sem	PO1- Professional Knowledge PO2- Clinical/ Technical Skills PO5-Communication	BOT-609	Clinical Posting	CO18



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<b>VII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-701	Occupation Therapy Orthopedics-I	CO41
<b>VII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-702	OT in Neuro & Psychiatry-I	CO42
<b>VII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-703	OT in surgical Conditions	CO43
<b>VII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-704	OT in Medical Conditions	CO44
<b>VII Sem</b>	PO6-Evidence Based Practice	BOT-705	Research Methodology & Biostatistics	CO45
<b>VII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills PO6-Evidence Based Practice	BOT-706	Evaluation Methods and Outcome Measures	CO46
<b>VII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills PO6-Evidence Based Practice	BOT-707	Clinical reasoning & Evidence based Occupational Therapy	CO18 CO47
<b>VII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills PO6-Evidence Based Practice	BOT-708	Clinical Posting	CO18
<b>VIII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-801	OT in Orthopedics-II	CO41 CO48

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<b>VIII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-802	OT IN Neuro & Psychiatry-II	CO42 CO49
<b>VIII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills	BOT-803	OT in Pediatric Conditions	CO50
<b>VIII Sem</b>	PO1- Professional Knowledge	BOT-804	Rehabilitation Medicine	CO51
<b>VIII Sem</b>	PO1- Professional Knowledge	BOT-805	Organization, Administration & Leadership	CO52
<b>VIII Sem</b>	PO3-Team Work PO6-Evidence Based Practice	BOT-806	Research Project	CO53
<b>VIII Sem</b>	PO5-Communication	BOT-807	Critique inquiry, case presentation and discussion.	CO54
<b>VIII Sem</b>	PO1- Professional Knowledge PO2- Clinical/ Technical Skills PO6-Evidence Based Practice	BOT-808	Clinical Posting	CO18

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**Curriculum & Syllabus**

**Of**

**Bachelor in Occupational Therapy**  
**(4 years 6 months program)**



Atal Bihari Vajpayee Medical University U.P  
From session 2021-2022  
(Semester System)

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**Introduction:**

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

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

**Program Objectives-**

1. Course work entitles independent occupational Therapy assessment and treatment in any health care delivery centers in India by the graduates.
2. The coursework is designed to train students to work as independent Occupational Therapists or in conjunction with a multidisciplinary team to diagnose and treat movement disorders as per red and yellow flags.
3. Course work will enlighten the skill of the graduate's physical/functional diagnosis, treatment planning, management, administration of occupational Therapy treatment, and patient support.
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 as well as in independent Occupational Therapy clinics.
5. Occupational Therapy graduates are encouraged to pursue further qualification to attain a senior position in the professional field and also to keep abreast with the recent advances, new technology and research. The professional should opt for continuous professional education credits offered by national and international institutes.

**PO1:** The Students will be able to possess knowledge and comprehension of  
Diagnosis and treatment utilizing occupational Therapy Techniques

**PO2:** The students will be able to develop the skills for diagnosis and differential diagnosis in occupational Therapy conditions

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**PO3:** The students will be able to design and formulate the treatment plan to address the needs of patients

**PO4:** The students will be able to identify themselves as Occupational Therapists delivering effective health care

**PO5:** The students will be able to understand the health care needs of the society and the best practices to provide them

**PO6:** The student will be able to learn and apply the basic medical knowledge for diagnosis and effective management of occupational Therapy conditions

**PO7:** The students will learn, practice, and implement appropriate ethical guidelines for effective and optimal treatment

**PO8:** The students will understand their roles and responsibilities either individually or as a rehabilitation team member in delivering effective health care

**PO9:** The students will have good leadership qualities and entrepreneurship skills by working and communicating effectively in an interdisciplinary environment either independently or with a team

**PO10:** The students will be able to demonstrate and apply the technical skills to integrate the core areas of occupational Therapy practice

**PO11:** To provide students with sufficient breadth and depth of knowledge in occupational Therapy and related areas and enable them for higher studies and life-long learning programs.

**OCCUPATIONAL THERAPY Graduate Attributes:**

1. 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.
2. The graduate will utilize critical inquiry and evidence-based practice to make clinical decisions essential for autonomous practice.
3. 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.
4. The graduate will demonstrate lifelong commitment to learning and professional development.

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**Eligibility for admission:**

**Selection procedure:**

1. He/she has passed the Higher Secondary (10+2) or equivalent examination recognized by any Indian University or a duly constituted Board with 50% in physics, chemistry and biology (Botany & zoology), i.e. –Physics, chemistry and biology as major subjects).
2. Candidates who have passed the Senior Secondary school Examination of National Open School. The candidate must pass in English.
  - a. Physics, Chemistry, Biology (Botany+ Zoology considered as a combined)
  - b. Physics, Chemistry, Biology.
3. He/she has attained the age of 17 years as on 31<sup>st</sup> December of the year of academic session.
4. Admission will be done through a common entrance test at the State Level /or through score of a National Level Entrance Exam on merit basis.

**Medium of instruction:**

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

**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 in medical illness /disposition etc.

**Assessment:**

Assessments should be completed by the academic staff, based on the compilation of the student's theoretical & clinical performance throughout the training program. To achieve this, all assessment forms and feedback should be included and evaluated.

The passing marks for every subject in the year should be 50% marks in theory and practical considered separately.

**Semester System**

The semester system accelerates the teaching-learning process and enables vertical and horizontal mobility of students in learning. The credit-based semester system provides flexibility in designing curriculum and assigning credits based on the course content and hours of teaching. The choice-based credit system enables students to take courses of their choice, learn at their own pace, undergo additional courses and acquire more



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than the required credits, and adopt an interdisciplinary approach to learning

**Semesters:** A semester should not less than 100 days excluding the exam period

**An academic year consists of two semesters:**

Semesters	Starting Month
Odd Semesters 1 <sup>st</sup> , 3 <sup>rd</sup> , 5 <sup>th</sup> , 7 <sup>th</sup>	August -January
Even Semesters 2 <sup>nd</sup> , 4 <sup>th</sup> , 6 <sup>th</sup> , 8 <sup>th</sup>	February-July

**Credits:**

Credit defines the coefficient of contents/syllabus prescribed for a course and determines the number of hours of instruction required per week. Credits will be assigned in each course on the basis of number of lectures/ practical/tutorial/ laboratory work and other forms of learning required, to complete the course contents in a 15-20-week schedule:

- 1 credit = 1 hour of lecture per week
- 3 credits = 3 hours of instruction per week
- P - One credit for every two hours of laboratory or practical
- CT - One credit for every three hours of Clinical training/Clinical rotation/posting
- RP - One credit for every two hours of Research Project per week – Maximum Credit

20-25

	Lecture - L	Tutorial - T	Practical - P	Clinical Training/ Rotation- CT/CR	Research Project- RP*
1 Credit	1 Hour	2 Hours	2 Hours	3 Hours	2 Hours
RP*	Maximum Credit 20 – 25 / Semester				

Assigning total Credits for a Program: The UGC, in its notification No.F.1-1/2015 (Sec.) dated 10/4/15 has provided a set of Model curricula and syllabi for CBCS programs. In conformation with this notification, the BPT program credits for 4 1/2 years duration will be 184 credits in total, inclusive of clinical rotation/clinical training and research project.

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**Structure of BOT Curriculum**

Semester one		Semester Two	
Course code	Core course	Course code	Core course
BOT-101	Human Anatomy I (Including Applied Anatomy)	BOT-201	Human Anatomy II (Including Applied Anatomy)
BOT-102	Human Physiology I (Including Applied Physiology)	BOT-202	Human Physiology II (Including Applied Physiology)
BOT-103	Biochemistry	BOT-203	Fundamental OT-II
BOT-104	Fundamental OT-I	BOT-204	Psychology and Sociology-I
BOT-105	Health Psychology	BOT-205	Yoga-Basic theory, science and techniques

Semester Three		Semester Four	
Course code	Core course	Course code	Core course
BOT-301	Ergotherapeutics-I	BOT-401	Ergo therapeutics-II
BOT-302	Biomechanics and Kinesiology I	BOT-402	Biomechanics and Kinesiology II
BOT-303	Microbiology	BOT-403	Pathology
		BOT-404	Pharmacology
BOT-304	Psychology and Sociology-II	BOT-405	First Aid & Emergency Care
		BOT-406	OT in work Physiology

Semester Five		Semester Six	
Course code	Core course	Course code	Core course
BOT-501	Cardio-Pulmonary Medicine & Surgery	BOT-601	Regional Orthopedics and Diagnostic imaging

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BOT-502-	General Surgery	BOT-602	Clinical Neurology and Neurosurgery
BOT-503	General Orthopedics and Traumatology	BOT-603	Community Medicine
BOT-504	A. General Medicine B. Pediatrics	BOT-604	Ergonomics
BOT-505	Psychiatry	BOT-605	Assistive Technology
BOT-506	OT in Disaster Management	BOT-606	Advancement of OT

Semester Seven		Semester Eight	
Course code	Core course	Course code	Core course
BOT-701	Occupational Therapy Orthopedics-I	BOT-801	Occupational Therapy in Orthopedics-II
BOT-702	Occupational Therapy in Neurology and Psychiatry-I	BOT-802	Occupational Therapy in Neurology and Psychiatry-II
BOT-703	Occupational Therapy in Surgical conditions	BOT-803	Occupational Therapy in Pediatric condition
BOT-704	Occupational Therapy in Medicine	BOT-804	Rehabilitation Medicine
BOT-705	Research Methodology & Biostatistics	BOT-805	Organization, administration and leadership
		BOT-806	Research Projects

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Semester	Non-University Exam Subjects	Course code
I	Remedial English	BOT-106
II	Computers & Informatics	BOT-206
III	Environmental Science	BOT-305
III	Clinical Posting	BOT-306
IV	Medical/Occupational Therapy Ethics & Laws	BOT-407
IV	Clinical Posting	BOT-408
V	Introduction to Health Care Systems	BOT-508
V	Clinical posting	BOT-509
VI	Introduction to Quality & Patient Safety	BOT-607
VI	Professionalism & Values	BOT-608
VI	Clinical Posting	BOT -609
VII	Evaluation Methods and Outcome Measures	BOT-706
VII	Clinical reasoning & Evidence based occupational Therapy	BOT-707
VII	Clinical posting	BOT-708
VIII	Critique inquiry, case presentation and discussion.	BOT-807
VIII	Clinical Posting	BOT-808

### Rules and Regulation for Examination of Bachelor of Occupational Therapy

**Letter Grades and Grade Points:** The UGC has recommended system of awarding grades and CGPA under Choice Based Credit Semester System for all the UG/PG courses. ABVMU would be following the absolute grading system, where the marks are compounded to grades based on pre-determined class intervals. The UGC recommended 10-point grading system with the following letter grades will be followed:

**Table 1: Grades and Grade Points:**

Letter Grade	Grade Point
O (Outstanding)	10
A+ (Excellent)	9
A (Very Good)	8
B (Good)	7



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C (Above Average)	6
F (Fail)/ RA (Reappear)	0
Ab (Absent)	0
Not Completed (NC)	0
RC (<50% in attendance or in Internal Assessment)	

A student obtaining Grade F/RA will be considered failed and will require reappearing in the examination.

Candidates with NC grading are those detained in a course (s); while RC indicate student not fulfilling the minimum criteria for academic progress or less than 50% attendance or less than 50% in internal assessments (IA). Registrations of such students for the respective courses shall be treated as cancelled. If the course is a core course, the candidate has to re-register and repeat the course when it is offered next time.

**CBCS Grading System - Marks Equivalence Table**  
Table 2: Grades and Grade Points

Letter Grade	Grade Point	% of Marks
O (Outstanding)	10	86-100
A+ (Excellent)	9	70-85
A (Very Good)	8	60 -69
B (Good)	7	55 -59
C (Above Average) - Passing criteria for BOT	6	50- 54
F (Fail)/ RA (Reappear)	0	Less than 50
Ab (Absent)	0	-
NC- not completed	0	-
RC- Repeat the Course	0	0

Table 3: Cumulative Grades and Grade Points

Letter Grade	Grade Point	CGPA
O (Outstanding)	10	9.01 - 10.00
A+ (Excellent)	9	8.01 - 9.00
A (Very Good)	8	7.01 - 8.00
B (Good)	7	6.00 - 7.00
C (Above Average)	6	5.01 - 6.00

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**Assessment of a Course:** Evaluation for a course shall be done on a continuous basis. Uniform procedure will be adopted under the CBCS to conduct internal assessments, followed by one end-semester university examination (ES) for each course.

Courses in programs where in Theory and Practical/Clinical are assessed jointly, the minimum passing head has to be 50% Grade each for theory and practical separately. RA (Re appear) grade in any one of the components will amount to reappearing in both components. i.e., theory and practical. Evaluation for a course with clinical rotation or clinical training or internship will be done on a continuous basis.

**Eligibility to appear for the end-semester examinations for a course includes:** Candidates having  $\geq 75\%$  attendance and obtaining the minimum 40% in internal assessment in each course to qualify for appearing in the end-semester university examinations.

The students desirous of appearing for university examination shall submit the application form duly filled along with the prescribed examination fee. Incomplete application forms or application forms submitted without prescribed fee or application form submitted after due date will be rejected and student shall not be allowed to appear for examination.

**Passing Heads**  
Passing head for core theory and practical courses will be 50% inclusive of internal assessment.

For non-university subjects – The minimum prescribed marks for pass will be 50%.

**Detention:** A student not meeting any of the above criteria maybe detained (NC) in that particular course for the semester. In the subsequent semester, such a candidate requires improvement in all, including attendance and/or IA minimum to become eligible for the next end-semester examination.

**Maximum Duration of course:**  
The maximum duration for completing the program will be 9 years from the date of joining in the course

**Grace Marks:**

- A student shall be eligible for grace marks, provided he/she appeared in all the papers prescribed for the examination.
- Maximum up to 5 grace marks in one subject only may be allowed for passing.
- No grace marks will be awarded in internal evaluation.

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**University**

**End-Semester**

**Examination**

There will be one final university examination at the end of every semester. A student must have minimum 75% attendance (Irrespective of the type of absence) in theory and practical in each subject to be eligible for appearing the University examination.

The Principal / Director shall send to the university a certificate of completion of required attendance and other requirements of the applicant as prescribed by the university, two weeks before the date of commencement of the written examination. A student shall be eligible to sit for the examination only, if she / he secure a minimum of 40% in internal assessment (individually in theory and practical as applicable). Internal examinations will be conducted at the level of constituent unit. Notwithstanding any circumstances, a deficiency of attendance at lectures or practical maximum to the extent of 10% - may be condoned by the Principal /Director. If a student fails either in theory or in practical, he/ she have to re-appear for BOTH.

Student may apply to the University following due procedure for re-evaluation/ recounting of theory marks in the presence of the subject experts. Internal assessment shall be submitted by the Head of the Department to the University through Director at least two weeks before commencement of university theory examination.

**Supplementary examination:** The supplementary examination will be held in the next semester. Eligibility to appear for supplementary examination will be as per rule mentioned above for carryover.

**Re-Verification**

There shall be provision of re-totaling/re-evaluation of the answer sheets; candidate shall be permitted to apply for recounting/re-totaling/re-evaluation of theory papers within 8 days from the date of declaration of results.

**Scheme of University Exam Theory Program:** General structure / patterns for setting up question papers for Theory / Practical courses, for BOT program of ABBMU are given in the following tables. Changes may be incorporated as per requirements of specific courses.

**Theory Question Paper Pattern for University Examinations 80 Marks**

Question Type	NO. of Question	Marks/Question	Question X Marks	Total Marks
Short	5	6	6X5	30



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Very Short	10	2	2X10	20
Long	3	10	10X3	30

**General Instructions (Theory)**

- Time duration of each Theory Paper will be of Three Hrs
- Total Marks of each Theory Paper will be 80 Marks
- There will be short answer, very short and long answer questions.
- All questions are compulsory.

**Practical exam Pattern for University Examinations 80 Marks**

Exercise	Descriptions	Marks
Long Practical Exercise	Long Practical Exercise/Case	30
Short Practical Exercise	Short Practical Exercise/Case	20
Viva	Viva	30

**General Instructions (Practical):**

- All the students have to remain present at the examination center 15 minutes before the scheduled time for examination.
- Students have to carry with them I-card or examination receipt, and other necessary requirements for examination.
- Candidate should not leave the practical hall without the permission of examiner.
- Use of calculator is allowed but the use of mobile phones is strictly prohibited.
- The candidate has to leave the laboratory only after the submission of all the answer sheets of the exercises performed

**Research Project Report**

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BOT student should submit a suitable research project topic forwarded by the guide to college in Semester VIII. Completed project report should be submitted at least 20 days before the exam

**Internship-**

All students of Bachelor of Occupational Therapy must undergo a compulsory rotatory internship for a continuous period of 6 months approved by the college after passing all examinations in all subjects. Internship should be done in a minimum 100 bedded government recognized hospital. The ratio of patients to intern shall be 5:1.

**Eligibility for appearing for Internship:** On completion of all course work (including of theory and practical examinations) a candidate is permitted by the Director/Principal to join internship.

**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.

**Evaluation of interneers and award of credits:** All interneers will be assessed based on their satisfactory attendance, performance in the postings/ research labs and the presentation of the logbook. The credits and hours of internship will be as defined in the BOT program

**Eligibility for award of degree**

A candidate shall have passed in all the subjects of all semester's I-VIII, completed Internship and submitted research project report to be eligible for award of BOT Degree.

The performance of a candidate in a course will be indicated as a letter grade, whereas grade point will indicate the position of the candidate in that batch of Candidates. A student is considered to have completed a course successfully and earned the prescribed credits if he/she secures a letter grade other than F/RA. A letter grade RA in any course implies he/she has to Re-appear for the examination to complete the course.

The RA grade once awarded in the grade card of the student is not deleted even when he/she completes the course successfully later. The grade acquired later by the student will be indicated in the grade sheet of the subsequent semester in which the candidate has appeared for clearance in supplementary exams

If a student secures RA grade in the Project Work/Dissertation, he/she shall improve it and resubmit it, if it involves only rewriting / incorporating the revisions suggested by the evaluators. If the assessment indicates lack of student performance or data collection then the student maybe permitted to re-register by paying the prescribed re-registration fee

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and complete the same in the subsequent semesters.

A candidate shall be declared to have passed the examination if he/she obtains the following minimum qualifying grade / marks: -

- (a) For Core courses CT (Core Theory), CL (Core Lab), DE (Discipline centric Electives), clinical rotation and internship student shall obtain Grade B (50 % of marks) in the University End Semester Examination (ES) and in aggregate in each course which includes BOTH Internal Assessment and End Semester Examination. (b) For Generic Electives (GE), Ability Enhancement (AE) and Skill Enhancement (SE) courses student shall obtain Grade D (40 % of marks) in the College Examination.

### Computation of SGPA and CGPA

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

- i. The SGPA 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 & earned by a student, i.e.,

$$SGPA (S_i) = \frac{\sum(C_i \times G_i)}{\sum C_i}$$
 where  $C_i$  is the number of credits of the  $i$ th course and  $G_i$  is the grade point scored by the student in the  $i$ th course.

- ii. The CGPA is also calculated in the same manner taking into account all the courses undergone & earned by a student over all the semesters of a programme, i.e.

$$CGPA = \frac{\sum(C_i \times S_i)}{\sum C_i}$$
 where  $S_i$  is the SGPA of the  $i$ th semester and  $C_i$  is the total number of credits in that semester.

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

### Classification of Successful Candidates

Overall Performance in a Program and Ranking of a candidate is in accordance with the University regulations.

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Consolidated Grade Card - BOT Program			
Letter Grade	%Mark range	Grade point	CGPA Range
O	80&above	10	9.01-10
A+	75-80	9	8.01-9
A	60-74	8	7.01-8
B+	55-59	7	6.01-7
B	50-54	6	5.01-6
F/RA	Less than 50	0	4.51-5.0
Ab (Absent)		0	
Not completed (NC)		0	
Repeat the course (RC = <50% in attendance or Internal Assessment)			

A successful candidate will be :

- i. Who secures not less than O grade with a CGPA of 9.01 – 10.00 shall be declared to have secured 'OUTSTANDING' provided he/she passes the whole examination in the FIRST ATTEMPT;
- ii. ii. Who secures not less than A+ grade with a CGPA of 8.01 – 9.00 shall be declared to have secured 'EXCELLENT' provided he/she passes the whole examination in the FIRST ATTEMPT;
- iii. iii. Who secures not less than A grade with a CGPA of 7.01 –8.00 and completes the course within the stipulated course period shall be declared





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to have passed the examinations with 'Very Good'

- iv. iv. All other candidates (with grade B and above) shall be declared to have passed the examinations.

**EVALUATION SCHEME**

**(MAXIMUM MARKS)**

**BOT FIRST SEMESTER**

S.N O	Course	Course Code	Theory		Practical		Total M.M
			Intern al M.M	Extern al M.M	Intern al M.M	Extern al M.M	
1	Human Anatomy I (Including Applied Anatomy)	BOT-101	20	80	20	80	200
2	Human Physiology I (Including Applied Physiology)	BOT-102	20	80	20	80	200
3	Biochemistry	BOT-103	20	80	20	80	200
4	Fundamental OT-I	BOT-104	20	80	20	80	200
5	Health Psychology	BOT-105	20	80	-	-	100
Non-University Exam Subjects							
6	Remedial English	BOT-106	-	-	-	-	-
<b>Total</b>			<b>100</b>	<b>400</b>	<b>80</b>	<b>320</b>	<b>900</b>

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**BOT SECOND SEMESTER**

S.N O	Course	Course Code	Theory		Practical		Total M.M
			Intern al M.M	Extern al M.M	Intern al M.M	Extern al M.M	
1	Human Anatomy II (Including Applied Anatomy)	BOT-201	20	80	20	80	200
2	Human Physiology II (Including Applied Physiology)	BOT-202	20	80	20	80	200
3	Fundamental OT-II	BOT-203	20	80	20	80	200
4.	Psychology and Sociology-I	BOT-204	20	80			100
5.	Yoga-Basic theory, science and techniques	BOT-205	20	80	20	80	200
Non-University Exam Subjects							
6	Computers & Informatics	BOT-206	-	-	-	-	-
Total			100	400	80	320	900

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**BOT THIRD SEMESTER**

S.N O	Course	Course Code	Theory		Practical		Total M.M
			Intern al M.M	Extern al M.M	Intern al M.M	Extern al M.M	
1	Ergo Therapeutics-I	BOT-301	20	80	20	80	200
2	Biomechanics and kinesiology-I	BOT-302	20	80	20	80	200
3	Microbiology	BOT-303	20	80			100
4	Psychology and Sociology -II	BOT-304	20	80	-	-	100
Non-University Exam Subjects							
5	Environmental Science	BOT-305	-	-	-	-	-
6	Clinical Education	BOT-306	-	-	-	-	-
Total			80	320	40	160	600

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**BOT FOURTH SEMESTER**

S.N O	Course	Course Code	Theory		Practical		Total M.M
			Intern al M.M	Extern al M.M	Intern al M.M	Extern al M.M	
1	Ergo Therapeutics II	BOT-401	20	80	20	80	200
2	Biomechanics and kinesiology-II	BOT-402	20	80	20	80	200
3	Pathology	BOT-403	20	80			100
4	Pharmacology	BOT-404	20	80			100
5	First Aid & Emergency Care	BOT-405	20	80	-	-	100
6.	OT in Work Physiology	BOT-406	20	80	20	80	200
Non-University Exam Subjects							
7	Occupational Therapy Ethics & Laws	BOT-407	-	-	-	-	-
8.	Clinical Education	BOT-408	-	-	-	-	-
Total			120	480	60	240	900

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**BOT FIFTH SEMESTER**

S.N O	Course	Course Code	Theory		Practical		Total M.M
			Intern al M.M	Extern al M.M	Intern al M.M	Extern al M.M	
1	Cardio-Pulmonary Medicine & Surgery	BOT-501	20	80	20	80	200
2.	General surgery	BOT-502	20	80	20	80	200
3.	General Orthopedics and Traumatology	BOT-503	20	80	20	80	200
4.	General Medicine and Pediatrics	BOT-504	20	80	20	80	200
5.	Psychiatry	BOT-505	20	80			100
6	OT in Disaster management	BOT-506	20	80			100
Non-University Exam Subjects							
7	Introduction to Health Care Systems	BOT-507	-	-	-	-	-
8	Clinical Posting	BOT-508	-	-	-	-	-
Total			120	480	80	320	1000

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**BOT SIXTH SEMESTER**

S.NO	Course	Course Code	Theory		Practical		Total Marks
			Internal M.M	External M.M	Internal M.M	External M.M	
1	Regional Orthopedics and Diagnostic imaging	BOT-601	20	80	20	80	200
2	Clinical Neurology and Neuro Surgery	BOT-602	20	80	20	80	200
3	Community Medicine	BOT-603	20	80			100
4	Ergonomics	BOT-604	20	80	20	80	200
5.	Assistive technology devices	BOT-605	20	80			100
6.	Advancement of OT	BOT-606	20	80	20	80	200
Non-University Exam Subjects							
7	Introduction to Quality & Patient Safety	BOT-607	-	-	-	-	-
8	Professionalism & Values	BOT-608	-	-	-	-	-
9	Clinical Posting	BOT -609	-	-	-	-	-
Total			120	480	60	240	1000

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**BOT SEVENTH SEMESTER**

S.NO	Course	Course Code	Theory		Practical		Total Marks
			Internal M.M	External M.M	Internal M.M	External M.M	
1	Occupational Therapy in orthopedics'-I	BOT-701	20	80	20	80	200
2	Occupational Therapy in Neurology and psychiatry-I	BOT-702	20	80	20	80	200
3	Occupational Therapy in surgical conditions	BOT-703	20	80	20	80	200
4	Occupational Therapy in Medical conditions-I	BOT-704	20	80	20	80	200
5	Research Methodology & Biostatistics	BOT-705	20	80	-	-	100
Non-University Exam Subjects							
6	Evaluation Methods and Outcome Measures	BOT-706	-	-	-	-	-
7	Clinical reasoning & Evidence based physiotherapy	BOT-707	-	-	-	-	-
8	Clinical posting	BOT-708	-	-	-	-	-
Total			100	400	80	320	900

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**BOT EIGHTH SEMESTER**

S.N O	Course	Course Code	Theory		Practical		Total Mark s
			Intern al M.M	Extern al M.M	Intern al M.M	Extern al M.M	
1	Occupational Therapy in Orthopaedics-II	BOT-801	20	80	20	80	200
2	Occupational Therapy in Neurology and psychiatry-II	BOT-802	20	80	20	80	200
3	Occupational Therapy in Pediatric conditions	BOT-803	20	80	20	80	200
4.	Rehabilitation Medicine	BOT 804	20	80			100
5	Organization administration and leadership	BOT-805	20	80			100
6	Research Project	BOT-806		-	100	-	100
Non-University Exam Subjects							
7	Critique inquiry, case presentation and discussion.	BOT-807	-	-	-	-	-
8	Clinical education	BOT-808	-	-	-	-	-
Total			100	400	160	240	900

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### INTERNAL ASSESSMENT

It will be for theory and practical both. It will be done throughout all the semesters. Candidates must obtain at least 35% marks in theory and practical separately in internal assessment to be eligible for the annual university examination.

• Internal assessment (Theory) will be done as follows:

- Class tests = 10 marks
- Assignments/Projects/Clinical Presentations = 05 marks
- Attendance = 05 marks

**Total = 20 marks**

Internal assessment (Practical) will be done as follows:

- Laboratory manual = 10 marks
- Day to day performance = 05 marks
- Attendance = 05 marks

**Total = 20 marks**

Internal assessment of subjects without practical will be done as:

- Class tests = 10 marks
- Assignments/Projects/Class test/Clinical Presentations = 05 marks
- Attendance = 05 marks

**Total = 20 marks**

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CURRICULUM SCHEME

FIRST SEMESTER

Sl. No.	Course Titles	Hours			Credit Hours
		Theory	Practical	Total	
BOT-101	Human Anatomy I (including applied anatomy)	80	64	144	5+2=7
BOT-102	Human Physiology I (including applied physiology)	80	64	144	5+2=7
BOT-103	Biochemistry	50	20	70	3+1=4
BOT-104	Fundamental OT – I	132	90	222	8+3=11
BOT-105	Health Psychology	50		50	3
	Non-University Exam Subject				
BOT-106	Remedial English	30		30	2
	<b>Total</b>	<b>422</b>	<b>238</b>	<b>660</b>	<b>34</b>

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SECOND SEMESTER

Sl. No.	Course Titles	Hours			Credit Hours
		Theory	Practical	Total	
BOT-201	Human Anatomy II (including applied anatomy)	80	64	144	5+2=7
BOT-202	Human Physiology II (including applied physiology)	80	64	144	5+2=7
BOT-203	Fundamental OT – II	152	100	252	10+3=13
BOT-204	Psychology and Sociology-I	40	-	40	2
BOT-205	Yoga basic theory science and technique	30	20	50	2+1=3
	Non-University Exam Subject				
BOT-206	Computer and informatics	30		30	2
	<b>Total</b>			<b>660</b>	<b>34</b>

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**THIRD SEMESTER**

Sl. No.	Course Titles	Hours			Credit Hours
		Theory	Practical	Total	
BOT-301	Ergo therapeutics -I	200	175	375	13+6=19
BOT-302	Biomechanics and Kinesiology-I	60	40	100	4+1=5
BOT-303	Microbiology	50	-	50	3
BOT-304	Psychology and Sociology-II	45	-	45	3
	Non-University Exam Subject				
BOT-305	Environmental science	30	-	30	2
BOT-306	Clinical posting (OPD and wards)	-	60	60	2
	<b>Total</b>	<b>385</b>	<b>275</b>	<b>660</b>	<b>34</b>

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**FOURTH SEMESTER**

SI. No.	Course Titles	Hours			Credit Hours
		Theory	Practical	Total	
BOT-401	Ergo therapeutics –II	110	100	210	7+3=10
BOT-402	Biomechanics and Kinesiology-II	60	40	100	4+2=6
BOT-403	Pathology	55	20	75	4
BOT-404	Pharmacology	50	-	50	3
BOT-405	First aid and emergency care	30	30	60	2+1=3
BOT-406	OT in work physiology	50	25	75	3+1=4
	Non-University Exam Subject				
BOT-407	OT ethics and Laws	30	-	30	2
BOT-408	Clinical posting (OPD and wards)	-	60	60	2
	<b>Total</b>			<b>660</b>	<b>34</b>

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**FIFTH SEMESTER**

Sl. No.	Course Titles	Hours			Credit Hours
		Theory	Practical	Total	
BOT-501	Cardiopulmonary medicine and surgery	80	20	100	5+1=6
BOT-502	General surgery	80	20	100	5+1=6
BOT-503	General orthopedics and traumatology	80	20	100	5+1=6
BOT-504	A. General medicine B. Pediatrics	110	40	150	7+1=8
BOT-505	Psychiatry	30	20	50	2+1=3
BOT-506	OT in disaster management	70	-	70	4
	Non-University Exam Subject				
BOT-507	Introduction to health care system	30	-	30	2
BOT-508	Clinical posting (OPD and wards)	-	60	60	2
	<b>Total</b>	<b>480</b>	<b>180</b>	<b>660</b>	<b>37</b>

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SIXTH SEMESTER

SI. No.	Course Titles	Hours			Credit Hour
		Theory	Practical	Total	
BOT-601	Regional orthopedics and diagnostic imaging	80	20	100	5+1=6
BOT-602	Clinical neurology and neurosurgery	80	20	100	5+1=6
BOT-603	Community medicine	50	-	50	3
BOT-604	Ergonomics	80	20	100	5+1=6
BOT-605	Assistive technology devices	50		50	3
BOT-606	Advances in OT	70	30	100	4+1-5
	Non-University Exam Subject				
BOT-607	Introduction to quality and patient safety	15	-	15	1
BOT-608	Professionalism and values	10	-	10	1
BOT-609	Clinical posting (OPD and wards)	-	60	60	2
	<b>Total</b>	<b>435</b>	<b>150</b>	<b>585</b>	<b>33</b>

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SEVENTH SEMESTER

Sl. No.	Course Titles	Hours			Credit Hours
		Theory	Practical	Total	
BOT-701	OT in ortho-I	80	64	144	5+2=7
BOT-702	OT in neuro and psychiatry -I	80	64	144	5+2=7
BOT-703	OT in surgical conditions	80	64	144	5+2=7
BOT-704	OT in medical conditions	80	64	144	5+2=7
BOT-705	Research methodology and biostatistics	50	-	50	3
	Non-University Exam Subject				
BOT-706	Evaluation methods and outcome measures	30	30	60	2+1=3
BOT-707	Clinical reasoning and evidence based OT	30	30	60	2+1=3
BOT-708	Clinical posting (OPD and wards)	-	60	60	2
	<b>Total</b>	<b>430</b>	<b>376</b>	<b>806</b>	<b>39</b>

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**EIGHTH SEMESTER**

SI. No.	Course Titles	Hours			Credit Hours
		Theory	Practical	Total	
BOT-801	OT in ortho-II	80	64	144	5+2=7
BOT-802	OT in neuro and psychiatry -II	80	64	144	5+2=7
BOT-803	OT in pediatric conditions	80	64	144	5+2=7
BOT-804	Rehabilitation Medicine	50	-	50	3
BOT-805	Organization, administration and leadership	30	-	30	2
BOT-806	Research projects	-	120	120	4
	Non-University Exam Subject				
BOT-807	Critique enquiry. case presentation and discussion	20	-	20	1
BOT-808	Clinical posting (OPD and wards)	-	60	60	2
	<b>Total</b>	<b>340</b>	<b>372</b>	<b>712</b>	<b>33</b>

**Internship (6 days/week for 8 hours) =48 hours x 26 weeks=1248 hours**

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**Total hours from semester 1 to 8= 5403 hours**

**Internship hours = 1248 hours**

**Total hours =6651 hours**

**INTERNSHIP–Minimum 1248 hours (calculated based on 8 hours per day,)**

There shall be six months of Internship after the final year examination for candidates declared to have passed the examination in all the subjects. During the internship candidate shall have to work full time average 8 hours per day (each working day) for 6 Calendar months. Each candidate is allowed a maximum of 6 holidays during the entire Internship Program and in case of any exigencies during which the candidate remains absent for a period more than 6 days, he/she will have to work for the extra days during which the candidate has remained absent.

The Internship should be rotatory and cover clinical branches concerned with Occupational Therapy such as

1. Occupational Therapy (Pediatrics)- 15 days
2. Occupational Therapy (SI + NDT)-15
3. Occupational Therapy (Musculoskeletal)-15 days
4. Occupational Therapy (Neurology)-15 Days
5. Medicine/ Neurology-15 Days
6. Surgery-15 Days
7. Pediatrics-15 days
8. Obstetrics + Gyenocology-10 Days
9. Psychiatry-15 days
10. Orthopaedics-20 Days
11. Chest + Respiratory Medicine-15 Days
12. NICU, PICU, ICU- 15 Days
13. The posting should be inpatient and outpatient services. The student has to maintain a log book and it should be duly signed by the concerned clinical supervisor on a daily basis. The log book should also include six case studies

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from respective departments. Based on the attendance and work done during posting the Director/Principal/ head of institution/department shall issue 'Certificate of Satisfactory completion' of training following which the University shall award the Bachelor of Occupational Therapy Degree or declare the candidate eligible for the same. No candidate shall be awarded a degree without successfully completing a six months internship. Institutions shall have to satisfy themselves that satisfactory infrastructure facilities of Occupational Therapy exist in the Institute / Hospital where the internship training has to be undertaken. Following parameters / guidelines have been suggested:

a. It is mandatory for the Institution to have its own Occupational Therapy clinic fully furnished with all the necessary equipment as per the curriculum of the Program.

senior Occupational Therapists with sufficient clinical experience should manage the occupational Therapy departments in the Institutes/Hospitals.

c. Institute Director / Principal can at his discretion grant NOC to the students to do the Internship at the place of his/her choice provided the concerned Hospital fully satisfies the above criteria. For the purpose of granting NOC the candidate shall have to submit to the Institution the status of Occupational Therapy services available at the place where he/ she intends to do Internship.

The Internship is continuously evaluated and marks are awarded at the end of Internship for a total of 300 marks (50 marks/Month/Departmental Posting). The marks are awarded by the Clinical supervisor/ HOD of the concern department. The marks awarded shall be submitted to the examination department within one week from the day of completion of internship.

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**BOT FIRST SEMESTER**

**HUMAN ANATOMY-I (Including Applied Anatomy)**

**BOT-101**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT101	HUMAN ANATOMY-I	144 (80 T + 64 P)	6	5+2=7	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** It is designed to provide students with the working knowledge of the structure of the human body which is an essential foundation for their clinical studies.

**COURSE OBJECTIVE -** The student will be able to demonstrate knowledge in human anatomy as needed for the study and practice of occupational Therapy and occupational therapy.

**COURSE OUTCOMES**

CO1: To identify the microscopic structures of various tissues and organs in the human body and correlate the structure with the functions.

CO2: To understand the basic principles of embryology including genetic inheritance and stages involved in development of the organs and systems from the time of conceptions till birth.

CO3: To understand the bones, joints, muscles, vascular and nerve supply of upper limb.

CO4: To know about basic anatomical knowledge of boundaries and contents of thoracic cavity.

CO5: To understand the bones, joints, muscles, vascular and nerve supply of head and neck.

**UNIT I**

**General Anatomy**

- Introduction and subdivisions of Anatomy.
- Anatomical nomenclature: Terms of Planes, Positions, Body parts and movements.
- Basic tissues of the body: Definition, location and their function
- Structure and appendages of skin
- Superficial & deep fascia: Definition and functions, modifications of deep fascia



### General Histology and Embryology

- Epithelium, Connective Tissue
- Muscle, bone and Cartilage
- Nerve and Vessels
- Development of skin fascia and blood vessels
- Development of Endo, Exoskeleton, neural tube and spinal cord

## UNIT II

### Regional Anatomy

#### Thorax:

- Cardio-Vascular System Mediastinum: Divisions and contents Pericardium: Thoracic Wall: position, shape and parts of the heart; conducting System; blood Supply and nerve supply of the heart; names of the blood vessels and their distribution in the body region wise.
- Respiratory system- Outline of respiratory passages: Pleura and lungs: position, parts, relations, blood supply and nerve supply; Lungs – emphasize on bronchopulmonary segments.
- Diaphragm: Origin, insertion, nerve supply and action, openings in the diaphragm.
- Intercostal muscles and Accessory muscles of respiration: Origin, insertion, nerve supply and action.
- Applied Anatomy: Diaphragmatic Hernia, Applied anatomy of respiratory system, Applied anatomy of circulatory system, Applied anatomy of trachea and esophagus

## UNIT III

#### Abdomen:

- Peritoneum: Parietal peritoneum, visceral peritoneum, folds of peritoneum, functions of peritoneum.
  - Large blood vessels of the gut.
  - Location, size, shape, features, blood supply, nerve supply and functions of the following: stomach, liver, spleen, pancreas, kidney, urinary bladder, intestines, gallbladder.
- 
- Pelvis: Position, shape, size, features, blood supply and nerve supply of the male and female reproductive system.
  - Endocrine glands: Position, shape, size, function, blood supply and nerve supply of the following glands: Hypothalamus and pituitary gland, thyroid glands, parathyroid glands, Adrenal glands, pancreatic islets, ovaries and testes, pineal glands, thymus.

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- d. Applied Anatomy: Abdominal Hernia, Congenital anomalies, Clinical significance of 9 regions of abdomen, Surgical incisions, Applied anatomy of visceral organs

#### UNIT IV

##### **Musculoskeletal Anatomy- (All the topics to be taught in detail)**

- e. Connective tissue classification.
- f. Bones- Composition & functions, classification and types according to Morphology and development.
- g. Joints- definition, classification, structure of fibrous, cartilaginous joints, blood supply and nerve supply of joints.
- h. Muscles- origin, insertion, nerve supply and actions.

#### UNIT V

##### **Upper Extremity**

- i. Osteology: Clavicles, Scapula, Humerus, Radius, Ulna, Carpals, Metacarpals, Phalanges.
- ii. Soft parts: Breast, pectoral region, axilla, front of arm, back of arm, cubital fossa, front of forearm, back of forearm, palm, dorsum of hand, muscles, nerves, blood vessels and lymphatic drainage of upper extremity.
- iii. Joints: Shoulder girdle, shoulder joint, elbow joints, radioulnar joint, wrist joint and joints of the hand.
- iv. Arches of hand, skin of the palm and dorsum of hand.
- v. Applied Anatomy: Injuries related to dislocations/subluxation of joints of upper limb, Injuries related to fractures of bones of upper limb, entrapment neuropathies, Brachial plexus injury, Rotator cuff injuries, Injuries related to vascular supply of upper limb, Injuries related to nerve damage, Knowledge of ossification of bones of upper limb, Deformities, Anatomy related to surgical management of breast carcinoma. Knowledge of lymph nodes and lymph vessels and their pathology, Triangle of auscultation, soft tissue injuries of upper limb, Capsular injuries, Venipuncture in cubital fossa, Reflexes, Contractures and Syndromes of upper limb and thorax.

##### **PRACTICAL- List of Practical/Demonstrations**

- 1. Upper extremity including surface Anatomy.
- 2. Thorax including surface anatomy, abdominal muscles.
- 3. Embryology- models, charts & X-rays.

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## HUMAN PHYSIOLOGY-I (Including Applied Physiology)

### BOT-102

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT102	HUMAN PHYSIOLOGY-I	144 (80 T + 64 P)	6	5+2=7	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION:** The course is designed to assist the students to acquire knowledge of the normal human Physiology of various body systems and understand the alternation in physiology in disease and practice of Occupational Therapy as applicable for each systemic disorder.

**COURSE OBJECTIVE:** The objective of this course is that after lectures, demonstrations, practical and clinics the student will be able to demonstrate an understanding of elementary human physiology.

### COURSE OUTCOMES:

CO1: Understand the cell physiology in detail including the transport mechanism of human body and blood and body fluid distribution and composition.

CO2: Understand interaction and integration of different organ systems in health and diseases special nerve-muscle physiology.

CO3: Understand the functional mechanisms of cardiovascular system, student should be able to tell about the conducting system of heart, cardiac muscle, cardiac output along with the calculation and handling of equipment e.g. measurement of blood pressure

CO4: Describe the physiology of respiratory system which include mechanics of breathing, spirometer, transport of gases and the common disorders of respiratory system.

CO5: Demonstrate in depth the knowledge of GIT, Its structure, functions, composition & functions of different juices, movements, digestion & absorption and related applied.

## THEORY

### 1. General Physiology

- Cell: Morphology, Organelles: their structure and functions
- Transport Mechanisms across the cell membrane
- Body fluids: Distribution, composition.

### 2. Blood

- Introduction: Composition and functions of blood.

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- b. Plasma: Composition, formation, functions, Plasma proteins.
- c. RBC: count and its variations.  
Erythropoiesis- stages, factors regulating.  
Reticulo- endothelial system (in brief)  
Haemoglobin – structure, function and derivatives  
Anemia (in detail), types of Jaundice  
Blood indices, PCV, ESR
- d. WBC: Classification, Morphology, functions, count, its variation of each  
Immunity
- e. Platelets: Morphology, functions, count, its variations
- f. Hemostatic mechanisms: Blood coagulation – factors, mechanisms, their disorders, Anticoagulants.
- g. Blood Groups: Landsteiner's law, types, significance, determination, Erythroblastosis foetalis.
- h. Blood Transfusion: Cross matching, Indications and complications.
- i. Lymph: Composition, formation, circulation and functions.
- j. Applied Physiology: Thalassemia Syndrome, Hemophilia, VWF, Anemia, Leukocytosis, Bone marrow transplant, Oxygen debt.

### 3. Nerve Muscle Physiology

- a. Introduction: Resting membrane potential, Action potential – ionic basis and properties.
- b. Nerve: Structure and functions of neurons, Classification, Properties and impulse transmission of nerve fibers. Nerve injury – degeneration and regeneration.
- c. Neuroglia: Types and functions.
- d. Physiology of the Brain: Areas & Connections
- e. Sympathetic and Parasympathetic regulation, thermoregulation
- f. Peripheral nervous system
- g. Muscle: Classification, Skeletal muscle: Structure, Neuromuscular junction: Structure, Neuromuscular transmission,
- h. Applied Physiology: Muscles and Nervous System Functions, Types of nerve fibers, Action potential, Strength-duration curve, ECG, EMG, VEP, NCV, Degeneration and regeneration of nerve, Reactions of denervation, Synaptic transmission, stretch reflex- Mechanism and factors affecting it, Posture, Balance and Equilibrium/Coordination of voluntary movement, Voluntary motor action, clonus, Rigidity, incoordination, Special senses- Vision, taste, hearing, vestibular, Olfaction, myasthenia gravis. Excitation-Contraction coupling, Rigor-mortis.

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#### 4. Cardiovascular System

- a. Introduction: Physiological anatomy and nerve supply of the heart and blood vessels. Organization of CVS, Cardiac muscles: Structure. Ionic basis of action potential and pacemaker potential, Properties.
- b. Conducting system: Components, Impulse conduction Cardiac Cycle: Definition, Phases of cardiac cycle. Pressure and volume curves. Heart sounds – causes, character, ECG: Definition, Different types of leads, Waves and their causes, P-R interval, Heart block.
- c. Cardiac Output: Definition, Normal value, Determinants, Stroke volume and its regulation, Heart rate and its regulation, their variations
- d. Arterial Blood Pressure: Definition, Normal values and its variations, determinants, Peripheral resistance, Regulation of BP.
- e. Arterial pulse.
- f. Shock– Definition, Classification, causes and features
- g. Regional Circulation: Coronary, Cerebral and Cutaneous circulation
- h. Applied Physiology: Circulatory adjustment in exercise and in postural and gravitational changes, Pathophysiology of fainting and heart failure, Cardiovascular changes during exercise.

#### 5. Respiratory System-

- a. Introduction: Physiological anatomy– Pleura, tracheo-bronchial tree, alveolus, respiratory membrane and their nerve supply. Functions of respiratory system, Respiratory muscles.
- b. Mechanics of breathing: Intrapleural and Intrapulmonary pressure changes during respiration, Chest expansion, Lung compliance: Normal value, pressure-volume curve, factors affecting compliance and its variations, Surfactant – Composition, production, functions, RDS
- c. Spirometry: Lung volumes and capacities, Timed vital capacity and its clinical significance, Maximum ventilation volume, Respiratory minute volume.
- d. Dead Space: Types and their definition.
- e. Pulmonary Circulation Ventilation- perfusion ratio and its importance.
- f. Transport of respiratory gases: Diffusion across the respiratory membrane, Oxygen transport – Different forms, oxygen-haemoglobin dissociation curve. Factors affecting it. P50, Haldane and Bohr Effect, Carbon dioxide transport:

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- Different forms, chloride shift.
- g. Regulation of Respiration: Neural Regulation, Hering-breuer's reflex, Voluntary control, Chemical Regulation.
- h. Applied Physiology: Hypoxia: Effects of hypoxia, Types of hypoxia, hyperbaric oxygen therapy, Acclimatization Hypercapnia, Asphyxia, Cyanosis- types and features, Dysbarism, Disorders of Respiration: Dyspnoea, Orthopnoea, Hyperpnoea, hyperventilation, apnoea, tachypnoea, periodic breathing- types Artificial respiration, Respiratory changes during exercise. Pulmonary Functions, Respiratory adjustments in exercises, Artificial respiration, Breath sounds.

### PRACTICAL

More detailed study of the physiology and practical applications of the following selected topics with emphasis on aspects, which should help in understanding the nature and treatment of common clinical situations of interest in Occupational Therapy.

1. Clinical Examination: Examination of Radial pulse, blood pressure, CVS, Respiratory system, Sensory system, Motor System, reflexes, cranial nerves.
2. Amphibian Experiments- Demonstration and Dry charts Explanation, Normal cardiogram of amphibian heart, Properties of Cardiac muscle, Effect of temperature on cardiogram, Simple muscle curve, Effect of increasing the strength of the stimuli
3. Effect of temperature on muscle contraction, Effect of two successive stimuli, Effect of Fatigue, Effect of load on muscle contraction, Genesis of tetanus and clonus, Velocity of impulse transmission.
4. Haematology: To be done by the students

Study of Microscope and its uses, Determination of RBC count, WBC count, Differential leukocyte count, Estimation of hemoglobin, Calculation of blood indices, Determination of blood groups, Determination of bleeding time, Determination of clotting time, Demonstrations only: Determination of ESR, Determination of PCV

### BIOCHEMISTRY BOT-103

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT103	BIOCHEMISTRY	70 (50 T + 20 P)	3	3+1=4	20 (T) + 20 (P)	80 (T) + 80 (P)	200

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**COURSE DESCRIPTION-** The course describes structures & functions of cell in brief; normal functions of different components of food, Enzymes, define Basal metabolic rate & factors affecting the same [in brief], with special reference to obesity; nutritional aspects of carbohydrates, lipids, proteins & vitamins & their metabolism with special reference to obesity; define enzymes, discuss in brief, factors affecting enzyme activity; describe in details biochemical aspects of muscle contraction.

**COURSE OBJECTIVE-** The students will be able to understand the biochemical change of the various elements of the body at cellular level and extra cellular level.

**COURSE OUTCOME-**

CO1: The graduate should be able to understand the importance of nutrition.

CO2: The graduate should be able to identify the different types of biomolecules (carbohydrate, lipid and amino acid), to understand the chemistry of various types of biomolecules in maintaining the health.

CO3: The graduate should be able to understand the importance of Enzymes, nucleic acid and Digestion of biomolecules.

CO4: The graduate should be able to understand the importance of different pathways concerned with carbohydrate, lipid and protein metabolism along with their application in different physical and clinical conditions after the completion of the course.

CO5: To understand the importance of Vitamin, minerals, Cell biology, muscle contraction, Hormones, Clinical biochemistry and acid base balance.

1. Nutrition: RDA, BMR, SDA, caloric requirement and balanced diet.
2. Carbohydrates: Definition, classification and general functions. Carbohydrate Metabolism - Glycolysis, T.C.A cycle.
3. Lipids: Definition, classifications and general functions. Essential fatty acids and their importance, Cholesterol, Lipoproteins. Metabolism-b-Oxidation of fatty acids, fatty liver and ketosis.
4. Amino Acids: Definition, classification, essential and nonessential amino acids.
5. Proteins: Definition, classification, and Biomedical Importance. Metabolism:
6. Formation and fate of ammonia, Urea cycle and its significance.
7. Study of hemoglobin and myoglobin with their functions.
8. Enzymes: Definition, classification with examples, Factors affecting enzyme action, isoenzyme and coenzyme, Clinical importance of enzymes.
9. Biochemistry of connective tissue - Introduction, various connective tissue proteins collagen, elastin- structure and associated disorders.
10. Vitamins: Definition, classification and functions, dietary source, daily requirement and deficiency disorders.
11. Cell Biology: Introduction, Cell structure, Cell membrane structure and function, various types of absorption, Intracellular organelles and their functions, briefly on

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cytoskeleton.

12. Muscle Contraction: Contractile elements in muscle, briefly on the process of muscle contraction, Energy for muscle contraction.
13. Clinical Biochemistry: Normal levels of blood and urine constituents, Relevance of blood and urine levels of Glucose, Urea, Uric acid, Creatinine, Calcium, Phosphates, pH and Bicarbonate, Liver function tests, Renal function tests.

### PRACTICAL

Qualitative and Quantitative estimation: Routine blood investigations normal values LFT, KFT, TFT, Lipid Profile, Thyroid Profile, Plasma glucose GTT, G.t curve Plasma protein, Plasma creatinine Demo experiments enzymes assays, Na, K, Ca.

### Fundamental OT-I BOT-104

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT104	Fundamental OT-I	222 (132T + 90 P)	6	8+3=11	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** At this course, the students will have a better understanding of the principles of **Fundamental of OT**, BOTH basic and advanced as well as assessment techniques. The student's skill will be enhanced through hands on training provided during the practical hours.

**COURSE OBJECTIVE-** Describe basic concepts of **Fundamental of OT** -theory of occupation, therapeutic modalities

### COURSE OUTCOMES-

- CO1: At the completion of course, the student shall be able to describe the basics of fundamental of OT and principles and methods of assessment.
- CO2: Describe and demonstrate fundamental and derived positions
- CO3: Describe and demonstrate active, passive, resisted movements.
- CO4: Demonstrate principles, application of techniques like goniometry, MMT
- CO5: Describe the various assessment techniques needed.

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### Theory

- (1) Definition and scope of Occupational Therapy.
  - (a) History & development of Occupational Therapy.
  - (b) Philosophy of Occupational Therapy & Rehabilitation, Rehab team, referral mechanism, need of rehabilitation. Principles of physical medicine.
  - (c) Application of Occupational Therapy-Occupational Therapy process.
  - (d) Introduction to Models of Occupational Therapy
- (3) Theory of Occupation:
  - (a) Forms of occupation, occupation as evolutionary trait, biological dimensions.
  - (b) Social dimensions, psychological dimensions of occupation, Application of theory to Occupational Therapy.
- (4) Occupational Therapy practice frame work
  - (a) Domain
  - (b) Occupations
  - (c) Client factors
  - (d) Performance skills
  - (e) Context and environment
  - (f) Process
- (5) Principles of Therapeutic Exercise :
  - (a) Generalized & specific principles.
  - (b) Types of Movements, Muscle contraction used in exercise.
  - (c) Exercise classification & application to activity.
  - (d) Objective to develop i) Power ii) Endurance iii) Coordination iv) ROM
  - (e) Progressive resistive exercise (PRE), Regressive resistive exercise (RRE), brief repetitive isometric exercise (BRIME)
  - (f) Breathing Exercise
- (4) Therapeutic Modalities:

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(a) Purposeful activity & characteristics

(5) Activity Analysis:

- (a) Principles of activity analysis
- (b) Biomechanical & sensory motor
- (c) Adapting & grading activity
- (d) Selection of activity

(6) Principles and methods of Assessment:

- (a) Joint range of motion
- (b) Muscle strength

(7) Definition, classification, variation in testing methods of following:

**Muscle Tone:**

- (a) Definition of tone.
- (b) Normal Muscle tone
- (c) Abnormal Muscle tone
- (d) Muscle tone assessment-
- (e) Modified Ashworth Scale

**Coordination:**

- (a) Definition
- (b) Characteristics of coordinated movements
- (c) Inco-ordination, Cerebellar signs, Extra pyramidal signs\
- (d) Assessment of co-ordination

**Sensation:**

- (a) Definition.
- (b) Classification of sensations.
- (c) Techniques and methods of Sensory evaluation. Specific sensory testing.

**Perception:**

- (a) Definition.
- (b) Components and description of each component. Assessment methods

**Cognition:**

- (a) Definition.
- (b) Evaluation of cognitive Skills: Attention,
- (c) Orientation, Memory (Immediate, Short term and
- (d) Long term Memory), problem solving and
- (e) Executive functions.

**Endurance:**

- (a) Definition.
- (b) Importance of Endurance in performance.

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- (c) Factors affecting endurance.  
(d) Relation to activity tolerance.

## 2.2 PRACTICALS:

- 1) Assessment of joint range of motion on normal subject.
- 2) Assessment of group muscle strength on normal subject.
- 3) Activities to be analyzed - shoulder wheel, Bicycle fretsaw, eating, inclined sanding, and medicine ball kicking.
- 4) Evaluation of Sensation, co-ordination, cognition & perception.

## HEALTH PSYCHOLOGY

### BOT-105

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT10	HEALTH PSYCHOLOGY	50 T	3	3	20 (T)	80 (T)	100

**COURSE DESCRIPTION** – This course will develop the basic knowledge of Psychology with respect to the normal development of a child and the psychological condition of patient in terms of Health-related psychological introspection. This develops the utilization and importance of Psychology with respect to Occupational Therapy treatment.

**COURSE OBJECTIVE** – The student will be able to recognize and help with the psychological factors involved in disability, pain, disfigurement, unconscious patients, chronic illness, death, bereavement and medical surgical patients/conditions. They should also understand the elementary principles of behavior for applying in the therapeutic environment. In addition, the students will be able to show their proficiency based on written and internal evaluation.

### COURSE OUTCOMES –

CO1: Recognize and help with the psychological factors involved in disability, pain, disfigurement, unconscious patients, chronic illness, death, bereavement and medical-surgical patients/conditions.

CO2: Understand the elementary principles of behavior for applying in the therapeutic environment.

CO3: Perform psychosocial assessment of patients in various developmental stages

CO4: Understand Ego defense mechanisms and learn counseling techniques to help those

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in need.

CO5: Know about importance of psychology in health delivery system.

## THEORY

### 1. Introduction to Psychology

- Schools: Structuralism, functionalism, behaviorism, Psychoanalysis.
- Methods: Introspection, observation, inventory and experimental method.
- Branches: pure psychology and applied psychology
- Psychology and occupational Therapy

### 2. Growth and Development

- Lifespan: Different stages of development (Infancy, childhood, adolescence, adulthood, middle age, old age).
- Heredity and environment: role of heredity and environment in physical and psychological development, "Nature v/s Nurture controversy".

### 3. Sensation, attention and perception

- Sensation: Vision, Hearing, Olfactory, Gustatory and Cutaneous sensation, movement, equilibrium and visceral sense.
- Attention: Types of attention, Determinants of attention (subjective determinants and objective determinants).
- Perception: Gestalt principles of organization of perception (principle of figure ground and principles of grouping), factors influencing perception (past experience and context).
- Illusion and hallucination: different types.

### 4. Motivation

- Motivation cycle (need, drive, incentive, reward).
- Classification of motives.
- Abraham Maslow's theory of need hierarchy

### 5. Frustration and conflict





- Frustration: sources of frustration.
- Conflict: types of conflict.
- Management of frustration and conflict

### 6. Emotions

- Three levels of analysis of emotion (physiological level, subjective state, and overt behavior).
- Theories of emotion
- Stress and management of stress.

### 7. Intelligence

- Theories of intelligence.
- Distribution of intelligence.

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c. Assessment of intelligence

### 8. Thinking

- Reasoning: deductive and inductive reasoning
- Problem solving: rules in problem solving (algorithm and heuristic)
- Creative thinking: steps in creative thinking, traits of creative people

### 9. Learning

- Factors affecting learning.
- Theories of learning: trial and error learning, classical conditioning, Operant conditioning, insight learning, social learning theory.
- The effective ways to learn: Massed/Spaced, Whole/Part, Recitation/Reading, Serial/Free recall, Incidental/Intentional learning, Knowledge of results, association, organization, and mnemonic methods.

### 10. Personality

- Approaches to personality: type & trait, behavioristic, psycho analytic and humanistic approach.
- Personality assessment: observation, situational test, questionnaire, rating scale, interview, and projective techniques.
- Defense Mechanisms: denial of reality, rationalization, projection, reaction formation, identification, repression, regression, intellectualization, undoing, introjection, acting out.

### 11. Social psychology

- Leadership: Different types of leaders, Different theoretical approaches to leadership.
- Attitude: development of attitude, Change of attitude.

**12. Clinical psychology** – Models of training, abnormal behavior assessment, clinical judgement, psychotherapy, self-management methods, Occupational Therapist patient interaction, aggression, self-imaging, stress management, assertive training, Group therapy, Body awareness, Pediatric, child and geriatric clinical psychology.

**13. Counselling:** Principles and Types of counselling, PLISSIT model, Principles and techniques of counselling special children and their family members.

**14. Yogic Psychology:** Mann, Buddhi, Chit, Ahankar, Vrittis, True knowledge and Inaccurate knowledge, Imagination, Sleep, Memory, Kleshas, Lack of awareness, Vikshepas, disease, apathy and mental dullness, dilemma and indecision, carelessness, haste, indifference, laziness, absence of non-attachment, false perception, Failure to attain, Fear of missing out (FOMO), Digital distraction, guilt and shame. vighnas, solutions.

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**REMEDIAL ENGLISH**  
**BOT-106**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT106	REMEDIAL ENGLISH	30 T	2	2	20 (T)	80 (T)	100

**COURSE DESCRIPTION-** The course is designed to enable students to enhance ability to comprehend spoken and written English, required for effective communication in their professional work.

**COURSE OBJECTIVE** - The objectives of this course are to write grammatically correct English, to develop writing skills, to understand and express meaningfully the prescribed text. To comprehend and communicate in simple English; grooming the personality of the students.

**COURSE OUTCOMES –**

CO1: Understand about the grammatical and idiomatic usages

CO2: To gain knowledge about various methods of patient education, barriers of communication and how to overcome them.

CO3: Become fluent in speaking and enhance the ability to communicate effectively with colleagues, doctors, patients etc. and writing various official letters, writing patients reports and summarize scientific sessions.

CO4: Handling difficulty situations with grace style and professionalism.

CO5: To enable students to enhance ability to comprehend spoken and written English, required for effective communication in their professional work.

This course introduces the elements of English as used in medical terminology. Emphasis is placed on building familiarity with medical words through knowledge of roots, prefixes, and suffixes. Topics include: origin, word building, abbreviations and symbols, terminology related to the human anatomy, reading medical orders and reports, and terminology specific to the student's field of study. Spelling is critical and will be counted when grading tests. Derivation of medical terms. Define word roots, prefixes, and suffixes. Conventions for combined morphemes and the formation of plurals. Basic

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**Atal Bihari Vajpayee Medical University, Lucknow, U.P.**

medical terms in health care and occupational Therapy. Form medical terms utilizing roots, suffixes, prefixes, and combining roots. Interpret basic medical abbreviations/symbols.

**Communicative English**

Time words and Tenses

Active and Passive Voice

Direct-Indirect Speeches

Prepositions and Conditionals

Practice of daily use words, numerals and tongue twisters

Vocabulary building, Construction of simple sentences

Basic sentence pattern, subject and Predicate

**Functional English**

Introduction to Functional English

Describing Actions and Processes, Offering, Requests, Routines/Timetable, Making Comparisons, Sharing Interests and Experience

**Conversational Skills**

An Introduction to Conversations for various purposes importance of acquiring Conversational Skills

Models, Techniques and Types of Conversations

**Introduction to Communication and Key Concepts in Communication**

An Introduction to Communication

Basic Terms, Concepts, and Contexts of Communication

Factors influencing message encoding, the nature of message, and message uses and effects

Importance, Types and Principles of Communication

**Effective Listening and Reading Skills**

An Introduction to Listening and Reading

Purposes, Types and Techniques of Listening and Reading

Barriers to effective Listening & Reading and overcoming the Barriers

Note-taking and Note-making

**Writing Skills: An Introduction to Writing**

Importance of Effective Writing Paragraph Development: Coherence – Topic Sentence, Supporting Sentence & Data etc.

Business Letter Writing

**BOT SECOND SEMESTER**

**HUMAN ANATOMY-II (Including Applied Anatomy)**

**BOT-201**

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Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT 201	HUMAN ANATOMY- -II	144 (80 T + 64 P)	6	5+2=7	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** The study of anatomy will include identification of all gross anatomical structures. Particularly emphasis will be placed on description of bones, joints, muscles, the brain, cardio pulmonary and nervous system, as these are related to the application of occupational Therapy and occupational therapy in patients.

**COURSE OBJECTIVE –** It is designed to provide students with the working knowledge of the structure of the human body which is essential foundation for their clinical studies. Studies are concerned with the topographical and functional anatomy of the limbs and thorax. Particular attention is paid to the muscles, bones and joints of the regions. The abdomen, pelvis, perineum, head and neck and central nervous system (CNS) are studied with particular reference to topics of importance to Occupational Therapists. The study of the CNS includes detailed consideration of the control of motor function.

### **COURSE OUTCOMES –**

CO1: Identify the axis and planes of different movements in human body and should be able to tell common anatomical terminology.

CO2: Identify the structures and classification of various connective tissues, bones, joints and muscles in the human body and correlate the structure with the functions.

CO3: Discuss about the structural and functional importance of muscles, joints, long and short nerves and different spaces in upper limb and lower limb, trunk and pelvis including applied aspect.

CO4: Gain knowledge of greater vessels, muscles and structural and functional importance of different viscera

CO5: Identify and describe various parts of nervous system

### **1. Lower extremity**

- Osteology: Hip bone, femur, tibia, fibula, patella, tarsals, metatarsals and phalanges.
- Soft parts: Gluteal region, front and back of the thigh (Femoral triangle, femoral canal and inguinal canal), medial side of the thigh (Adductor canal), lateral side of the thigh, popliteal fossa, anterior and posterior compartment of leg, sole of the foot, lymphatic drainage of lower limb, venous drainage of the lower limb, arterial supply of the

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lower limb, arches of foot, skin of foot.

- iii. Joints: Hip Joint, Knee joint, Ankle joint, joints of the foot.
- iv. Applied Anatomy: Injuries related to dislocations/subluxation of joints of lower limb, Injuries related to fractures of bones of lower limb, anatomy of entrapment neuropathies, Injuries related to vascular supply of lower limb, Injuries related to nerve damage, Knowledge of ossification of bones of lower limb, Deformities, Soft tissue injuries of upper limb, Capsular injuries, Reflexes, Contractures and Syndromes of lower limb, Intramuscular injection.

## 2. Trunk & Pelvis

- i. Osteology: Cervical, thoracic, lumbar, sacral and coccygeal vertebrae and ribs.
- ii. Soft tissue: Pre and Para vertebral muscles, intercostals muscles, anterior abdominal wall muscles, Intervertebral disc.
- iii. Pelvic girdle and muscles of the pelvic floor.
- iv. Applied Anatomy: Injuries related to fractures, bony deformities, Spondylolisthesis, Spondylolysis, Spondylitis, Nerve entrapments, Spinal cord injuries: hemiplegia and paraplegia

## 3. Head and Neck

- i. Osteology: Mandible and bones of the skull.
- ii. Soft parts: Muscles of the face and neck and their nerve and blood supply- extraocular muscles, triangles of the neck.
- iii. Gross anatomy of eyeball, nose, ears and tongue.
- iv. Temporomandibular joints

## 4. Neuro-Anatomy - Organization of Central Nervous system- Spinal nerves and autonomic nervous system mainly pertaining to cardiovascular, respiratory and urogenital system

- i. Cranial nerves
- ii. Peripheral nervous system
- iii. Neurons, classification with examples.
- iv. Simple reflex arc.
- v. Parts of a typical spinal nerve/Dermatome/Myotome/Sclerotome
- vi. Peripheral nerve
- vii. Neuromuscular junction
- viii. Sensory end organs
- ix. Central Nervous System
- x. Spinal cord segments in relation to vertebral column
- xi. Brain Stem
- xii. Cerebellum
- xiii. Structure and features of meninges
- xiv. Inferior colliculi
- xv. Superior Colliculi
- xvi. Thalamus

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- xvii. Hypothalamus
- xviii. Corpus striatum
- xix. Cerebral hemisphere
- xx. Lateral ventricles
- xxi. CSF circulation
- xxii. Blood supply to brain
- xxiii. Basal ganglia
- xxiv. The pyramidal system
- xxv. Pons, medulla, extra pyramidal systems
- xxvi. Anatomical integration

5. **Surface Anatomy:** surface anatomy of the musculoskeletal system, group work in surface anatomy of the thorax, abdomen, neck, limbs, thorax and abdomen, the pelvic region.

#### 6. Radiological Anatomy

Radiological features of various soft tissues and bones are relevant to Head, Neck, Thorax, Abdomen, limbs and Pelvis.

#### PRACTICAL- List of Practical/Demonstrations

1. Lower extremity including surface Anatomy.
2. Head & Spinal cord and Neck and Brain including surface Anatomy.
3. Histology- Elementary tissue including surface Anatomy.
4. Embryology- models, charts & X-rays.

#### HUMAN PHYSIOLOGY-II (Including Applied Physiology)

#### BOT-202

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT202	HUMAN PHYSIOLOGY-II	144 (80 T + 64 P)	6	5+2=7	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** The course is designed to assist the students to acquire knowledge of the normal human Physiology of various body systems and understand the alternation in physiology in disease and practice of Occupational Therapy as applicable for each systemic disorder

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**COURSE OBJECTIVE-** The objective of this course is that after lectures, demonstrations, practical and clinics the student will be able to demonstrate an understanding of elementary human physiology

**COURSE OUTCOME –**

CO1: demonstrate a brief knowledge of pathway of vision, auditory, taste, smell and balance along with their disorders.

CO2: Understand the function of Peripheral and central nervous system and their function. They should be able to tell different pathways present in central nervous system with their location function and lesion including Upper and Lower motor neuron lesion.

CO3: understand the physiology of excretory system and its related applied.

CO4: To understand the influence of various environmental factors including personal stressors like exercise on various organ systems.

CO5: understand the endocrines, male and female reproductive system with reference to hormones, puberty, contraception, pregnancy & lactation.

**1. Digestive System**

- a. Introduction: Physiological anatomy and nerve supply of alimentary canal, enteric nervous system.
- b. Salivary Secretion: Saliva: Composition, Functions, Regulation, Mastication (in brief)
- c. Swallowing: Definition, Different stages, Function.
- d. Stomach: Functions, Gastric juice: Gland, composition, function, regulation, Gastrin: Production, function and regulation, Peptic ulcer, Gastric motility, Gastric emptying, vomiting.
- e. Pancreatic Secretion: Composition, production, function, Regulation.
- f. Liver: Functions of liver, Bile secretion: Composition, functions and regulation, Gallbladder: Functions.
- g. Intestine: Succus entericus: Composition, function and regulation of secretion, Intestinal motility and its function and regulation.
- h. Mechanism of Defecation.

**2. Renal System**

- a. Physiology of kidney and urine formation.
- b. Glomerular filtration rate, clearance, Tubular function.
- c. Water excretion, concentration of urine regulation of Na<sup>+</sup>, Cl<sup>-</sup>, K<sup>+</sup> excretion
- d. Physiology of urinary bladder
- e. Neural control of Micturition
- f. Applied physiology: Types of bladders

**3. Male & Female Reproductive System Male**

- a. Physiology of ovary and testis
- b. Physiology of menstrual cycle and spermatogenesis
- c. Functions of progesterone, estrogen and testosterone
- d. Puberty & menopause

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e. Physiological changes during pregnancy

**4. Endocrine System-**

- a) Introduction: Major endocrine glands, Hormone: classification, mechanism of action, Functions of hormones.
- b) Pituitary Gland: Anterior Pituitary and Posterior Pituitary hormones: Secretory cells, action on target cells, regulation of secretion of each hormone. Disorders: Gigantism, Acromegaly, Dwarfism, Diabetes insipidus. Physiology of growth and development: hormonal and other influences.
- c) Pituitary- Hypothalamic Relationship.
- d) Thyroid Gland: Thyroid hormone and calcitonin: secretory cells, synthesis, storage, action and regulation of secretion. Disorders: Myxedema, Cretinism, Grave's Disease.
- e) Parathyroid hormones: secretory cell, action, regulation of secretion. Disorders: Hypoparathyroidism, Hyperthyroidism, Calcium metabolism and its regulation.
- f) Adrenal Gland: Adrenal Cortex: Secretory cells, synthesis, action, regulation of secretion of Aldosterone, Cortisol, and Androgens. Disorders: Addison's disease, Cushing's syndrome, Conn's syndrome, Adreno genital syndrome.
- g) Adrenal Medulla: Secretory cells, action, regulation of secretion of adrenaline and noradrenaline, Disorders: Pheochromocytoma.
- h) Endocrine Pancreas: Secretory cells, action, regulation of secretion of insulin and glucagon, Glucose metabolism and its regulation, Disorder: Diabetes mellitus. Diabetes Mellitus, Physiological basis of Peptic Ulcer, Jaundice, GIT disorders and Dietary fiber, Thyroid functions, Vitamins deficiency.
- i) Calcitriol, Thymus and Pineal gland (very brief).
- j) Local Hormones (Briefly).

**PRACTICAL**

More detailed study of the physiology and practical applications of the following selected topics with emphasis on aspects, which should help in understanding the nature and treatment of common clinical situations of interest in Occupational Therapy.

Recommended Demonstrations

- Spirometry
- Artificial Respiration
- ECG
- Perimetry
- Ergometry

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**BOT-203**

**FUNDAMENTAL OF OCCUPATIONAL THERAPY-II**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT203	Functional OT-II	252 (152T + 100 P)	6	10+3=13	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** At this course, the students will have a better understanding of human development, classification of ADL and designing of adaptive devices. The student's skill will be enhanced through hands on training provided during the practical hours.

**COURSE OBJECTIVE-** Describe basic concepts of Fundamental OT, principles of ADL training and prevocational evaluation.

**COURSE OUTCOMES-**

CO1: Analyze motor, cognitive principles

CO2: Describe the principle of maturation

CO3: Describe the diagnostic and prognostic procedures and preparing for return to work.

CO4: Acquire the skill of assessment of isolated & group muscle strength, & Range of motion of the joints subjectively & objectively.

CO5: Describe the hand function and evaluation methods.

**Theory**

(1) Human Development:

(a) Theories of development

(b) Overview of motor, cognitive, psychosocial, language & Play development

(c) Principal of maturation

(2) Activities of daily living –

(a) Definition

(b) Classification

(c) Evaluation of ADL

(d) Various scales used in ADL (FIM, Barthel, Katz, Home management checklist)

(e) Principles & specific techniques in ADL training for:

I. Weakness

II. Low endurance

III. Limited ROM

IV. In co-ordination

V. Loss of use of one side of body

VI. Limited vision

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- VII. Decreased sensation
- (f) Achieving access to home, community & work place.
- I. Environment modification
  - II. Driver Rehab
- (g) Adaptation:
- Adaptation process  
Principal of adaptation  
Introduction to adapted devices
- i. Designing of adaptive devices: Explain design and fabrication of common adaptive devices with knowledge of material and equipment used for the same. Briefly explain application of the same in occupational therapy.
- (h) Cultural & socio-economical deviations in ADL
- (3) Occupational Therapy as diagnostic & prognostic procedure –
- (a) Definition of evaluation
  - (b) Types of evaluation
  - (c) Steps involved in evaluation
- (4) Preparing for return to work -
- (a) Prevocational capacity evaluation
    - i. Work capacity evaluation
    - ii. Physical capacity evaluation
    - iii. Functional capacity evaluation
    - iv. Discharge plan
- (5) Crafts: Knowledge of tools, equipment, materials, their therapeutic values & uses.
- (6) Hand function & evaluation methods:
- (a) Functional anatomy of hand
  - (b) Prehension and grasp patterns.
  - (c) Grip & pinch strength.
- (7) Introduction to hand splints: Definition, Classification, principles, material used in designing & fabrication.
- (8) Recreational Activities: Outline the use of the following recreational activities as a therapeutic medium. Plan the following activities for various patient groups.
- (a) Sports
  - (b) Games
  - (c) Picnic
  - (d) Drama
  - (e) Leisure & hobbies

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- (f) Music
- (g) Play

## 2.2 Practical

- (1) Design a paper model of following hand splints
  - a. Finger Gutter
  - b. Resting pan
  - c. Long opponence
  - d. Short opponence
  - e. Radial bar cock-up
  - f. Radial nerve splint using extension outrigger
- (2) Identify tools & equipment, their parts, uses & therapeutic uses.

**BOT-204**

## SOCIOLOGY & PSYCHOLOGY -I

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT204	Sociology and Psychology-I	40 (40T )	6	2	20 (T)	80 (T)	100

**COURSE DESCRIPTION** – This course will develop the basic knowledge of Sociology with respect to the application of knowledge in occupational therapy.

**COURSE OBJECTIVE** – The student will be able to recognize and help with the sociological factors involved in sociology and health and socialization.

### COURSE OUTCOMES –

CO1: Recognize and help with the sociological factors involved in perception of illness, social consciousness, and socialization of rehabilitation of patients

CO2: Understand the elementary principles of social groups, role of primary groups and secondary groups.

CO3: Perform psychosocial assessment of patients in various developmental stages

CO4: Understand influence of family on human personality and consequences of social problem in relation to sickness and disability.

### Theory

#### Section-A-Sociology

#### (1) Introduction

- (a) Definition of Sociology. Sociology as a science, uses of the study of Sociology, application of knowledge of sociology in Occupational Therapy.

#### (2) Sociology and health

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**Atal Bihari Vajpayee Medical University, Lucknow, U.P.**

- (a) Social factors affecting health status, social consciousness and perception of illness, social consciousness and meaning of illness, decision making in taking treatment. Institutions of health, their role in the improvement of health and the people.
- (3) Socialization**
- (a) Meaning of socialization, influence of social factors on personality, socialization in hospital and socialization in rehabilitation of patients & the introductory anthropology.
- (4) Social groups**
- (a) Concepts of social groups & influence of formal and informal groups on health and sickness, the role of primary groups and secondary groups in the hospital and rehabilitation setting & knowledge of global social issues prevailing health.
- (5) Family**
- (a) Influence of family on human personality, discussion of changes in the functions of a family, influence of family on the individual's rehabilitation.
- (6) Social problems of the disabled**
- (a) Consequences of the following social problems in relation to sickness and disability, remedies to prevent these problems:
- Population explosion
  - Poverty and unemployment
  - Beggary
  - Juvenile delinquency
  - Prostitution
  - Alcoholism
  - Problems of women in employment

**INTRODUCTION TO YOGA – BASIC THEORY, SCIENCE AND TECHNIQUES  
BOT-205**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT205	INTRODUCTION TO YOGA	50 (20 T + 30 P)	<b>3</b>	2+1=3	20 (T) + 20 (P)	80 (T) + 80 (P)	200

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**COURSE DESCRIPTION-** The course gives idea about the basic principles of yoga and its implication with other adjunct therapies in different conditions.

**COURSE OBJECTIVE-** The course will provide deeper insight into the curriculum of Yogic Sciences along with the practical applications of Yoga and occupational Therapy techniques.

**COURSE OUTCOME-**

CO1: To know about the basic principles of biophysics relative to mechanics of movement/ motion and understand the efficacy of various position used in therapeutic

CO2: Understand the definition, principal of yoga and their benefits and cautions for each Asanas.

CO3: Describe Asanas in various positions in their physiological changes occur in body.

CO4: Acquire skills of performing Pranayama, Yogasanas and meditation.

CO5: enable and impart skill in them to practice and apply Yogic practices for Health to general public and teach Yoga for Total personality development and spiritual evolution

**THEORY**

**1. Foundations of Yoga**

- a. Introduction to Yoga and its philosophy
- b. Brief history, development of Yoga
- c. Philosophical foundations of Yoga
- d. Streams & types of Yoga
- e. Meditation-brief introduction about types.

**2. Yoga and Health**

- a. Concept of body in yoga – Pancha kosha theory
- b. Concept of Health and Disease in yoga
- c. Stress management through yoga
- d. Disease prevention and promotion of positive health through yoga
- e. Physiological effects of Yoga practices Physiological effects of Shatkriyas
- f. Physiological effects of Asanas
- g. Physiological effects of Pranayamas
- h. Physiological effects of Relaxation techniques
- i. Physiological effects of Meditation

**PRACTICAL - List of Practical/Demonstrations (30hours)**

**5. Sukshma Vyayama / Sithilikarna Vyayama and Surya Namaskar: (3hours)**

- a. Loosening exercises of each part of the body particularly

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- of the joints
- b. 12 step Surya namaskar with prayer and specific mantras
6. **Yogic kriyas** [Observation/demonstration only] (3hours)
- Neti (Jala Neti, Sutra Neti)
  - Dhauti (Vamana Dhauti, Vastra Dhauti)
  - Trataka
  - Shankaprakshalana (Laghu & Deergha)
7. **Yog asanas**
- Standing postures (4hours)
    - Tadasana (Upward stretch posture)
    - Ardha Chakrasana (Half wheel posture)
    - Ardha Kati chakrasana (Half lumber wheel posture)
    - Utkatasana (Chair posture)
    - PadaHastasana (Hand to toes posture)
    - Trikonasana (Triangle posture)
    - ParshvaKonasana (Side angle posture)
    - Garudasana (Eagle posture)
    - Vrikshasana (Tree posture)
  - Prone positions**
    - Makarasana (Crocodile posture)
    - Bhujangasana (Cobra posture)
    - Salabhasana (Locust posture)
    - Dhanurasana (Bow posture)
    - Naukasana (Boat posture)
    - Marjalasana (Cat posture)
  - Supine postures**
    - Ardhahalasana/Uttana Padasana
    - Sarvangasana (All limb posture)
    - Pawanamuktasana (Wind releasing posture)
    - Matsyasana (Fish posture)
    - Halasana (Plough posture)
    - Chakrasana (Wheel posture)
    - Setu Bandhasana (Bridge posture)
    - Shavasana (Corpse posture)
  - Sitting postures**
    - Parvatasana (Mountain posture)

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- ii. Bhadrasana (Gracious posture)
- iii. Vajrasana (Adamantine posture)
- iv. Paschimottanasana (Back stretching posture)
- v. Janushirasana (Head to knee posture)
- vi. Simhasana (Lion posture)
- vii. Gomukhasana (Cow head posture)
- viii. Ushtrasana (Camel posture)
- ix. Ardha Matsyendrasana (Half matsyendra spine twist posture)
- x. Vakrasana (Spinal twist posture)
- xi. Kurmasana (Turtle posture)
- xii. Shashankasana (Rabbit posture)
- xiii. Mandukasana (Frog Posture)

**e. Meditative postures**

- i. Siddhasana (Accomplished pose)
- ii. Padmasana (Lotus posture)
- iii. Samasana
- iv. Swastikasana (Auspicious posture)

**8. Pranayamas**

- a. The practice of correct breathing and Yogic deep breathing
- b. Kapalabhati
- c. Bhastrika
- d. Sitali
- e. Sitkari
- f. Sadanta
- g. Ujjayi
- h. Surya Bhedana
- i. Chandra Bhedana
- j. Anuloma-Viloma/Nadishodana
- k. Bhramari

**9. Relaxation Techniques**

- a. Shavasana
- b. Yoga Nidra

10. **Meditation techniques-** effect of meditation on chakras, method of meditation techniques.

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## COMPUTERS & INFORMATICS

### BOT-206

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT206	COMPUTERS & INFORMATICS	30	2	2	-	-	-

**COURSE DESCRIPTION-** The students will be able to appreciate the role of computer technology. The course has focus on computer organization, computer operating system and software, and MS windows, Word processing, Excel data worksheet and PowerPoint presentation.

**COURSE OBJECTIVE-** The course is designed to create awareness among the students about basic operation of Computer.

### COURSE OUTCOME-

CO1: Tell about the fundamentals of computer like generations, languages, input output devices, storage and memory and processes.

CO2: Describe the basic use of Windows, computer applications like MS word, Excel and power points.

CO3: describe different operating system, types and components of computer networks

CO4: Use the internet and application of computer in clinical settings.

CO5: To learn the use of Internet services for Research and Documentation

Topics to be covered under the subject areas follow:

1. Introduction to computer: I/O Devices, Operating Systems, Introduction to MS-Word: introduction, components of a word window, creating, opening and inserting files, editing a document file, page setting and formatting the text, saving the document, spell checking, printing the document file, creating and editing of table, mail merge.
2. Introduction to Excel: introduction, about worksheet, entering information, saving work books and formatting, printing the worksheet, creating graphs.
3. Introduction to power-point: introduction, creating and manipulating presentation, views, formatting and enhancing text, slide with graphs.
4. Medical Record Keeping and Health Informatics
5. Application of Computers in clinical settings, Digital Equipment, Medical Electronics
6. RoBOTic in Occupational Therapy
7. Artificial Intelligence in Physical Therapy: What is Artificial Intelligence? AI-enabled

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devices, SWORD, Motion Coach, Physitrack, AI-enabled roBOTics, Deep learning frameworks

**PRACTICAL:** Practical on fundamentals of computers-

1. Learning to use MS office: MS word, MS Power Point, MS Excel.
2. Demonstration of Medical Electronic components
3. Demonstration of RoBOTics in Occupational Therapy
4. Demonstration of AI based applications.

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**BOT THIRD SEMESTER**

**BOT-301**

**ERGOTHERAPEUTICS - I**

BOT-301 Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT301	Ergo therapeutics-I	375 (200 T + 175 P)	6	13+6=19	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** At this course, the students will have a better understanding of the principles of ergo therapy BOTH basic and advanced as well as assessment techniques. The student's skill will be enhanced through hands on training provided during the practical hours.

**COURSE OBJECTIVE-** Describe basic concepts of industrial rehabilitation

**COURSE OUTCOMES-**

CO1: Analyze evaluation and assessment of work process

CO2: Describe the occupational injuries of back and evaluation and prevention of injuries

CO3: Describe the job site analysis

CO4: Acquire the skill of assessment of work conditioning and work hardening prevocational and vocational assessment.

**Theory**

(1) Industrial Rehabilitation;

- Evaluation and assessment of work process & factor that might bias assessment result
- Occupational injuries of back, upper limb and evaluation and prevention of injuries.
- Return to work
- Job simulation
- Work conditioning and work hardening
- Job site analysis
- On site therapy
- Pre-vocational and vocation assessment
- Employment and types of employment

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- (j) Human engineering
- (k) Decision making
- (l) Laws: OSHA
- (m) Work samples: TOWER, WEST, BTE, VALPAR

**PRACTICALS –**

- (2) Design & fabricate adaptive devices viz. universal cuff, writing device, long handled scrubber, enlarged handle spoon, tap opener.
- (3) Demonstration of standardized procedure of Hand function test viz. Jebson Taylor, Crawford small part Dexterity test, Purdue Peg board, Complete Minnesota Dexterity Test.
- (4) Transfers techniques.
- (5) Orientation file.

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**BIOMECHANICS AND KINESIOLOGY I**  
**BOT-302**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT302	BIOMECHANICS AND KINESIOLOGY I	100(60 T + 40 P)	6	4+1=5	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** This Course Supplements the Knowledge of anatomy and enables the student to have a better understanding of the principles of biomechanics and their application in musculoskeletal and various other dysfunctions.

**COURSE OBJECTIVE-** On completion of this subject, the students will be able to analyze normal human movement from a global perspective, integrating biomechanics, muscle mechanics and motor control theory. Experience quantitative methods of movement analysis using various methods. Apply the analytic methods to specific example of normal human motor performance. Use these methods for evaluation and treatment of disorders of the musculoskeletal system.

**COURSE OUTCOME-**

- CO1: The basics of mechanics of force system, equilibrium, lever and pulley.  
CO2: Describe the joint structure, classification and function of joints and biomechanics of Connective tissue  
CO3: Describe the muscle structure and function of muscles, types of muscles, contractions and factors effecting muscle recruitment and functions  
CO4: Develop ability to analyze the kinetics and kinematic motions of all the joints  
CO5: Discuss the normal cytoskeleton structure and components of joints and muscles

**Biomechanics and Kinesiology I**

- Introduction to Biomechanics and kinesiology and related terminology
- Motion: definition, types of motion, plane and axis of motion, factor determining the kind and modification of motion
- Force - Definition, diagrammatic representation of force, point of application, classification of forces, concurrent, coplanar and collinear forces, composition and resolution of forces, angle of pulls of muscle
- Friction
- Gravity - Definition, line of gravity, Centre of gravity
- Equilibrium - Supporting base, types, and equilibrium in static and dynamic state
- Levers - Definition, function, classification and application of levers in occupational Therapy & order of levers with example of lever in human body

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- h. Pulleys - system of pulleys, types and application  
i. Elasticity - Definition, stress, strain, HOOKE'S Law  
j. Springs - properties of springs, springs in series and parallel, elastic materials in use

**1. Muscle biomechanics**

Definition, properties of muscle, muscular contraction, structural classification, action of muscle in moving bone, direction of pull, angle of pull, functional classification, coordination of muscular system.

**2. Joint structure and Function**

- a. Introduction: Basic Principle of Human Joint design & Joint Function.  
b. Materials Found in Human Joints: Structure of Connective Tissue.  
c. Brief about Specific Connective Tissue Structures.  
d. General Properties of Connective Tissue: Mechanical Behavior, Viscoelasticity  
e. Time and Rate-Dependent Properties, Properties of Specific Tissues  
f. General Changes with Disease, Injury, Immobilization, Exercise, and Overuse

**Practical:**

The course involves a description of principles of biomechanics and their application in musculoskeletal function and dysfunction. At the end of the course, the candidate will be able to– 1. Understand the principles of Biomechanics. 2. Describe the properties of connective tissue, & effect of mechanical loading, & factors which influence the muscle strength, & mobility of articular & periarticular soft tissues. 3. Practical Aspects of muscle, joint ligaments, Tendon, disc, Bursa etc. 4. Practical analysis of Posture & Gait analysis. 5. Practical aspect to demonstrate different types of joints

**MICROBIOLOGY**

**BOT-303**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT303	MICROBIOLOGY	50 T	3	3	20	80	100

**COURSE DESCRIPTION-** Microbiology involves the study of common organisms causing diseases including nosocomial infections and precautionary measures to protect one from acquiring infections. The knowledge and understanding of Microbiology 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 the student.

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**COURSE OBJECTIVE-** Understand the importance of microbiology, the basic concepts of microbiology, the importance of sterilization & the nosocomial infection and its prevention in the relative field.

**COURSE OUTCOMES-**

CO1: Know about prevalent communicable diseases

CO2: Describe the agents responsible for causing clinical infection to CNS, Musculoskeletal Respiratory, and Genitourinary system.

CO3: Illustrate the best method to prevent the development of infection.

CO4: Understand to recognize the sign and symptom considered red flag for serious diseases.

CO5: Acquire knowledge of common immunological disorders and their resultant effects on the human body. They will be able to perform, demonstrate, implement and apply the concept of microbiology in better understanding with relevance to human disease.

**GENERAL MICROBIOLOGY:**

- a. Introduction and history of Medical Microbiology
- b. Morphology, Nutritional Requirements, Metabolism, Growth, Classification and identification of Bacteria
- c. Sterilizations and Disinfection

**IMMUNOLOGY**

- a. Infection, Immunity, Antigens, antibody, antigen-Antibody Reaction, Complement System
- b. Structure and Function of Immune system, Immune Response
- c. Immunodeficiency Diseases, Hypersensitivity, Autoimmunity

**BACTERIOLOGY**

- a. Staphylococcus, Streptococcus, Pneumococcus, Neisseria
- b. Corynebacterium, Clostridium, Bacillus
- c. Enterobacteriaceae, Pseudomonas, Vibrio
- d. Mycobacteria, Treponema

**VIROLOGY**

- a. General Characteristics and Classification of Virus
- b. Virus-Host Interaction
- c. DNA and RNA Virus
- d. Measles, Mumps, Rubella, Polio, Influenza, Rabies, Dengue, Hepatitis, HIV

**MISCELLANEOUS**

- a. Medical Mycology
- b. Parasitology

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- c. Normal Microbial Flora of The Human Body  
d. Hospital Acquired Infection 5. Universal Precautions

**Clinical/Applied Microbiology-**

- Streptococcal infections: Rheumatic fever and Rheumatic heart disease, Meningitis.
- Tuberculosis
- Pyrexia of unknown origin, leprosy.
- Sexually transmitted diseases, Poliomyelitis.
- Hepatitis
- Acute-respiratory infections, Central nervous System infections, Urinary tract infections.
- Pelvic inflammatory disease, Wound infection, Opportunistic infections, HIV infection.
- Malaria, Filariasis, Zoonotic diseases.
- Culture and sensitivity tests
- Hospital acquired infections

**Psychology and Sociology-II**

**BOT-304**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT304	PSYCHOLOGY & SOCIOLOGY II	45 T	3	3	20	80	100

**COURSE DESCRIPTION** – This course will have a better understanding of psychology its scope and branches of psychology.

**COURSE OBJECTIVE** – The student will be able to learn concepts of normality and abnormality and broad classification of current model of abnormal behavior.

**COURSE OUTCOMES –**

CO1: Recognize and learn relative importance of heredity environment

CO2: Understand the steps of memory perceptual process and emotions.

CO3: Describe the methods of studying child development and applied psychology

- Definition of Psychology
  - Science of mind, consciousness and behavior
  - Scope and branches of Psychology
- Methods of Introspection, observation and experimentation.

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- (3) Concepts of normality and abnormality: Causes of abnormality, Criteria for abnormality. Broad classification of Current model of abnormal behaviour - Medical model, Psychodynamic model, Behaviouristic model & Humanistic model, and Cognitive model
- (4) Hereditary and Environment
  - (a) Relative importance of heredity and environment
  - (b) Physical characteristics intelligence and personality.
  - (c) Nature vs. nurture controversy
- (5) Memory
  - (a) Steps of memory
  - (b) Measurement of memory
  - (c) Causes of forgetting
  - (d) Concept of STM and LTM
- (6) Perceptual Process
  - (a) Nature
  - (b) of perceptual process
  - (c) Structural and functional factors in perception
  - (d) Illusion and Hallucination
- (7) Emotion
  - (a) Emotion and feeling
  - (b) Physiological changes
  - (c) Theories of emotion (James-Lange and Cannon-Bard)
- (8) Reaction to loss: Reaction to loss, death and bereavement: shock and disbelief, development of awareness, restitution, and resolution. Stages of acceptance as proposed by Kubler-Ross.
- (9) Stress: Physiological and psychological changes, relation to health and sickness: Psychosomatics, professional stress, burnout.  
Compliance: Nature, factors, contributing to non-compliance, improving compliance.
- (10) Motivation
  - (a) Motive: need and Drive
  - (b) Types of motive: Physiological, Psychological and Social
- (11) Intelligence Definition: theory and assessment
- (12) Personality: Definition: Types and measurements
- (13) Child Psychology
  - (a) Concept of child Psychology
    - i. Meaning: nature and subject matter of child Psychology
    - ii. Practical importance of studying child Psychology for rehabilitation professionals
  - i. Methods of studying child development
    - i. Baby Biography
    - ii. Case History
    - iii. Behavior rating

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### Applied Psychology

(1) Rehabilitation Psychology:

- (a) Interpersonal Relationships, Family & Social relationships, acceptance about the disability – its outcome in relation to different diagnostic categories psychological aspects of multiple handicapped, contribution of psychology in Total Rehab.

### ENVIRONMENTAL SCIENCE

#### BOT-305

Course No.	Title	Total Hour	Hours / week	Credit	IA Mark	SE Mark	Total Mark
BOT305	ENVIRONMENTAL SCIENCE	30	2	2	-	-	-

#### COURSE DESCRIPTION-

**COURSE OBJECTIVE-** The course gives the awareness on the ecosystem structure and process which interlinked with human survival, intensively need attention at global and regional level.

#### COURSE OUTCOMES-

CO1: To understand the concept and function of the environment and recognize the physical, chemical, and biological components of the earth's systems and their functions.

CO2: To identify common and adverse impacts of human activities on biotic communities, soil, water, and air quality and suggest sustainable strategies to mitigate these impacts.

CO3: Develop an understanding of environmental pollutions and hazards and general measures to control them.

CO4: To realize the importance of biodiversity for maintaining ecological balance and Global conservation practices and strategies.

CO5: To analyze the need for sustainable development in respect of environmental management through Policies, movements and social awareness.

Natural resources Renewable and non-Renewable resources:

Natural resources and associated problems. a) Water Resources: Use and over utilization of surface and ground water, floods, drought, conflicts over water, dams- benefits and

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problems. b) Mineral Resources: Use and exploitation, environmental effects of extracting and using minerals resources, case studies. c) Food Resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer - pesticide problems, Water logging, Salinity, case studies. d) Energy Resources: Growing energy needs, renewable and nonrenewable energy sources, use of alternate energy sources, case studies. e) Land Resources: Land as a resource, Land degradation, Man induced landslides, Soil erosion and desertification. - Role of an individual in conservation of natural resources - Equitable use of resources for sustainable lifestyles.

Ecosystems: a) Concept of an Ecosystem. b) Structure and Function of an Ecosystem c) Producer Consumer and decomposers. d) Energy flow in the Ecosystem. e) Ecological Succession.

Biodiversity and its conservation: a) Introduction - Definition: Genetic, Species and Ecosystem diversity. b) Bio-Geographical classification of India, c) Value of Biodiversity: Consumptive use, productive use, Social, ethical, aesthetic and option values d) Biodiversity at Global, National & Local levels. e) Hotspots of Biodiversity f) Threats to Biodiversity: Habitat Loss, Poaching of Wildlife, Man-Wildlife Conflicts

Environmental pollution: a) Definition, Causes, effects and control measures of-Air Pollution, Water Pollution, Soil Pollution, Marine Pollution, Noise Pollution, Thermal Pollution, Nuclear Hazards b) Solid Waste Management: Causes, effects and control measures of urban and Industrial Wastes .c) Role of an Individual in prevention of pollution. d) Pollution case studies e) Disaster Management: floods, earthquake, cyclones and landslides.

Social issues and Environments: a) Resettlement and Rehabilitation of people; its problems and concerns, case studies. b) Environmental ethics: issues and possible solutions c) Greenhouse effect and global Warming, effects of acid Rain and their remedial measures and ozone Layer depletion.

Human pollution and the environments: a) Population growth variation among nations, Population Explosion, Family welfare programme b) Environment and Human Health c) Human Rights. e) Role of Information Technology in Environment and Human Health, Case studies.

Field Work a) Visit to a local area to document environmental assets river/forest/grassland/hill/mountain b) Visit to a local polluted site – Urban/Rural/Industrial/Agricultural c) Study of common plants, insects, birds • Study of simple ecosystems-pond, river, hill slopes etc.

**CLINICAL POSTING BOT-306**

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**BOT FOURTH SEMESTER  
BOT-401**

**ERGOTHERAPEUTICS - II**

BOT-301 Course No.	Title	Total Hour	Hours/week	Credit	IA Mark	SE Mark	Total Mark
BOT401	Ergo therapeutics-II	210 (110 T + 100 P)	6	7+3=10	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**Ergotherapeutics-II**

**COURSE DESCRIPTION-** Acquire the knowledge of human development process, acquire the knowledge of posture and movement, cognitive theory of Jean Piaget where occupational therapy plays a vital role in the rehabilitation.

**COURSE OBJECTIVE-** To Identify discuss and analyze social learning theory and frame of references. Acquire knowledge of sensory motor approaches

**COURSE OUTCOME-**

CO1: To understand Brunnstrom approach, PNF

CO2: To understand cerebral palsy and stroke

CO3: To understand growth development and maturation pathophysiological changes in burn and oncology with their PT treatment

**Section-I**

1. Human Development process
  - a. posture and movement
    - i. Growth, Development and maturation
  - b. At Reflex and reaction maturation
    - I. Learning Theory
    - II. Behaviour Theory
    - III. Social Learning Theory
    - IV. Psychoanalytic theory of Freud and Erikson

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- V. Cognitive theory of Jean Piaget
- VI. Maturation theory of Gessel
2. Frame of references (Organizing system for Occupational Therapy practice)
3. Neurophysiology of sensory- motor approaches to the treatment.
4. Sensory-motor approaches
  - a. Roods Approaches
  - b. Bobath Approach
  - c. Brunnstrom Approach- Movement Therapy
  - d. Proprioceptive neuromuscular facilitation (PNF)
5. Work Hardening
6. Cerebral Palsy and Stroke
  - a. Causes, risk Factors
  - b. Classification

### **Section-II (Evaluation Methods)**

1. Evaluation of Muscle Strength
2. Evaluation of Muscle tone
3. Evaluation of Reflexes and reactions

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**BIOMECHANICS & KINESIOLOGY II**

**BOT-402**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT402	BIOMECHANICS & KINESIOLOGY II	100(600T + 40 P)	6	4+2=6	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** This Course Supplements the Knowledge of anatomy and enables the student to have a better understanding of the principles of biomechanics and their application in musculoskeletal and various other dysfunctions.

**COURSE OBJECTIVE-** Describe the joint structure, classification and function of joints and biomechanics of Connective tissue. Describe the muscle structure and function of muscles, types of muscles, contractions and factors effecting muscle recruitment and function. Describe the biomechanics of the thoracic and chest wall and patho-biomechanics associated with chest deformities. Describe the analysis of posture and gait during static and dynamic movement, relation with LOG, Pathomechanics of abnormal gait and posture.

**COURSE OUTCOME-**

CO1: On successful completion of this programme, students should be able to describe the understanding of basics of mechanics, muscle structure and contraction, factors effecting muscle contraction and recruitment

CO2: Describe mechanics of chest wall during various movements and the patho-mechanics associated with various chest conditions and deformities

CO3: Analyze normal mechanics of posture and gait in various planes and axis

CO4: Analyze the patho mechanics associated with abnormal posture and gait.

CO5: Describe biomechanics of shoulder, elbow, wrist, hip, knee, ankle joint, vertebral column.

Kinesiology of the vertebral column-

- General structure and function
- Regional structure and function– Cervical region, thoracic region, lumbar region, sacral region
- Muscles of the vertebral column

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d. General effects of injury and aging

Kinesiology of the peripheral joints-

- e. The shoulder complex: Structure and components of the shoulder complex and their integrated function
- f. The elbow complex: Structure and function of the elbow joint – humeroulnar and humeroradial articulations, superior and inferior radioulnar joints; mobility and stability of the elbow complex; the effects of immobilization and injury.
- g. The wrist and hand complex: Structural components and functions of the wrist complex; structure of the hand complex; functional position of the wrist and hand.
- h. The hip complex: structure and function of the hip joint; hip joint pathology-arthrosis, fracture, bony abnormalities of the femur.
- i. The knee complex: structure and function of the knee joint – tibiofemoral joint and patellofemoral joint; effects of injury and disease.
- j. The ankle and foot complex.: structure and function of the ankle joint, subtalar joint, talocalcaneonavicular joint, transverse tarsal joint, tarsometatarsal joints, metatarsophalangeal joints, interphalangeal joints, structure and function of the plantar arches' muscles of the ankle and foot, deviations from normal structure and function – Pes Planus and Pes Cavus.

Analysis of Posture and Gait – Static and dynamic posture, postural control, kinetics and kinematics of posture, ideal posture analysis of posture, effects of posture on age, pregnancy, occupation and recreation; general features of gait, gait initiation, kinematics and kinetics of gait, energy requirements, kinematic and kinetics of the trunk and upper extremities in relation to gait, stair case climbing and running, effects of age, gender, assistive devices, disease, muscle weakness, paralysis, asymmetries of the lower extremities, injuries and malalignments in gait; Movement Analysis: ADL activities like sitting–to standing, lifting, various grips, pinches.

**PRACTICAL-** shall be conducted for various joint movements and analysis of the same. Demonstration may also be given as how to analyze posture and gait. The student shall be taught and demonstrated to analysis for activities of daily living–ADL– (like sitting to standing, throwing, lifting etc.) The student should be able to explain and demonstrate the movements occurring at the joints, the muscles involved, the movements or muscle action produced, and mention the axis and planes through which the movements occur. The demonstrations may be done on models or skeleton.

**PATHOLOGY**  
**BOT-403**

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Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT403	PATHOLOGY	55T+20P	3	4	20	80	100

**COURSE DESCRIPTION:** This subject 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 causes and mechanisms 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 the student.

**COURSE OBJECTIVE-** The student will be able to understand the concepts of cell injury and changes in relation towards the pathological effects of infectious and non-infectious diseases & understand the disease process, the clinical significance (with special emphasis on neuro-musculoskeletal and cardio-respiratory system)

#### **COURSE OUTCOMES-**

CO1: Recall etiology pathogenesis and clinic pathological correlation of common infections & non-infections disease.

CO2: Illustrate the knowledge of cell injury and its healing process.

CO3: Describe normal and altered different organ system in different diseases and their clinical significance

CO4: Understand common hematological disorders and investigations necessary to diagnose them.

CO5: Understand in brief, about the Hematological diseases and their resultant effects on the human body.

#### **CELL INJURY, INFLAMMATION & NEOPLASMS:**

**a. Cells:** Brief outline of cell injury, hypertrophy, atrophy, degeneration, necrosis and gangrene

**b. Inflammation:** Definition, vascular and cellular phenomena, difference between transudate and exudates, granuloma

**c. Neoplasm:** Definition, characteristic features, benign and malignant tumor, spread of tumor, cancer pain syndrome.

#### **VASCULAR & CARDIORESPIRATORY SYSTEM**

**a. Circulatory Disturbance:** Odema, Hemorrhage, Embolism, Thrombosis, Infraction, Shock, Volkmann's ischemic contracture

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**b. Blood Disorder:** Concepts of Anemia, Bleeding disorder- Hemophilia

**c. Cardiovascular System (CVS):** Etiopathogenesis and Gross pathology of Atherosclerosis, coronary heart disease, Rheumatic heart disease

**d. Respiratory System:** Chronic Bronchitis, Asthma, Bronchiectasis, Emphysema

### **BONES, JOINTS & MUSCULAR SYSTEM**

**a. Bones:** Etiopathogenesis and gross pathology of following conditions: Rickets/Osteomalacia, Osteoporosis, Osteomyelitis, Hyperparathyroidism

**c. Joint:** Osteoarthritis, Rheumatoid Arthritis, Gout, Spondyloarthopathy (including Ankylosing Spondylitis), Osteonecrosis, Paget's disease

**d. Muscles:** Myositis ossificans, Myofascial Pain syndrome, Septic arthritis

### **HEPATO-BILIARY, ENDOCRINE & INTEGUMENTARY SYSTEM**

**a. Hepato-Biliary System:** Jaundice Types, etiopathogenesis and diagnosis

**b. Endocrine:** Diabetes Mellitus, Non-Neoplastic lesion of thyroid-Thyrotoxicosis, Myxedema

**c. Skin:** Brief outline of Scleroderma, Psoriasis, Pressure Ulcer, and Burn.

### **CENTRAL NERVOUS SYSTEM**

**a. CNS:** Etiopathogenesis and gross pathology of following conditions- Meningitis, Encephalitis, Parkinson's, Amyotrophic lateral sclerosis, Ataxias, Multiple sclerosis, Neuropathies (Charcot Marie Tooth disease, Compression and Entrapments, diabetics G.B. Syndrome), malformation, CVA, Extradural and Intra Dural Hematoma

**b. Myopathies:** Poliomyelitis, Myopathies, Myasthenia gravis, Muscular dystrophy.

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**PHARMACOLOGY-**

**BOT-404**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT404	PHARMACOLOGY	50T	3	3	20	80	100

**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.

**COURSE OBJECTIVE-** Introduce the students to basic pharmacology of various common medication used and its effects on patients in physical therapy Treatment of ailment of cardiovascular system, GIT, endocrine system, by drugs. To make student understand the drug and occupational Therapy contribution in the outcome of the treatment.

**COURSE OUTCOME –**

CO1: 1. To understand the various routes of drugs administration, pharmacodynamics and pharmacokinetics of drugs.

CO2: . To understand the various drugs used for the treatment of ANS, PNS and CNS conditions with their mechanism of action and adverse effects.

CO3: To understand the various drugs used for the treatment of endocrine system with their mechanism of action and adverse effects.

CO4: To understand the various drugs used for the treatment of GIT problems with their mechanism of action and adverse effects

CO5: To understand the various drugs used for the treatment of ailment of cardio vascular system, bronchial asthma, skin lesions with their mechanism of action and adverse effects.

**1. General Pharmacology-**

- Introduction, Definitions, Nomenclature of drugs, Classification of drugs, Sources of drugs, Routes of drug administration, Distribution of drugs, Metabolism and Excretion of drugs Pharmacokinetics, Pharmacodynamics, Factors modifying drug response, Adverse effects.

**2. Autonomic Nervous system –**

- General considerations – The Sympathetic and Parasympathetic Systems,

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Receptors, Somatic Nervous System

- b. Cholinergic and Anticholinergic drugs, Adrenergic and Adrenergic blocking drugs, Peripheral muscle relaxants.

### 3. Cardiovascular Pharmacology–

- a. Drugs used in the treatment of heart failure: Digitalis, Diuretics, Vasodilators, ACE inhibitors Antihypertensive Drugs: Diuretics, Beta Blockers, Calcium Channel Blockers, ACE Inhibitors, Central Acting Alpha Agonists, Peripheral Alpha Antagonists, Direct acting Vasodilators
- b. Antiarrhythmic Drugs
- c. Drugs used in the treatment of vascular disease and tissue ischemia: Vascular Disease, Hemostasis Lipid-Lowering agents, Antithrombotic , Anticoagulants and Thrombolytics Ischemic Heart Disease – Nitrates, Beta-Blockers, Calcium Channel Blockers, Cerebral Ischemia Peripheral Vascular Disease.

### 4. Neuro pharmacology–

- a. Sedative – Hypnotic Drugs: Barbiturates, Benzodiazepines
- b. Antianxiety Drugs: Benzodiazepines, Other Anxiolytics
- c. Drugs Used in Treatment of Mood Disorders: Monoamine Oxidase Inhibitors, Tricyclic Antidepressants, Atypical Antidepressants, Lithium
- d. Antipsychotic drugs

### 5. Disorders of Movement-

- a. Drugs used in Treatment of Parkinson's disease
- b. Antiepileptic Drugs
- c. Spasticity and Skeletal Muscle Relaxants

### 6. Inflammatory/Immune Diseases-

- a. Non-narcotic Analgesics and Nonsteroidal Anti-Inflammatory Drugs: Acetaminophen, NSAIDs, Aspirin, non-aspirin NSAIDs, drug Interactions with NSAIDs
- b. Glucocorticoids: Pharmacological Uses of Glucocorticoids, adverse effects, Physiologic Use of Glucocorticoids
- c. Drugs Used in Treatment of Arthritic Diseases: Rheumatoid Arthritis, Osteoarthritis, Gout
- d. Drugs Used in the Treatment of Neuromuscular Immune/Inflammatory Diseases: Myasthenia gravis, Idiopathic Inflammatory Myopathies, systemic lupus Erythematosus, Scleroderma, Demyelinating Disease
- e. Respiratory Pharmacology: Obstructive Airway Diseases, Drugs used in Treatment of Obstructive airway Diseases, Allergic Rhinitis

### 7. Digestion and Metabolism-

- a. Gastrointestinal Pharmacology: Peptic Ulcer Disease, Constipation, Diarrhea  
Drugs Used in Treatment of Diabetes Mellitus: Insulin, Oral Hypoglycemic

### 8. Geriatrics-

- a. Pharmacology and the geriatric Population: Adverse effects of special concern in the Elderly, Dementia, Postural hypotension.

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## 9. Chemotherapy and Antibiotics

a. General principles of chemotherapy. Sulfonamides & Fluoroquinolones.  
Beta – Lactam antibiotics – I (Penicillin) Beta – Lactam antibiotics – II  
(Cephalosporins) Macrolides aminoglycosides Tetracyclines and chloramphenicol  
(Broad spectrum antibiotics) Anti-Tuberculosis drugs Anti –Leprosy drugs

## FIRST AID & EMERGENCY CARE

### BOT-405

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT 405	FIRST AID & EMERGENCY CARE	60	3	2+1=3	20	80	100

**COURSE OBJECTIVE-** To acquire knowledge about first aid, emergencies

### Introduction of First Aid

Definition, aims and importance of First Aid.

Rules/General principles of First Aid

Concepts of Emergency

### Procedure and Techniques in First Aid

Preparation of first Aid kit, Dressing bandaging and splinting

Transportation of injured patient

CPR-Mouth to mouth, Sylvester, Schafer, External cardiac massage

### First Aid in Emergency

Asphyxia, Drowning, shock

Wound and bleeding, Injuries of the soft and dense tissue

Injury of joint and bone, Falls, Hanging

Foreign body ear, ear and nose and throat

Burns and scalds

Poisoning- Ingestion, inhalation, bite and stings

### Assessing a Casualty and vitals parameters

Assessing the sick or injured, Mechanisms of injury

Primary survey, Secondary survey

Head-to-toe examination, Monitoring vital signs

### Community Emergencies and Community Resources

Fire, Explosion, Floods, Earth-Quakes and famines

Role Of PT in disaster management

Community Resources-Police, Ambulance services

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Voluntary agencies-local, state national and International

### Emergency Management

Principle of Emergency care

Triage

Airways obstruction, Basic knowledge of First aid management of burn

Basic knowledge of First aid for medical and surgical emergency

Basic knowledge of first aid management of heat stroke

Basic knowledge of First aid management of snake bite and poisoning

### Emergency Disaster Management

Natural calamities-Flood, earthquake, Volcanic eruptions

Man-made disaster-Explosion, War, Fire Accidents

### The Unconscious Casualty

Breathing and circulation, Life-saving priorities

Unconscious adult, Unconscious child, Unconscious infant, how to use an AED

### Techniques and Equipment

Removing clothing, Removing headgear, Casualty handling, First aid materials, Dressings, Cold compresses, Principles of bandaging, Roller bandages, Tubular gauze bandages, square knots, hand and foot cover, Arm sling, Elevation sling, improvised slings.

### BLS and ACLS

BLS guideline for adult and pediatrics

CPR techniques, choking

ACLS basic guidelines

### OT in Work Physiology

**BOT-406**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT406	OT IN WORK PHYSIOLOGY	50T+25P	3	3+1=4	20	80	100

**COURSE DESCRIPTION-** At this course, the students will have a better understanding of the principles of work physiology BOTH basic and advanced as well as assessment techniques.

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**COURSE OBJECTIVE-** Describe basic concepts of work physiology effects of exercises on human body.

**COURSE OUTCOMES-**

CO1: Analyze Normal cardiac output and cardiac work during regulation of exercise

CO2: Describe the effects of exercises on blood pressure, renal blood flow, coronary circulation etc.

- 1) Physiology of exercise
- 2) Cardiac output and cardiac work during regulation of exercise.
- 3) Cardiac rate during exercise.
- 4) Oxygen consumption of the body at rest and, during exercise and after exercise
- 5) Effect of exercise on
  - a) Caloric intake
  - b) Coronary circulation
  - c) Metabolism
  - d) Renal blood flow
  - e) Contractility of Myocardium
  - f) Blood pressure
  - h) Increase in CO<sub>2</sub> tension and mixing venous blood.
  - i) Increase in pulmonary ventilation

**Equipment for Work Physiology**

Ergometer -

Cycle type, Hand hook type and treadmill type

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**OCCUPATIONAL THERAPY LAW AND ETHICS**

**BOT-407**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT 407	OCCUPATIONAL THERAPY LAW AND ETHICS	30	2	2	-	-	-

**COURSE DESCRIPTION-** The students will enable to know about evolution of Occupational Therapy, identify various laws and regulation that should be followed during clinical practice of Physical Therapy.

**COURSE OBJECTIVE –** To know about evolution of Occupational Therapy, identify various laws and regulation that should be followed during clinical practice of Physical Therapy.

**COURSE OUTCOMES-**

CO1: On completion of the course the students should be able to know the medical law and ethics

CO2: Able to know the legal and illegal issues faced in hospital.

CO3: The students should understand the code of ethics for Occupational Therapist

CO4: They will be able to treat patient more lawfully in clinical and hospital setting and maintain their records.

CO5: Understand the importance of ethics in the relative field & basic concepts of ethics.

Legal and ethical considerations are firmly believed to be an integral part of medical practice in planning patient care. Few of the important and relevant topics that need to focus on areas are as follows:

1. Medical ethics versus medical law – Definition – Goal - Scope
2. Introduction to Code of conduct
3. Basic principles of medical ethics – Confidentiality
4. Malpractice and negligence - Rational and irrational therapy
5. Autonomy and informed consent - Right of patients
6. Care of the terminally ill - Euthanasia
7. Organ transplantation
8. Medical diagnosis versus occupational Therapy diagnosis.

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9. Medico legal aspects of medical records – Medico legal case and type – Records and documents related to MLC - ownership of medical records - Confidentiality Privilege communication - Release of medical information – Unauthorized disclosure - retention of medical records – other various aspects.
10. Professional Indemnity insurance policy
11. Development of standardized protocol to avoid near miss or sentinel events
12. Obtaining informed consent.
13. Biomedical ethical principles
14. Code of ethics for Occupational Therapists
15. Ethics documents for Occupational Therapists
16. Laws affecting occupational Therapy practice

**BOT-408**

**CLINICAL POSTING**

**BOT FIFTH SEMESTER**

**CARDIO PULMONARY MEDICINE & SURGERY**

**BOT-501**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
<b>BOT 501</b>	<b>CARDIO PULMONARY MEDICINE &amp; SURGERY</b>	<b>100 (80 T + 20 P)</b>	<b>6</b>	<b>5+1=6</b>	<b>20 T + 20 P</b>	<b>80 T + 80 P</b>	<b>200</b>

**COURSE DESCRIPTION** - Following the basic science and clinical science course, this course introduces the student in pulmo-thoracic conditions which commonly cause disability.

**COURSE OBJECTIVE**-The objective of this course is that after lectures and demonstrations in addition to clinics the student will be able to demonstrate an understanding of pulmo-thoracic conditions causing disability and their management. Particular effort is made in this course to avoid burdening the student with any detail pertaining to diagnosis which will not contribute to their understanding of the limitations

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imposed by cardiovascular pathology on the functioning of the individual.

### COURSE OUTCOMES-

CO1: Interpretation of different invasive and noninvasive diagnostic investigation to make proper assessment in various respiratory and cardiovascular dysfunction

CO2: Develops the skills to execute different Occupational Therapy techniques used in treatment of Cardio-respiratory dysfunctions.

CO3: To select strategies for cure, care & prevention; adopt restorative & rehabilitative measures for maximum possible functional independence of a patient at home, work place & in community.

CO4: Be able to execute the effective Occupational therapy measures with appropriate clinical reasoning to improve pulmonary function.

CO5: To design & execute effective tailored cardiopulmonary rehabilitation programme.

1. Anatomy and Physiology a. Respiratory system: Upper respiratory tract, Lower respiratory tract – Trachea, Bronchial tree, Bronchopulmonary segments, Respiratory unit, hilum of lung, Muscles of respiration, Pleura, intrapleural space, intrapleural pressure, surfactant, Mechanics of respiration – Chest wall movements, lung & chest wall compliance, V/Q relationship, airway resistance, Respiratory centre, Neural & chemical regulation of respiration, Lung volumes and lung capacities, Spirometer, lung function test, Pulmonary circulation, Lung sounds, cough reflex b. Cardiovascular systems: Chambers of heart, semilunar and atrioventricular valves, Coronary circulation, conductive system of heart, Cardiac cycle, ECG, Heart sounds, Blood pressure, pulse, cardiac output
2. CardioVascular system diseases: a. Define, etiology, pathogenesis, clinical features, complications,
  - b. Conservative and surgical management of the following conditions
    - i. Ischemic heart disease
    - ii. Myocardial infarction
    - iii. Heart failure
    - iv. Cardiac arrest
    - v. Rheumatic fever
    - vi. Hypertension
    - vii. Infective endocarditis
    - viii. Myocarditis & cardiomyopathy

Examination of the Cardiovascular System Investigations: ECG, Exercise Stress Testing, Radiology; Clinical manifestations of Cardiovascular disease; Definition, Etiology, Clinical features, signs and symptoms, complications, management and treatment of following diseases and disorders of the heart: Pericarditis, Myocarditis, Endocarditis, Rheumatic Fever – resulting in valve disorders, Ischemic Heart Disease, Coronary Valve Disease, Congenital disorders of the Heart, Cardiac Arrest; Examination and Investigations of diseases of arteries and veins; Hypertension: Definition, causes, classification, types, assessment, investigations

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and management. c. Disorders of the Heart – Definition, Clinical features, diagnosis and choice of management for the following disorders : Congenital Heart diseases – Acyanotic congenital heart disease & Cyanotic congenital heart disease: Patent Ductus Arteriosus, Coarctation of Aorta, Atrial Septal Defect, Ventricular Septal Defect, Tetralogy of Fallot, Transposition of Great Vessels; Acquired Heart Disease – Mitral Stenosis & Insufficiency, Aortic Stenosis and Insufficiency, Ischemic Heart Disease – Coronary Artery Disease, Cardiac tumors. 3.

### 3. Respiratory System

a. Respiratory Disease: Examination of the Respiratory System – Investigations: Chest Radiographs, Pulmonary Function Testing, Arterial Blood Gas Analysis; Clinical manifestations of Lung disease; Patterns of lung disease – Chronic Obstructive Lung Disease and Restrictive Lung Disease; Definition, Etiology, Clinical features, signs and symptoms, complications, management and treatment of following lung diseases: Chronic Bronchitis, Emphysema, Asthma, Bronchiectasis, Cystic Fibrosis, Upper Respiratory Tract Infections, Pneumonia, Tuberculosis, Fungal Diseases, Interstitial Lung Diseases, Diseases of the pleura, diaphragm and chest wall; Respiratory failure – Definition, types, causes, clinical features, diagnosis and management.

b. Chest wall disorders - Definition, Clinical features, diagnosis and choice of management for the following disorders – chest wall deformities, chest wall tumors, Spontaneous Pneumothorax, Pleural Effusion, Empyema Thoracis, Lung abscess, Hemothorax, Cardiac Tamponade, Cardiac and Pulmonary Contusions, Bronchiectasis, Tuberculosis, Bronchogenic Carcinoma, Bronchial Adenomas, Metastatic tumors of the Lung, tracheal Stenosis, Congenital tracheomalacia, Neoplasms of the trachea, Lesions of the Mediastinum, Carcinoma of the female breast.

4. Thoracic surgeries – Thoracotomy – Definition, Types of Incisions with emphasis to the site of incision, muscles cut and complications, Lung surgeries: Pneumonectomy, Lobectomy, segmentectomy – Indications, Physiological changes and Complications; Thoracoplasty, Pleurectomy, Pleurodesis and Decortication of the Lung, Cardiac surgeries – An overview of the Cardio-Pulmonary Bypass Machine – Extra cardiac Operations, Closed Heart surgery, Open Heart surgery, Transplant Surgery – Heart, Lung – Indications, Physiological changes and Complications, Congenital Heart Surgeries .

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## GENERAL SURGERY

### BOT-502

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT 502	GENERAL SURGERY	100 (80 T + 20 P)	4	5+1=6	20 T + 20 P	80 T + 80 P	200

**COURSE DESCRIPTION** – It covers relevant aspects of General Surgery and surgical conditions in which Occupational Therapy plays a significant role. This course is designed to develop the basic knowledge of surgery and to understand a surgical patient, its special needs in relation to Occupational Therapy which will help them provide good rehabilitation.

**COURSE OBJECTIVE**-The objective of this course is that the student will be able to demonstrate a general understanding of the surgeries that therapist would encounter in their practice. They should have a brief idea of the etiology and pathology, what the patient's symptoms and the resultant functional disability. This would help the candidates to understand the limitation imposed by the diseases on any therapy that may be prescribed

### COURSE OUTCOMES-

CO1: To understand fluid and electrolyte changes in surgical patient.

CO2: To understand changes in respiratory and cardiovascular parameters in surgical patients.

CO3: To understand the complications of surgery.

CO4: To understand investigations and management of common surgical conditions.

CO5: The student will be able to differentiate surgical cases and handling the cases will become easier as they can relate theoretical knowledge with practical learning

1. Fluid, Electrolyte and Acid-Base disturbances – diagnosis and management; Nutrition in the surgical patient; Wound healing –basic process involved in wound repair, basic phases in the healing process, clinical management of wounds, factors affecting wound healing, Scars – types and treatment, Hemostasis– components, hemostatic disorders, factors affecting bleeding during surgery, Transfusion therapy in surgery – blood components, complications of transfusion; Surgical Infections; General Post–Operative Complications and its management.

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2. Reasons for Surgery; Types of anesthesia and its effects on the patient; Types of Incisions; Clips Ligatures and Sutures; General Thoracic Procedures – Radiologic Diagnostic procedures, Endoscopy – types, Biopsy – uses and types, Overview and Drainage systems and tubes used in Surgery.
3. Definition, Indication, Incision, Physiological changes and Complications following Common operations like Cholecystectomy, Colostomy, Ileostomy, Gastrectomy, Hernias, Appendicectomy, Mastectomy, Nephrectomy, Prostatectomy.
4. Burn: Definition, Classification, Causes, Prevention, Pathological changes, Complications, Clinical Features and Management, Skin Grafts – Types, Grafting Procedures, Survival of Skin Graft; Flaps – Types and uses of Flaps.
5. ENT: Common problems of ear, otitis media, Otosclerosis, functional achonia and deafness, management facial palsy classification, medical and surgical management of lower motor neuron type of facial palsy.
6. Ophthalmology: Ophthalmologic surgical conditions, refraction's, conjunctivitis, glaucoma, corneal ulcer, iritis, cataract, retinitis, detachment of retina, defects of extra-ocular muscles – surgical management.
7. Surgical Oncology – Cancer – definition, types, clinical manifestations of cancer, Staging of Cancer, surgical procedures involved in the management of cancer.
8. Obstetrics and Gynecology: High risk pregnancy, prenatal and postnatal common complications , investigation and management. Prolapse of uterus and vagina. Principle of common gynaecological operations: hysterectomy, D&C, D&E, Pap smear, pelvic repair, caesarian section, nephrectomy, Hysterosalphyngography, Dilatation and Curettage, Laproscopy, Colposopy, Hysterectomy. Carcinoma of female reproductive organs – surgical management in brief. Mastectomy – Simple, radical, Hysterectomy.
9. Incontinence – Types, Causes, Assessment and Management.
10. Diseases of the Arteries and Veins: Definition, Etiology, Clinical features, signs and symptoms, complications, management and treatment of following diseases: Arteriosclerosis, Atherosclerosis, Aneurysm, Buerger's disease, Raynaud's Disease, Thrombophlebitis, Deep Vein Thrombosis, Pulmonary Embolism, Varicose Veins.

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## GENERAL ORTHOPEDICS AND TRAUMATOLOGY

### BOT-503

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT503	GENERAL ORTHOPEDICS AND TRAUMATOLOGY	100 (80 T +20 P)	6	5+1=6	20 T + 20 P	80 T + 80 P	100

**COURSE DESCRIPTION** - This subject follows the basic science subjects to provide the knowledge about orthopedic conditions the therapist would encounter in their practice.

**COURSE OBJECTIVE**-The objective of this course is that after completion of the lectures and discussion the student will be able to demonstrate an understanding of orthopedic conditions causing disability, list the etiology, clinical features and methods of investigations and management.

### COURSE OUTCOMES-

CO1: To understand the traumatology of upper and lower limb fractures with their management.

CO2: To understand the pathophysiology of various musculoskeletal conditions, congenital and acquired anomalies with its treatment protocol.

CO3: Demonstrate an understanding of orthopedic conditions causing disability, list the aetiology, clinical features and methods of investigations and management.

CO4: To understand the management of various orthopedic surgeries.

CO5: To understand various injuries, factures and deformities of musculoskeletal system with its treatment Protocol.

1. Introduction: Introduction to orthopedics, Clinical examination in an orthopedic patient, Common investigative procedures, Radiological and Imaging techniques in Orthopedics, Inflammation and repair, Soft tissue healing.
2. Traumatology: Fracture: definition, types, signs and symptoms, Fracture healing Complications of fractures, Conservative and surgical approaches, Principles of management – reduction (open/closed, immobilization etc.), Subluxation/dislocations – definition, signs and symptoms, management (conservative and operative),
3. Fractures and Dislocations of Upper Limb:
4. Fracture of Spine
5. Fractures and Dislocations of Lower Limb
6. Fracture of Pelvis and Lower Limb

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7. Soft Tissue Injuries such as sprains, strains, contusion, tendinitis, rupture, tenosynovitis, tendinosis, and bursitis. Mechanism of injury of each, clinical features, managements –conservative and surgical
8. Hand Injuries
9. Peripheral Nerve Injuries, Classification of Nerve Injuries, Clinical features and management, including reconstructive surgery for Radial, median and ulnar nerve lesions, femoral nerve, Sciatic and lateral popliteal lesions. Brachial Plexus injuries including Erb's, Klumpke's and Crutch Palsy.
10. Amputations - Definition, levels of amputation of lower and upper limbs, indications, complications.
11. Traumatic Spinal Cord Injuries - Clinical features, complications, medical and surgical management of Paraplegia and Quadriplegia.
12. Deformities – Congenital and Acquired deformities.
13. Bone Tumors: classification, clinical features, management - medical and surgical of the following tumors: Osteoma, Osteosarcoma, Osteochondroma, Enchondroma, Ewing's sarcoma, Giant cell tumor, Multiple myeloma, Metastatic tumors. Perthes disease, Slipped Capital Femoral Epiphysis and Avascular Necrosis.
14. Inflammatory and Degenerative Conditions: Osteoarthritis, Rheumatoid arthritis, Ankylosing spondylitis, Gouty arthritis, Psoriatic arthritis, hemophilic arthritis, Still's disease (juvenile rheumatoid arthritis), Charcot's joints.
15. Connective Tissue Disorders – Systemic Lupus Erythematosus, Scleroderma, Dermatomyositis, Poliomyelitis, Mixed connective tissue Disease (MCTD)
16. Neuromuscular Disorders: Cerebral palsy, Poliomyelitis, Spinal Dysraphism, Leprosy.
17. Orthopedic Surgeries: Arthrodesis, Arthroplasty (partial and total replacement), Osteotomy, External fixators, Spinal stabilization surgeries (Harrington's, Luque's, Steffi plating) etc. Limb reattachments.

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**A.GENERAL MEDICINE B PEDIATRICS  
BOT-504**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT504	A.GENERAL MEDICINE B PEDIATRICS	150 (110T + 40P)	4	7+1=8	20 T + 20 P	80 T + 80 P	200

**COURSE DESCRIPTION-** This subject follows the basic science subjects to provide the knowledge about relevant aspects of general medicine and pediatrics. The student will have a general understanding of the diseases the therapist would encounter in their practice.

**COURSE OBJECTIVE-** The objective of this course is that the student will be able to list the etiology, pathology, clinical features and treatment methods for various medical and pediatric conditions. Infection: Effects of Infection on the body – Pathology – source and spread of infection – vaccinations – generalized infections – rashes and infection – food poisoning and gastroenteritis - Sexually transmitted diseases – HIV infections and Aids.

**COURSE OUTCOMES-**

CO1: To understand pathophysiological changes in infectious and metabolic disorders with their treatment

CO2: To understand pathophysiological changes in respiratory and skin disorders with their treatment

CO3: To understand pathophysiological changes in cardiovascular and haematological disorders with their treatment

CO4: The student will be able to differentiate pediatric cases and handling the cases will become easier as they can relate theoretical knowledge with practical learning.

CO5: To understand the growth and development of child

CO6: To understand mental retardation, blindness, muscular dystrophy and CNS infections.

**Theory General  
Medicine**

- (1) Introduction of Medicine.
- (2) Diseases of Respiratory System
- (3) Physiology, clinical presentation in relation to diseases, chronic obstructive pulmonary disease
  - (a) Bronchial asthma

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- (b) Pneumonia
- (c) Bronchiectasis
- (d) Pleural effusion & Emphysema thoraces
- (e) Pneumothorax
- (4) Diseases of Kidney
  - (a) Physiology, clinical presentation in relation to
  - (b) ARF
  - (c) CRF
- (5) Hematological Diseases.
  - (a) Anemia
  - (b) Physiology, clinical presentation in relation to Hemophilia
- (6) Endocrine & Metabolic Diseases.
  - (a) Vit. D & Calcium metabolism, Parathyroid gland disorders
- (7) Nutritional Diseases
  - (a) Physiology, clinical presentation in relation to Obesity
- (8) Connective Tissue Diseases
  - (a) Physiology, clinical presentation in relation to Rheumatoid arthritis
  - (b) Gout & other connective tissue disorders
- (9) Infectious Diseases
  - (a) Tetanus
  - (b) Leprosy
- (10) HIV & AIDS

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- (11) Cardiac Conditions
- Basic anatomy of heart, Coronary circulation and development of heart.
  - Normal cardiac contraction and relaxation: mechanism and diagnosis.
  - Physiology, clinical presentation in Ischemic heart disease.
  - Physiology, clinical presentation in Congestive heart failure.
  - Physiology, clinical presentation in Peripheral Vascular disease & Deep vein thrombosis.

### Pediatrics

- Describe growth and development of child from birth to 12 year including physical, social, adaptive development.
- List the maternal and neonatal factors contributing to high-risk pregnancy. The neonate: inherited diseases.
- Briefly describe community programmes: International (WHO), national and local for prevention of poliomyelitis, blindness, deafness, mental retardation and hypothyroidism. Outline the immunization schedule for children.
- Cerebral palsy: Define and briefly outline etiology of prenatal, per-natal and postnatal causes, briefly mention pathogenesis, types of cerebral palsy (Classification), findings on examination, general examination of C.N.S, Musculoskeletal and respiratory system.
- Briefly outline associated defects: Mental retardation, microcephaly, blindness, hearing and speech impairment, squint and convulsions.
- Prevention: Appropriate management of high-risk pregnancies, prevention of neonatal and postnatal infections, metabolic problems.
- Muscular Dystrophy: Outline various forms, modes of inheritance and clinical manifestation, physical finding in relation to disabilities progression of various forms and prognosis. Describe treatment goals in forms which are fatal and which are not fatal.
- Spinabifida, meningomyelocele: Outline development, clinical features lower limbs, bladder and bowel control, complications UTI & hydrocephalus.
- Still's disease: Classification, pathology in brief, physical findings, course & prognosis. Outline treatment, prevention and correction of deformity.
- Acute C.N.S. infections: Classify (Bacterial and viral) and outline the acute illness & Physiology, clinical presentation.
- Normal diet of new born and child: List dietary calorie, fat, protein, mineral and vitamin requirement in a normal child and in a child with malnutrition.
- Lung infections: Physiology, clinical presentation in

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relation to bronchiectasis, lung abscess and bronchial asthma,  
cystic fibrosis

(13) Intensive pediatric care & Physiology, clinical presentation.

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## PSYCHIATRY

### BOT-505

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT505	PSYCHIATRY	50(30 T + 20 P)	3	2+1=3	20 (T)	80 (T)	100

## PSYCHIATRY

**COURSE DESCRIPTION:** - This Course will develop basic knowledge of Psychiatry with respect of mental disturbances factors. This develops the utilization and importance of Psychiatry with respect of Occupational Therapy.

**COURSE OBJECTIVE:** - The Student will be able to recognize and help with psychiatric factors involved in functional unit of mind, Id ego and superego. In addition, the students will be able to learn criteria for classification and definition of psychiatric illness, description of various clinical syndromes.

### **COURSE OUTCOMES:-**

CO1: Recognize and help with the role of defense mechanisms in normal and abnormal behavior.

CO2: Understand the elementary principles and causes of mental disturbances.

CO3: Student will learn various clinical syndromes including etiology, Clinical features, treatment and prognosis.

CO4: Know about methods of treatments in psychiatric cases.

### **1.1 Theory**

- (1) Introduction, A brief history of psychiatry, with two special references to India and to ancient Indian medicine and its relationship with psychiatry. History taking in psychiatry including mental examination and assessment.
- (2) Functional units of mind, Id ego and super ego - Their functions and interactions.
- (3) Role of defense mechanisms in normal and abnormal behavior.
- (4) Causes of mental disturbances:
  - (a) Hereditary factors.

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- (b) Embryonic development factors.
  - (c) Birth injury.
  - (d) Endocrine disease.
  - (e) Systemic diseases / accidents.
  - (f) Cerebral diseases.
  - (g) Emotional factors.
  - (h) Stresses related to cultural factors.
- (5) Preventive measures: In relation to consanguineous marriages, adequate ante-natal care, obstetric care, mother and child services, psychological services (eg. child guidance, counselling services)
- (6) Criteria for classification and definition of psychiatric illness.
- (7) Psychological reactions of a patient during admission and treatment: anxiety, shock, denial, suspicion, questioning, loneliness, regression, shame, guilt, rejection, fear, withdrawal, depression, egocentricity, concern about small matters, narrowed interests emotional over reactions, perceptual changes, confusion, disorientation, hallucinations, delusions, illusions, anger, hostility, loss of hope.
- (9) Description of the various clinical syndromes including etiology, clinical features, course, treatment, and prognosis.
- (a) Schizophrenic and other Psychotic disorders
  - (b) Mood disorders
  - (c) Anxiety disorder including Phobias
  - (d) Somatoform disorders
  - (e) Dissociative disorders
  - (f) Factitious disorders
  - (g) Eating and sleep disorders
  - (h) Psychosomatic illness
  - (i) Personality disorders
  - (j) Substance related disorders
  - (k) Sexual dysfunction and gender identity disorders
- (l) Organic Brain Syndrome
- (m) Psychiatric disorders of childhood
  - (n) Psychiatric disorders of adolescence
  - (o) Psychiatric disorders of old age
- (10) Legal aspects related to psychiatric patients.
- (a) Civil responsibility.
  - (b) Criminal responsibility.
  - (c) Testamentary capacity.
- (11) Symptoms of mental illness:

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- (a) Disturbances of consciousness.
  - (b) Disturbances of reasoning and judgement.
  - (c) Disturbances of memory.
  - (d) Disturbances of thought and perception.
  - (e) Disturbances of volition.
  - (f) Disturbances of motor behavior.
  - (g) Disturbances of speech.
  - (h) Disturbances of affect.
- (12) Methods of treatment:
- (a) Individual and group psychotherapy
  - (b) Physical Methods: ECT and related side effects, Psychosurgery.
  - (c) Psychopharmacology and related side effects,
  - (d) Social and rehabilitation.

**OT in Disaster Management**  
**BOT-506**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT506	OT IN DISASTER MANAGEMENT	70 (70T)	4	4	20 T	80 T	100

**Disaster Management**

**COURSE DESCRIPTION:** - The Student will be able to understand concepts and definition of Disaster, Hazard, Vulnerability, Resilience, Risks, in addition student will be able to learn inter- relationship between DISASTER and DEVELOPMENT.

**COURSE OBJECTIVE:** - The objectives to learn classification of causes, differential impacts and global trends in disaster.

**COURSE OUTCOMES:-**

CO1: Understand about disaster cycle and approaches to disaster risk reduction.

CO2: To gain knowledge about disaster risk management in India.

CO3: To enable students to enhance ability to make project work on disaster management.

**Introduction to Disasters**

*Ria* a <sup>of Jagann</sup> Concepts, and definitions (Disaster, Hazard, Vulnerability,



Resilience, Risks)

- b. Disasters
- c. Classification Causes, Impacts (including social, economic, political, environmental, health, psychosocial, etc.)
- d. Differential impacts- in terms of caste, class, gender, age, location, disability Global trends in disasters. urban disasters, pandemics, complex emergencies, Climate Change

### **Approaches to Disaster Risk reduction**

- a. Disaster cycle - its analysis, Phases, Culture of safety, prevention, mitigation and preparedness community based DRR, Structural-non structural ensures, roles and responsibilities of community, Panchayati Raj Institutions/Urban Local Bodies (PRIs/ULBs), states, Centre, and other stake- holders.

### **Inter-relationship between Disasters and Development**

- a. Factors affecting Vulnerabilities, differential impacts, impact of Development projects such as dams, embankments, changes in Land-use etc. Climate Change Adaptation. Relevance of indigenous knowledge, appropriate technology and local resources

### **Disaster Risk Management in India**

- a. Hazard and Vulnerability profile of India Components of Disaster Relief: Water, Food, Sanitation, Shelter, Health, Waste Management institutional Arrangements (Mitigation, Response and Preparedness, DM Act and Policy, Other related policies, plans, programmes and legislation).

### **Project Work: (Field Work, Case Studies)**

The project /fieldwork is meant for students to understand vulnerabilities and to work on reducing disaster risks and to build a culture of safety. Projects must be conceived creatively based on the geographic location and hazard profile of the region where the college is located

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## INTRODUCTION TO NATIONAL HEALTH CARE DELIVERY SYSTEM IN INDIA

### BOT-507

Students' basic insight into the main features of the Indian health care delivery system and how it compares with the other systems of the world. Topics to be covered under the subject areas follow:

1. Introduction to health care delivery system: Health care delivery system in India at primary, secondary and tertiary care, Community participation in health care delivery system, Health system in developed countries. Private Sector, National Health Mission, National Health Policy, Issues in Health Care Delivery System in India
  2. National Health Programme - Background objectives, action plan, targets, operations, achievements and constraints in various National Health Programme.
  3. Introduction to AYUSH system of medicine: Introduction to Ayurved, Naturopathy, Unani, Siddha, Homeopathy
- f. Need for integration of various system of medicine
4. Health scenario of India - past, present and future
  5. Demography & Vital Statistics- Demography – its concept, Vital events of life & its impact on demography, Significance and recording of vital statistics, Census & its impact on health policy.

## CLINICAL POSTING

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**BOT SIXTH SEMESTER**

**REGIONAL ORTHOPAEDICS AND DIAGNOSTIC IMAGING**

**BOT-601**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT601	REGIONAL ORTHOPAEDICS AND DIAGNOSTIC IMAGING	100(80 T + 20P)	6	5+1=6	20 (T)	80 (T)	100

**COURSE DESCRIPTION-** This subject follows the basic science subjects to provide the knowledge about Orthopaedic conditions the therapist would encounter in their practice.

**COURSE OBJECTIVE-** The objective of this course is that the student will be able to demonstrate an understanding of orthopaedic conditions causing disability, list the aetiology, clinical features and methods of investigations and management.

**COURSE OUTCOMES-**

CO1: To understand the traumatology of upper and lower limb fractures with their management.

CO2: To understand the pathophysiology of various musculoskeletal conditions, congenital and acquired anomalies with its treatment protocol.

CO3: Demonstrate an understanding of orthopaedic conditions causing disability, list the aetiology, clinical features and methods of investigations and management.

CO4: To understand the management of various orthopaedic surgeries.

CO5: To understand various injuries, fractures and deformities of musculoskeletal system with its treatment Protocol.

1. Regional Conditions:

- Shoulder: Periarthritic shoulder (adhesive capsulitis), Rotator cuff tendinitis, Supraspinatus Tendinitis, Infraspinatus Tendinitis, Bicipital Tendinitis, Subacromial Bursitis.
- Elbow: Tennis Elbow, Golfer's Elbow, Olecranon Bursitis (student's elbow), Triceps Tendinitis.
- Wrist and Hand: De Quervain's Tenosynovitis, Ganglion, Trigger Finger/Thumb, Mallet Finger, Carpal Tunnel Syndrome, Dupuytren's Contracture.
- Pelvis and Hip: IT Band Syndrome, Piriformis Syndrome, Trochanteric Bursitis.



- e. Knee: Osteochondritis Dissecans, Prepatellar and Suprapatellar Bursitis, Popliteal Tendinitis, Patellar Tendinitis, Chondromalacia Patella, Plica Syndrome, Fat Pad Syndrome (Hoffa's syndrome).
- f. Ankle and Foot: Ankle Sprains, Plantar Fasciitis/Calcaneal Spur, Tarsal Tunnel Syndrome, Achilles Tendinitis, Metatarsalgia, Morton's neuroma.
- g. Infective conditions: Osteomyelitis (Acute/chronic), Brodie's abscess, TB spine and major joints like shoulder, hip, knee, ankle, elbow etc.
- h. Arthritic conditions: Pyogenic arthritis, Septic arthritis, Syphilitic infection of joints
- i. Syndromes: Cervico brachial syndrome, Thoracic outlet syndrome, Vertebro-basilar syndrome, Scalenus syndrome, Costoclavicular syndrome, Levator scapulae syndrome, Piriformis syndrome.
- j. Cervical and Lumbar Pathology: Prolapsed intervertebral disc (PID), Spinal Canal Stenosis, Spondylosis (cervical and lumbar), Spondylolysis, Spondylolisthesis, Lumbago/Lumbosacral strain, Sacralisation, lumbarisation, Coccydynia, Hemivertebra.

**Introduction of types of imaging are most commonly use in orthopaedics and traumatology**

1. **X-ray**-Indication, Contraindication, Advantages, Disadvantages, Common views for different joint, spine and bones, X-ray image reading, clinico- radiological correlation
2. **CT-Scan**-Indication, Contraindication, Advantages, Disadvantages, Types, image and report reading, clinic-radiological correlation
3. **Color Doppler Ultrasound**-Indication, Contraindication, Advantages, Disadvantages for musculoskeletal structure, Types, and report reading, clinic-radiological correlation
4. **MRI**-Indication, Contraindication, Advantages, Disadvantages, Types, image sequence, for spine knee and shoulder, image and report reading, clinic-radiological correlation
5. **Bone Scan**-Indication, contra indication, Advantages, Disadvantages clinico-radiological correlation
6. **PET-Scan**-Indication contra indication, clinic-radiological correlation
7. **BMD**-Indication contra indication and reports correlation with physical findings

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**BOT-602**

**CLINICAL NEUROLOGY & NEUROSURGERY**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT602	CLINICAL NEUROLOGY & NEUROSURGERY	100 80T + 20P	6	5+1=6	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION** – This subject follows the basic science subjects to provide the knowledge about relevant aspects of neurology & neurosurgery. An understanding of the approach of neurologists to the health care of people with neurologic conditions. The student will have a general understanding of the diseases the therapist would encounter in their practice.

**COURSE OBJECTIVE-** The objective of this course is that after 60hrs of lectures and discussion the student will be able to list the etiology, pathology, and clinical features and treatment methods for various neurological conditions. Following the basic science and clinical science course, this course introduces the student to the neurological conditions which commonly cause disability.

**COURSE OUTCOMES-**

CO1: To understand pathophysiological changes in neurological disorders with their assessment

CO2: To understand the management of various neurological disorders

CO3: Clinical decision-making ability and management expertise

CO4: Plan a better rehabilitation care for patients pre and post neurosurgery

CO5: To understand the medical and surgical management of various neurological condition.

1. Disorders of function in the context of Pathophysiology, Anatomy in Neurology and Cortical Mapping.
2. Classification of neurological involvement depending on level of lesion.
3. Neurological assessment: Principles of clinical diagnosis, higher mental function, assessment of brain & spinal cord function, evaluation of cranial nerves and evaluation of autonomic nervous system.
4. Investigations: principles, methods, views, normal/abnormal values/features, types of following investigative procedures - skull

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x-ray, CT, MRI, evoked potentials, lumbar puncture, CSF examination, EMG, NCV.

5. Neuro-ophthalmology: Assessment of visual function – acuity, field, color vision, Pupillary reflex, accommodation reflex, abnormalities of optic disc, disorders of optic nerve, tract, radiation, occipital pole, disorders of higher visual processing, disorders of pupil, disorders of eye movements, central disorders of eye movement.
6. Deafness, vertigo, and imbalance: Physiology of hearing, disorders of hearing, examination & investigations of hearing, tests of vestibular function, vertigo, peripheral vestibular disorders, central vestibular vertigo.

Lower cranial nerve paralysis – Etiology, clinical features, investigations, and management of following disorders - lesions in trigeminal nerve, trigeminal neuralgia, trigeminal sensory neuropathy, lesions in facial nerve, facial palsy, bell's palsy, hemifacial spasm, Glossopharyngeal neuralgia, lesions of Vagus nerve, lesions of spinal accessory nerve, lesions of hypoglossal nerve, Dysphagia – swallowing mechanisms, causes of dysphagia, symptoms, examination, and management of dysphagia.

7. Cerebro-vascular diseases: Define stroke, TIA, RIA, stroke in evolution, multi-infarct dementia and Lacunar infarct, Classification of stroke – Ischemic, hemorrhagic, venous infarcts, Risk factors, cause of ischemic stroke, causes of hemorrhagic stroke, Classification of hemorrhagic stroke, classification of stroke based on symptoms, stroke syndrome, investigations, differential diagnosis, medical and surgical management.
8. Head injury: Etiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications.
9. Higher cortical, neuro psychological and neurobehavioral disorders: Causes of blackouts, physiological nature of Epilepsy, classification, clinical features, investigations, medical & surgical management of following disorders – Non-epileptic attacks of childhood, Epilepsy in childhood, Seizures, and Epilepsy syndromes in adult, Classification and clinical features of Dyssomnias, Parasomnias, Dementia, Obsessive – compulsive disorders. Neural basis of consciousness, causes & investigations of Coma, criteria for diagnosis of Brain death, Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, management of Perceptual disorders and Speech disorders.
10. Movement disorders: Definition, etiology, risk factors, pathophysiology, classification, clinical signs & symptoms,

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investigations, differential diagnosis, medical management, surgical management and complications of following disorders – Parkinson's disease, Dystonia, Chorea, Ballism, Athedosis, Tics, Myoclonus and Wilson's disease.

11. Cerebellar and coordination disorders: Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, management of Congenital ataxia, Friedreich's ataxia, Ataxia telangiectasia, Metabolic ataxia, Hereditary cerebellar ataxia, Tabes dorsalis and Syphilis.
12. Spinal cord disorders: Functions of tracts, definition, etiology, risk factors, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications of following disorders – Spinal cord injury, Compression by IVD prolapse, Spinal epidural abscess, Transverse myelitis, Viral myelitis, Syringomyelia, Spina bifida, Sub acute combined degeneration of the cord, Hereditary spastic paraplegia, Radiation myelopathy, Progressive encephalomyelitis, Conus medullaris syndrome, Bladder & bowel dysfunction, and Sarcodosis.
13. Brain tumors and spinal tumors: Classification, clinical features, investigations, medical and surgical management.
14. Infections of brain and spinal cord: Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications of following disorders – Meningitis, Encephalitis, Poliomyelitis and Post-polio syndrome, Complications of systemic infections on nervous system – Septic encephalopathy, AIDS, Rheumatic fever, Brucellosis, Tetanus, and Pertussis.
15. Motor neuron diseases: - Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, and complications of following disorders - Amyotrophic lateral sclerosis, Spinal muscular atrophy, Hereditary bulbar palsy, Neuromyotonia and Post-irradiation lumbosacral polyradiculopathy.
16. Multiple sclerosis - Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, and complications.
17. Disorders of neuromuscular junction – Etiology, classification, signs & symptoms, investigations, management, of following disorders Myasthenia gravis, Eaton-Lambert syndrome, and BOTulism.  
Muscle diseases: Classification, investigations, imaging methods, Muscle biopsy, Management of muscle diseases, genetic counseling,

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Classification, etiology, signs & symptoms of following disorders – Muscular dystrophy, Myotonic dystrophy, myopathy, non-dystrophic myotonia.

18. Polyneuropathy – Classification of Polyneuropathies, Hereditary motor sensory neuropathy, hereditary sensory and Autonomic neuropathies, Amyloid neuropathy, acute idiopathic Polyneuropathies, Guillain-Barre syndrome - Causes, clinical features, management of GBS, Chronic Idiopathic Polyneuropathies, diagnosis of polyneuropathy, nerve biopsy.
19. Focal peripheral neuropathy: Clinical diagnosis of focal neuropathy, neurotmesis, Axonotmesis, Neuropraxia, Etiology, risk factors, classification, neurological signs & symptoms, investigations, management, of following disorders – RSD, Nerve tumors, Brachial plexus palsy, Thoracic outlet syndrome, Lumbosacral plexus lesions, Phrenic & Intercostal nerve lesions, Median nerve palsy, Ulnar nerve palsy, Radial nerve palsy, Musculocutaneous nerve palsy, Anterior & Posterior interosseous nerve palsy, Axillary nerve palsy, Long thoracic nerve palsy, Suprascapular nerve palsy, Sciatic nerve palsy, Tibial nerve palsy, Common peroneal nerve palsy, Femoral nerve palsy, Obturator nerve palsy, Pudendal nerve palsy.
20. Paediatric neurology: Neural development, Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications of following disorders - Cerebral palsy, Hydrocephalus, Arnold-chiari malformation, Basilar impression, Klippel-Feil syndrome, Achondroplasia, Cerebral malformations, Autism, Dandy walker syndrome and Down's syndrome.
21. Toxic, metabolic and environmental disorders: Etiology, risk factors, classification, neurological signs & symptoms, investigations, management, of following disorders – Encephalopathy, Alcohol toxicity, Recreational drug abuse, Toxic gases & Asphyxia, Therapeutic & diagnostic agent toxicity, Metal toxicity, Pesticide poisoning, Environmental & physical insults, Pant & Fungal poisoning, Animal poisons, & Complications of organ transplantation.

Introduction, Indications and Complications of following Neurosurgeries: Craniotomy, Cranioplasty, Stereotactic surgery, Deep brain stimulation, Burr-hole, Shunting, Laminectomy, Hemilaminectomy, Rhizotomy, Microvascular decompression surgery, Endarterectomy, Embolization,

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Pituitary surgery, Ablative surgery - Thalamotomy and Pallidotomy, coiling of aneurysm, Clipping of aneurysm, and Neural implantation.

## COMMUNITY MEDICINE

**BOT-603**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT603	COMMUNITY MEDICINE	50 50T	3	3	20 (T)	80 (T)	100

### COMMUNITY MEDICINE \

**COURSE DESCRIPTION:-** This course will develop the basic knowledge of community medicine with respect of general concepts of health diseases, public health administration and implementation of the national programme.

#### **COURSE OUTCOME:-**

CO1: Recognize general concepts of health diseases, role of socio- economic and cultural environment in health and disease.

CO2: Understand health problems of vulnerable groups pregnant and lactating women, Infants, School Children.

CO3: Recognize family planning and its objectives.

CO4: Know about Public health administration

#### **1.1 Theory**

- (1) Introduction to community health.
- (2) General concepts of health diseases, with reference to natural history of disease with pro-pathogenic and pathogenic phases. The role of socio-economic and cultural environment in health and disease. Epidemiology, definition and scope.
- (3) Public health administration an overview of the health administration set up at Central and state levels.
- (4) The national health programme -highlighting the role of social, economic and cultural factors in the implementation of the national programme.
- (5) Health problems of vulnerable groups-pregnant and lactating women, infants and pre- school children,

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- occupational groups.
- (6) Occupational Health-definition, scope occupational disease prevention of occupational disease and hazards.
  - (7) Social security and other measurement for the protection from occupational hazard accident and diseases. Details of compensation acts.
  - (8) Family planning – objectives of national family planning programmes and family methods. A general idea of advantage and disadvantages of the methods.
  - (9) Mental health emphasis on community aspects of mental, role of Occupational Therapy in mental health problems such as mental retardation etc.
  - (10) Communicable disease- an overall view of communicable disease, classification according to principle mode of transmission, role of insect and other factors.
  - (11) International health agencies.
  - (12) Community medicine and rehabilitation epidemiology, habitat, nutrition, environment anthropology.
    - (a) The philosophy and need of rehabilitation
    - (b) Principles of physical medicine
    - (c) Basic principles of administration or organization

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## ERGONOMICS

### BOT-604

Course No.	Title	Total Hour	Hours / week	Credit	IA Mark	SE Mark	Total Mark
BOT603	ERGONOMICS	100(80T+20P)	6	5+1=6	20 (T) +20P	80 (T) +80P	200

## ERGONOMICS

**COURSE DESCRIPTION:** - In this course the student will learn the definitions of ergonomics, principles of work space design and Assessing a work place for risk of ASTDs.

**COURSE OBJECTIVE:** - The objective of the course is that the student will be able to understand the principles of ergonomics and definition of ASTDs. Students skill will be enhanced through learning skilled work control display, Design and mental activity.

### COURSE OUTCOMES:-

CO1: Acquire knowledge of muscle use and anthropometry.

CO2: Acquire knowledge of how injuries are adjudicated, pathology of disorders.

CO3: To learn the Ergonomic regulations and developing programs in industries.

### MODULE I

Definitions of ergonomics and its history, ergonomics in systems design, and steps to performing a task analysis. Muscle Use and Anthropometry: Muscular work including dynamic and static work, nervous control of movement, skilled work and ways to improve work efficiency. Workspace Design: Principles of workspace design, including seated work, standing work, work reaches and working heights, the office environment and visual work. Activity related soft tissue disorders (ASTDs): Definition of ASTDs, examples of ASTDs, how injuries are adjudicated, pathology of disorders, work-relatedness, psychosocial factors, risk factors (repetition, awkward posture, forceful exertions, hand-arm vibration, etc.) Analysis of Risk of ASTDs in the Workplace: Assessing a workplace for risk of ASTDs-various tools and techniques available qualitative to quantitative. Developing



solutions to jobs with ASTD risks. Psychosocial and Organizational Aspects of Work: Discussion of the influence of work organization and psychosocial factors such as control over work, supervisory support and skill discretion in the workplace.

MODULE II Back Injuries: Mechanism of injury for back and shoulder overexertion injuries, compensation for such injuries, major risk factors (eg. manual materials handling, awkward postures, prolonged standing and sitting, whole body vibration, etc). Assessing the Risk of Back Injuries in the Workplace: Assessing a workplace for risk of overexertion injuries - tools and techniques for quantifying injury risk (NIOSH, Snook tables, Mitel tables) - advantages and disadvantages. Developing risk control solutions for overexertion injury risk. In class practice with techniques.

MODULE III Skilled Work, Control-Display Design and Mental Activity: Stages of information processing, skilled behaviour, memory, attention, and stereotypes. Analysis of information processing demands and minimizing cognitive overload and under load. Design of systems considering mental workload. Design of controls and displays, including coding and inspection. Shift work: Minimizing the effects of shift work on worker health and safety. Ergonomics Regulations and Developing Ergonomics Programs: Macro-ergonomics and developing successful ergonomics programs in industry. Note: Practical Work includes the following: Pattern and measurement taking, four splints to be made by student Resting, 60 (Dynamic-flexor /extensor, short opponens, finger splint), Low temperature mould splints. High temperature splints (demonstration) POP casting. (Demonstration), Carry out check out of splint. Upper extremity splints – including (knowledge of elbow conformer, elbow driven hinge, aeroplane splint, shoulder slings), Lower extremity splints: -Knowledge about AFO, FRO, KAFO, foot drop splint static and dynamic. Other splints: - Splint for Microstomia and Facial Nerve Palsy splint, “Checkout of orthosis”

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## Assistive Technology

### BOT-605

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT605	ASSISTIVE TECHNOLOGY	50(50T)	3	3	20 (T)	80 (T)	100

**COURSE DESCRIPTION:** - The subject Serves to integrate the knowledge gained by the students in assistive technology with Occupational Therapy skills to apply these in clinical situations.

**COURSE OBJECTIVE:** - Be able to identify and analyze the need for assistive devices and Co-relate the same for providing assistive devices to patients.

#### **COURSE OUTCOMES:-**

CO1: Understand the requirement for assistive devices in various conditions.

CO2: Use the principals of orthosis for designing assistive devices.

CO3: To select assistive devices for prevention, adopt restorative and rehabilitative measures for maximum possible functional independence of patient at home, work place and community.

#### 1. Assistive technology at home

- Eating and drinking
- Preparing meals
- Self care

#### Assistive Technology at School

- Low technology helps
  - Lap trays, adapted desks, book holders, Slant board
  - Pencil grips, Typing Aids, Hand held magnifiers and splints
  - Reacher's, mouth sticks and head or chins pointers
  - Raised line papers, Bold line papers and writing guides
- Learning Aids
  - Educational apps for IOS and android services
  - Digital voice recorder, MP 3 players, and play back equipment
  - An abacus and manipulatives for learning Math concepts

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- Curricula for dyslexia, dysgraphia and dyscalculia

#### Assistive technology at work

##### a. Computer use

- Tactile, low vision and left-handed key boards
- Infrared products like eye gaze systems for navigating the computer screen
- Talking word processors and texts to voice software programs
- Video magnifiers and portable note takers
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Assistive technology in ADL, Seating and positioning devices, Transfer devices, Visual Aids, communication aids, Mobility aids, pointing and writing aids

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**ADVANCES IN OCCUPATIONAL THERAPY**

**BOT-606**

Course No.	Title	Total Hour	Hours/week	Credit	IA Mark	SE Mark	Total Mark
BOT606	ADVANCES IN OCCUPATIONAL THERAPY	100(70T+30P)	5	4+1=5	20 T+20P	80 (T)+80(P)	200

**COURSE DESCRIPTION:-** The subject serves to integrate the knowledge gained by the students in advances in Occupational Therapy with Occupational Therapy skills to apply these in various clinical situations.

**COURSE OBJECTIVE:-** - Be able to identify, discuss and analyze the various advances in Occupational Therapy such as Biofeed back, virtual reality and environment, Robotics, Kinesio-taping.

**COURSE OUTCOMES:-**

CO1: Develops the skills to execute different advance techniques, related to Occupational Therapy and Rehabilitation.

CO2: Be able to execute the advance technology with appropriate clinical reasoning to improve functions in patients.

**Theory**

- (1) Ethics in occupational therapy
- (2) Quality assurance and quality control
- (3) Fiscal management
- (4) Service program
- (5) Service delivery model
- (6) Hospice care.
- (7) Occupational therapy in health promotion and wellness programme.
- (8) Occupational therapy management in stress.
- (9) Occupational therapy role in cardiopulmonary dysfunction.
- (10) Adjunctive therapy,
  - (a) Biofeedback.
  - (b) Physical agent modalities.
  - (c) Virtual reality & environment
  - (d) RoBOTics
  - (e) Functional electrical stimulation
- (11) Tele Rehabilitation
- (12) Role of occupational therapy in sports medicine.
- (13) Occupational Therapy in Blind: Describe the role

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- that the senses play in person's life & in the process of rehabilitation, define the term blindness, refute common misconception about blindness, describe the emotional, physical & psychological needs of blind person and explain preventive measures.
- (14) Occupational Therapy in deaf, dumb: Explain development of auditory perception, define and classify deafness, Enumerate causes of deafness, types of hearing aids, communication skills, Facilities for the deaf-mute, functional and vocational rehabilitation, explain preventive measures, describe vestibular affections and re-training.
- (15) Setting of Rehabilitation Centre
- (16) Discuss how occupational therapy & theory & sociopolitical climate influence practice.
- (17) Evidence Based Practice
- (18) Aquatic Therapy
- (a) Properties of water and principles of aquatic therapy. Definition, Goals,
- (b) Indications, Precautions & Contraindications of aquatic therapy.
- (c) Types of aquatic exercises and clinical application
- (19) Kinesio-taping
- (a) Introduction, basic functional concepts of Kinesio-taping and description of Kinesio-tape.
- (b) Types of tapes and taping. Kinesio-taping application technique, indications, precautions and contraindications of Kinesio-taping technique and its clinical applications.
- (20) Myo-fascial Release.
- (a) Introduction, concepts, anatomy and physiology of the fascia.
- (b) Structural and Physiological effects of Myo-fascial release techniques.
- (c) Various techniques of Myo-fascial release and interventions for the treatment of contractures, body posture and balance.
- (21) Marketing:
- (a) Marketing plan.
- (b) Consumer research

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(22) Disability Management in Occupational Therapy.

**BOT 607**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT607	INTRODUCTION TO QUALITY AND PATIENT SAFETY	15	1	1			

1. Quality assurance and management- The objective of the course is to help students understand the basic concepts of quality in health Care and develop skills to implement sustainable quality assurance programs in the health system.
  - a. Concepts of Quality of Care, Quality Improvement Approaches, Standards and Norms, Quality Improvement Tools, Introduction to NABH guidelines
2. Basics of emergency care and life support skills-  
Basic life support (BLS) is the foundation for saving lives following cardiac arrest. Fundamental aspects of BLS include immediate recognition of sudden cardiac arrest (SCA) and activation of the emergency response system, early cardiopulmonary resuscitation (CPR), and rapid defibrillation with an automated external defibrillator (AED). Initial recognition and response to heart attack and stroke are also considered part of BLS. The student is also expected to learn about basic emergency care including first aid and triage. Topics to be covered under the subject are as follows:
  - a. Vital signs and primary assessment
  - b. Basic emergency care – first aid and triage
  - c. Ventilations including use of bag-valve-masks (BVMs)
  - d. Choking, rescue breathing methods
  - e. One- and Two-rescuer CPR
  - f. Using an AED (Automated external defibrillator).
  - g. Managing an emergency including moving a patient

At the end of this topic, focus should be to teach the students to perform the maneuvers in the simulation lab and to test their skills

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with focus on airways management and chest compressions. At the end of the foundation course, each student should be able to perform and execute/operate on the above-mentioned modalities.

3. Biomedical waste management and environment safety- The aim of this section will be to help prevent harm to workers, property, the environment and the general public. Topics to be covered under the subject are as follows:
  - a. Definition of Biomedical Waste
  - b. Waste minimization
  - c. BMW – Segregation, collection, transportation, treatment and disposal (including color coding) Liquid BMW, Radioactive waste, Metals/Chemicals/Drug waste
  - d. BMW Management & methods of disinfection
  - e. Modern technology for handling BMW
  - f. Use of Personal protective equipment (PPE)
  - g. Monitoring & controlling of cross infection (Protective devices)
  
4. Infection prevention and control - The objective of this section will be to provide a broad understanding of the core subject areas of infection prevention and control and to equip AHPs with the fundamental skills required to reduce the incidence of hospital acquired infections and improve health outcomes. Concepts taught should include–
  - a. Evidence-based infection control principles and practices [such as sterilization, disinfection, effective hand hygiene and use of Personal protective equipment (PPE)],
  - b. Prevention & control of common healthcare associated infections,
  - c. Components of an effective infection control program, and
  - d. Guidelines (NABH and JCI) for Hospital Infection Control

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## PROFESSIONALISM AND VALUES

### BOT-608

Course No.	Title	Total Hour	Hours /week	Credit	IA Mark	SE Mark	Total Mark
BOT 608	PROFESSIONALISM AND VALUES	10	1	1			

The module on professionalism will deliver the concept of what it means to be a professional and how the occupational Therapy profession is different from a usual vocation. It also explains how relevant professionalism is in terms of the healthcare system and how it affects the overall patient environment.

1. Professional values - Integrity, Objectivity, Professional competence and due care, Confidentiality. Core values - Accountability, Altruism, Compassion/ caring, excellence, integrity, professional duties, social responsibility.
2. Personal values – ethical or moral values
3. Attitude and behavior – professional behavior, treating people equally
4. Code of conduct, professional accountability and responsibility, misconduct
5. Differences between professions and importance of team efforts
6. Cultural issues in the healthcare environment
7. Entry level healthcare practitioner, direct access, autonomy in profession, practitioner of practice and evidence-based practice.

### The five roles of the Occupational Therapist-

1. The Occupational Therapist as Patient/Client manager

Evaluation and diagnosis, Diagnosis as clinical decision making, Prognosis, Discharge planning and discontinuance of care, Discontinuance of care, Outcomes, Clinical decision making, Referral relationships, Interpersonal relationships, Ethical and legal issues, Informed consent, Managed care and fidelity.

2. The Occupational Therapist as Consultant

Occupational Therapy consultation, Building a consulting business, The consulting process, The skills of a good consultant, Trust in the consultant/client relationship, Ethical and legal issues

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in consultation, Components of a consulting agreement.

3. The Occupational Therapist as Critical Inquirer
  - a. History of critical inquiry, Evidence-based practice, Outcomes research
  - b. Whose responsibility is research?, Roles of the staff Occupational Therapist in critical inquiry, Collaboration in clinical research, Ethical and legal issues in critical inquiry.
4. The Occupational Therapist as Administrator  
History of occupational Therapy administration, Contemporary occupational Therapy administration, Patient/client management, First-line management, Mid level managers and chief executive officers, Leadership, Ethical and legal issues.
5. The Occupational Therapist as Educator  
History of occupational Therapy education, Contemporary educational roles of the Occupational Therapist, Teaching opportunities in continuing education, Academic teaching opportunities, Theories of teaching and learning in professional education, Ethical and legal issues in occupational Therapy education.

## CLINICAL EDUCATION

**BOT-609**

**BOT SEVENTH SEMESTER**

### OCCUPATIONAL THERAPY IN ORTHOPAEDICS -I BOT-701

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT701	OCCUPATIONAL THERAPY IN ORTHOPAEDICS -I	144 (80T + 64P )	6	5+2=7	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** The subject serves to integrate the knowledge gained by the students in orthopedics and traumatology with skills to apply

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these in clinical situations of dysfunction and musculoskeletal pathology.

**COURSE OBJECTIVE-** The objective of the course is that after the specified hours of lectures and demonstrations the student will be able to do functional diagnosis and identify disabilities due to musculoskeletal dysfunction, plan and set treatment goals and apply the skills gained in occupational therapy in these clinical situations to restore musculoskeletal function.

**COURSE OUTCOMES-**

CO1: To understand traumatology of Upper and lower limb fractures, with their treatment protocols.

CO2: Assess the patients with musculoskeletal conditions.

CO3: To understand the pathophysiology of various inflammatory and infective conditions of musculoskeletal system with its treatment protocol.

CO4: To understand OT evaluation of Orthopedics conditions.

CO5: To understand OT management of Orthopedics conditions.

**1.1 Theory**

- (1) Introduction- Brief review of orthopedic conditions.
- (2) Application of occupational therapy principles and techniques in evaluation and treatment of the following orthopedic conditions to include:-
  - (a) Fracture, dislocations and soft tissue injuries – Upper extremity, lower Extremity and spine.
  - (b) Deformities – Congenital and acquired deformities of Upper extremity, lower Extremity and spine.
  - (c) Inflammatory condition of joints and bones. – R.A., Ankylosing spondylitis & other major conditions.
  - (d) Metabolic diseases – Rickets, Osteomalacia Osteoporosis, gout etc.
  - (e) Amputations - Pre & Post operative occupational therapy treatment.

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**OT IN NEUROLOGY & PSYCHIATRY-I**  
**BOT-702**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT702	OT IN NEUROPSYCHIATRY-I	144 (80T + 64P)	6	5+2=7	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**OT in Neuropsychiatry-I (A- Neurology)**

**COURSE DESCRIPTION:** - The subject serves to integrate the knowledge gained by the students in neurology with skills to apply these in clinical situations of dysfunction in neurology.

**COURSE OBJECTIVE:** - After the specified hours of lectures and demonstration the students will be able to do functional diagnosis and identify disabilities due to neurological dysfunction plan and set treatment goals.

**COURSE OUTCOMES:-**

CO1: Be able to develop skills to implement timely and appropriate Occupational Therapy assessment tools/ techniques to ensure holistic approach to patient evaluation in order to prioritize patient's problems.

CO2: Be able to select timely Occupational Therapy interventions to reduce morbidity and occupational Therapy management strategies, Suitable for patient's problems and indicator conditions based on the best available evidence.

A. Activity analysis and therapeutic activity for Physical conditions including:

1. Selection criteria and grading methods.
2. Positioning and posture.
3. Muscle action and range of motion (Biomechanical approach).

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4. Control of movement (Neurodevelopmental approach)
5. Sensory perception Analysis (sensory motor integration approach)
6. Prevocational analysis /assessment potential (Methods to be covered in OT in rehabilitation).

B. Evaluation procedures including:-

ROM, Muscles strength, Muscle tone, Co-ordination, Control of movement, Sensation (cutaneous and cortical), Cognitive Perceptual functions, Hand functions (in detail), Gait, ADL (activities of daily living). **Functional abilities, special tests in ortho, special tests for nerve compression ,contractures and deformities.**

C Approaches – including Biomechanical, Roods, NDT – Bobath for adults, Movement Therapy -Brunnstrom Approach, Proprioceptive neuro muscular facilitation, motor relearning theory and problem oriented approach, Rehabilitative Approach and Affolter's approach, **Task oriented approach**

D. Application of occupational therapy principles and techniques in evaluation and treatment of the following neurological and orthopaedic conditions to include:

Identification of possible deficits, dysfunction, and potential function improvement.

Planning of long term and short term treatment goals. Selection and implementation of appropriate treatment techniques, including biomechanical, Neurodevelopmental, psychological, and biofeedback.

Identification of residual dysfunction, application of appropriate training in activities of daily living and adaptation to home environment.

1. Injuries to upper limb and hand, including:

a. Peripheral nerve injuries, including appropriate reconstructive surgery & muscle re-education.

b. Shoulder hand syndrome.

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- c. Leprosy deformities (including appropriate reconstructive surgery and muscle re-education)
- d. Brachial plexus injury.
2. Muscular dystrophy.
3. Motor neurone disease.
4. Multiple sclerosis.
5. Parkinson's disease.
6. Cerebellar ataxia.
9. Cerebrovascular Accidents
10. Intra cranial tumours.
11. Brain injuries.
12. Guillain Barre Syndrome.
13. Spinal Cord Injuries.
14. Poliomyelitis :Post polio residual paralysis and post polio syndromes
15. Low Back Pain.
16. Spondylitis, Spondyloses, spondylolyses

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**17. Diabetic Neuropathy**

**18. Myasthenia gravis**

- D. Spinal Orthoses: Principles, goals, classification, specification in application, indications and contraindications . Demonstration of methods of training in these of spinal orthoses.

**OT IN SURGICAL CONDITION**

**BOT-703**

**Occupational Therapy in Surgical Conditions**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT703	OT IN SURGICAL CONDITION	144 (80 T + 64 P)	6	5+2=7	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** Acquire the knowledge of evaluation and OT treatment for surgical conditions. Acquire the knowledge of various conditions where occupational therapy plays a vital role in the rehabilitation.

**COURSE OBJECTIVE-** To identify discuss and analyze cardiovascular and pulmonary dysfunction. Acquire knowledge of rational of basic investigative approaches in the surgical intervention.

**COURSE OUTCOME-**

CO1: To understand pathophysiological changes during antenatal and infectious and metabolic disorders with their OT treatment

CO2: To understand pathophysiological changes in respiratory and cardiovascular disorders with their OT treatment

CO3: To understand pathophysiological changes in burn and oncology with their OT treatment

CO4: Diagnose condition from history taking, clinical evaluation and investigation in patients with skin disorders and wound.

CO5: To understand various injuries with its treatment Protocol



- (1) Introduction – Brief review of surgical conditions
- (2) Methods of evaluation in Occupational Therapy.
  - a) Role of Occupational Therapy
  - b) Hand injuries – emphasis on rehabilitation of Hand and reconstruction.
  - c) Thoracic surgery – Pre and postoperative management in respect of rehabilitation.
  - d) Plastic surgery – basic principle and applications.
  - e) Radical Mastectomy & Role of Occupational Therapy in Obstetrics & Gynecology
  - f) Supportive and corrective application in the rehabilitation of surgical case.
  - g) Adaptive devices in the rehabilitation of surgical cases.
  - h) Activities of daily living testing and training in A.D.L.
  - i) Burns: Define the term “Burns”, classify burns depending on various aspect, describe stage of burns explain role of O.T. in burns patients including assessment, describe O.T. treatment in pregraft postgraft & rehab phase.
  - j) Cancer rehabilitation: Describe preventive, restorative, supportive and palliative aspects in radical mastectomy and head and neck cancer. Explain the concept of hospice, family systems and the need for treatment of the family as the unit care.
  - k) Vascular Condition: Explain peripheral vascular diseases their complications & role of O.T. in their management.

## OT IN MEDICAL CONDITION

### BOT-704

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT 704	OT IN MEDICAL CONDITION	144 (80 T + 64 P)	6	5+2=7	20 (T) + 20 (P)	80 (T) + 80 (P)	200

**COURSE DESCRIPTION-** Acquire the knowledge of evaluation and OT treatment for medical conditions. Acquire the knowledge of various conditions where occupational therapy plays a vital role in the rehabilitation.

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**COURSE OBJECTIVE-** To identify discuss and analyze cardiovascular and pulmonary dysfunction. Acquire knowledge of rational of basic investigative approaches in the surgical intervention.

**COURSE OUTCOME-**

CO1: To understand pathophysiological changes during antenatal and infectious and metabolic disorders with their OT treatment

CO2: To understand pathophysiological changes in respiratory and cardiovascular disorders with their OT treatment

CO3: To understand pathophysiological changes in burn and oncology with their OT treatment

CO4: Diagnose condition from history taking, clinical evaluation and investigation in patients with skin disorders and wound.

CO5: To understand various injuries with its treatment Protocol

**Occupational Therapy in Medical Conditions**

- (1) Introduction – Brief review of medical condition and treatment and role of Occupational Therapy in the rehabilitation of patient with various diseases.
- (2) Methods of evaluation in Occupational Therapy.
- (3) Therapeutic activities techniques & Frame of reference in Occupational Therapy.
- (4) Aims and Principal of Occupational Therapy.
- (5) Developmental aspects of childhood.
  - (a) Physical, emotional intellectual and social development of the child.
  - (b) Guide for development testing.
  - (c) Average development achievement. (From birth to 10 year age)
  - (d) Objective and function of Occupational Therapy in
    - i. Arthritic conditions
    - ii. Leprosy
    - iii. Cerebro-Vascular accidents.
    - iv. Cardiac – diseases (congenital and acquired)
    - v. Geriatric condition
    - vi. Cerebral palsy, minimal cerebral dysfunction– perceptual motor dysfunctions in a brain – damaged child
    - vii. HIV
    - viii. Pulmonary condition.
    - ix. Hemophilia.
- (6) Assessment and diagnostic functions of Occupational Therapy.
- (7) Home care programme in severely disabled and A.D.L. in adults.

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## RESEARCH METHODOLOGY & BIOSTATISTICS

### BOT-705

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT 705	RESEARCH METHODOLOGY & BIOSTATISTICS	50	3	3	20	80	100

### COURSE OBJECTIVE-

The objective of this module is to help the students understand the basic principles of research and methods. Applied to draw inferences from the research findings.

### COURSE OUTCOMES-

CO1: Understand the importance of research in the relative field. Understand the basic concepts and methods of research.

CO2: Interpret differences in data distributions via visual displays. Calculate standard normal scores and resulting probabilities

CO3: Calculate and interpret confidence intervals for population means and proportions. Interpret and explain a p-value.

CO4: Perform a two-sample t-test and interpret the results; calculate a 95% confidence interval for the difference in population means.

CO5: Select an appropriate test for comparing two populations on a continuous measure, when the two-sample t-test is not appropriate. Understand and interpret results from Analysis of Variance (ANOVA), a technique used to compare means amongst more than two independent populations.

### RESEARCH METHODOLOGY

1. Introduction to Research methodology: Meaning of research, objectives of research, Motivation in research, Types of research & research approaches, Research methods vs methodology, Criteria for good research, Problems encountered by researchers in India.
2. Research problem: Statement of research problem, Statement of purpose and objectives of research problem, Necessity of defining the problem
3. Research design: Meaning of research design, Need for research design, Features for good design, Different research designs, Basic principles of research design
4. Sampling Design: Criteria for selecting sampling procedure, Implications for sample design, steps in sampling design, characteristics of good sample design,

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Different types of sample design

5. Measurement & scaling techniques: Measurement in research - Measurement scales, sources of error in measurement, Technique of developing measurement tools, Meaning of scaling, its classification, important scaling techniques.
6. Methods of data collection: collection of primary data, collection data through questionnaires & schedules, Difference between questionnaires & schedules.
7. Sampling fundamentals, need for sampling & some fundamental definitions, important sampling distributions.
8. Processing & analysis of data: Processing operations, problems in processing, Types of analysis, Statistics in research, Measures of central tendency, Dispersion, Asymmetry, relationship.
9. Testing of hypothesis: What is hypothesis? Basic concepts concerning testing of hypothesis, Procedure of hypothesis testing, measuring the power of hypothesis test, Tests of hypothesis, limitations of the tests of hypothesis
10. Computer technology: Introduction to Computers, computer application in research, computers & researcher.
11. Format of scientific documents (Structure of protocols, formats reporting in scientific journals, systematic reviews and meta-analysis).
12. Research Ethics and Brief introduction to Clinical trials registry.

## BIOSTATISTICS

1. Introduction: Meaning, definition, characteristics of statistics, Importance of the study of statistics, Branches of statistics, Statistics and health science including occupational Therapy, parameters and Estimates, Descriptive and inferential statistics, Variables and their types, Measurement scales.
2. Tabulation of Data: Basic principles of graphical representation, Types of diagrams – histograms, frequency polygons, smooth frequency polygon, cumulative frequency curve, Normal probability curve.
3. Measure of Central Tendency: Need for measures of central Tendency, Definition and calculation of mean – ungrouped and grouped, Meaning, interpretation and calculation of median ungrouped and grouped, Meaning and calculation of mode, Comparison of the mean, median and mode, Guidelines for the use of various measures of central tendency.
4. Probability and Standard Distributions: Meaning of probability of standard distribution, the binomial distribution, the normal distribution, Divergence from normality – skewness, kurtosis.
5. Sampling techniques: Need for sampling – Criteria for good samples, Application of sampling in community, Procedures of sampling and sampling designs errors, Sampling variation and tests of significance.
6. Analysis of variance & covariance: Analysis of variance (ANOVA), what is ANOVA? Basic principle of ANOVA, ANOVA technique, Analysis of Covariance (ANACOVA).

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**EVALUATION METHODS AND OUTCOME MEASURES  
BOT-706**

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT 706	EVALUATION METHODS AND OUTCOME MEASURES	60	3	2+1=3			

Implement methods to assess individual and collective outcomes of patients/clients with disorders of the musculoskeletal, neuromuscular, cardiovascular, pulmonary and integumentary systems using valid and reliable measures that take into account the setting in which patients/clients receive services, the variables of cultural competence, and the effect of societal factors.

**CLINICAL REASONING AND EVIDENCE BASED OCCUPATIONAL THERAPY PRACTICE-  
BOT-707**

1. Introduction to Evidence Based Practice: Definitions, Evidence Based Practice
2. Concepts of Evidence based Occupational Therapy: Awareness, Consultation, Judgement, and Creativity.
3. Development of Evidence based knowledge, The Individual Professional, Professionals with in a discipline, and Professionals across disciplines
4. Evidence Based Practitioner: The Reflective Practitioner, The E Model, Using the E Model
5. Finding the Evidence: Measuring outcomes in Evidence Based Practice, Measuring Health Outcomes, Measuring clinical outcomes, Inferential statistics and Causation
6. Searching for the Evidence: Asking Questions, Identifying different sources of evidence, Electronic Bibliographic databases and World Wide Web, Conducting a literature search. Step by-step search for evidence
7. Assessing the Evidence: Evaluating the evidence; Levels of evidence in research using quantitative methods, Levels of evidence classification system, Outcome Measurement, Biostatistics, The critical review of research using qualitative methods.
8. Systematically reviewing the evidence: Stages of systematic reviews, Meta-analysis, The Cochrane collaboration
9. Economic evaluation of the evidence: Types of economic evaluation, conducting economic evaluation, critically reviewing economic evaluation, locating economic

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evaluation in the literature.

10. Using the evidence: Building evidence in practice; Critically Appraised Topics (CATs), CAT format, Using CATs, Drawbacks of CATs

11. Practice guidelines, algorithms, and clinical pathways: Recent trends in health care, Clinical Practice Guidelines (CPG), Algorithms, Clinical pathways, Legal implications in clinical pathways and CPG, Comparison of CPGs, Algorithms and Clinical Pathways

12. Communicating evidence to clients, managers and funders: Effectively communicating evidence, Evidence based communication in the face of uncertainty; Evidence based communication opportunities in everyday practice. Research dissemination and transfer of knowledge: Models of research transfer, Concrete research transfer strategies, Evidence based policy

## CLINICAL EDUCATION

### BOT-708

Students will be posted in rotation in the following areas/wards. The students will be clinically trained to provide occupational Therapy care for the patients under supervision. They will be trained on bed side approach, patient assessment, performing special tests, identifying indications for treatment, ruling out contraindications, decision on treatment parameters, dosage and use relevant outcome measures under supervision. Evidence based practice will be part of training.

1. Occupational Therapy (Musculoskeletal)
2. Occupational Therapy (Neurology)
3. Medicine/ Neurology
4. Surgery
5. Obstetrics + Gynecology
6. Psychiatry
7. Orthopaedics

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**BOT EIGHT SEMESTER**

**OCCUPATIONAL THERAPY IN ORTHOPEDICS-II**

**BOT-801**

Cour se No.	Title	Tota l Hou r	Hours / week	Credi t	IA Mar k	SE Mar k	Total Mar k
<b>BOT 801</b>	<b>OCCUPATIONAL THERAPY IN ORTHOPEDICS-II</b>	<b>144 (80 T + 64 P)</b>	<b>6</b>	<b>5+2=7</b>	<b>20 (T) + 20 (P)</b>	<b>80 (T) + 80 (P)</b>	<b>200</b>

**COURSE DESCRIPTION-** The subject serves to integrate the knowledge gained by the students in orthopedics and traumatology with skills to apply these in clinical situations of dysfunction and musculoskeletal pathology.

**COURSE OBJECTIVE-** The objective of the course is that after the specified hours of lectures and demonstrations the student will be able to do functional diagnosis and identify disabilities due to musculoskeletal dysfunction, plan and set treatment goals and apply the skills gained in occupational therapy in these clinical situations to restore musculoskeletal function.

**COURSE OUTCOMES-**

CO1: To understand traumatology of upper and lower limb fractures, with their treatment protocols.

CO2: Assess the patients with musculoskeletal conditions.

CO3: To understand the pathophysiology of various inflammatory and infective conditions of musculoskeletal system with its treatment protocol.

CO4: To understand OT evaluation of Orthopedics conditions.

CO5: To understand OT management of Orthopedics conditions.

**OT in Orthopaedics-II**

1. Application of occupational therapy principles and techniques in evaluation and treatment of the following orthopedic conditions to include:-

(f) Degenerative & Infective conditions-Osteoarthritis of major joints, Spondylosis, Spondylolisthesis, PID, periartitis Shoulder, T.B. Spine Bone & Major joints, Perthe's disease , Cumulative Trauma Disorder.

(g) Supportive and corrective appliances in the rehabilitation of

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orthopedic cases.

- (h) Adapted devices in the rehabilitation of orthopedic case.
  - (i) Activities of daily living, testing and training in A.D.L.
  - (j) Poliomyelitis: Post polio residual paralysis and post polio syndromes.
  - (k) Cerebral palsy reconstructive surgeries including limb lengthening procedure and orthotic management.
  - (l) Total Hip and Knee replacements occupational therapy treatment.
  - (m) Pain Management in Occupational Therapy.
- (3) Functional bracing : Definition, concept of functional bracing, objectives and scientific basis of functional fracture bracing, importance in healing of fractures,

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## OCCUPATIONAL THERAPY IN NEUROPSYCHIATRY-II

### BOT-802

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT 802	OCCUPATIONAL THERAPY IN NEUROPSYCHIATRY-II	144 (80 T + 64 P)	6	5+2=7	20 (T) + 20 (P)	80 (T) + 80 (P)	200

### OCCUPATIONAL THERAPY IN NEUROPSYCHIATRY\_II( B- PSYCHIATRY )

**COURSE DESCRIPTION:** - The subject serves to integrate the knowledge gained by the students

in psychiatry with skills to apply these in clinical situations of dysfunction in psychiatry.

**COURSE OBJECTIVE:** - After the specified hours of lectures and demonstration the students will

be able to do functional diagnosis and identify disabilities due to psychiatric dysfunction plan and set treatment goals.

**COURSE OUTCOMES:** -

CO1: Be able to develop skills to implement timely and appropriate Occupational Therapy assessment tools/ techniques to ensure holistic approach to patient evaluation to prioritize patient's problems.

CO2: Be able to select timely Occupational Therapy interventions to reduce morbidity and occupational Therapy management strategies, Suitable for patient's problems and indicator conditions based on the best available evidence.

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### Theory

1. History of psychiatric occupational therapy.
2. Frames of Reference & treatment techniques of psychiatric conditions :
  - (a) Cognitive behavior.
  - (b) Behavioural and behavior modification
  - (c) Psychoanalytical.
  - (d) Occupational behavior and Model of Human Occupation
  - (e) Therapeutic use of self.
  - (f) Projective techniques.
  - (g) Mosey's adaptive skills.
  - (h) Cognitive disability
3. List and describe the various attitudes applied by the therapist in different conditions.
4. Analyze activities with reference to psychiatry and psychodynamics of activities.
5. Describe in detail the assessment of a client including specific methods used in the following:
  - (a) Observation.
  - (b) Interest checklist.
  - (c) Interview.
  - (d) Personality questionnaire.
  - (e) ADL
  - (f) Vocational and Pre-vocational
  - (g) Social dysfunction rating scales – to learn any one scale
6. Help students to identify their client's psychiatric problems in relation to the practical situations observed in OT. Eg. Restlessness manifesting as decreased concentration and attention.
7. Counseling: Guidelines and practical demonstration.
8. Discuss OT assessment, treatment aims, plan and methods of treatment for the following conditions:
  - (a) Schizophrenic and other Psychotic disorders
  - (b) Mood disorders
  - (c) Anxiety disorder including Phobias
  - (d) Somatoform disorders
  - (e) Factitious disorders
  - (f) Dementia
  - (g) Conversion and dissociate reaction
  - (h) Obsessive Compulsive disorder.
  - (i) Psychotic aspects of AIDS
  - (j) Learning Disorder.

(k) Autism

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- (l) Eating and sleep disorders
  - (m) Psychosomatic illness
  - (n) Personality disorders
  - (o) Substance related disorders
  - (p) Seizure disorders
  - (q) Organic Brain Syndrome
  - (r) Mental Retardation
  - (s) Down syndrome
9. Review psychiatric problems of childhood and apply OT principles and techniques.
  10. Outline the types of therapeutic groups and briefly discuss the value of group therapy in psychiatry.
    - (a) Group Therapy.
    - (b) Arts & activity Therapy.
    - (c) Recreational Therapy.
    - (d) Attitude Therapy.
    - (e) Industrial Therapy.
    - (f) Music Therapy.
    - (g) Milieu Therapy
  11. Explain precautions to be observed by the therapist in a psychiatric unit, with reference to each condition; including handling of tools and materials, grouping and attitude of the therapist.
  12. Occupational Therapy as an adjunct to:
    - (a) Chemo Therapy
    - (b) Insulin Therapy
    - (c) E.C.T.
    - (d) Psycho Therapy
  13. Outline the following psychiatric setups and the role of OT in each.
    - (a) Therapeutic community
    - (b) Half Way Homes
    - (c) Geriatric units.
    - (d) Sheltered workshops
    - (e) Day care centers.
    - (f) Government mental hospitals and psychiatric institutions
    - (g) Family therapy units
    - (h) Psychiatric rehabilitation

**Practical(1)** Various techniques of Occupational Therapy for the above-mentioned condition/diseases shall be demonstrated and practical by the students.

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## OCCUPATIONAL THERAPY IN PEDIATRICS

BOT-803

Course No.	Title	Total Hour	Hours/week	Credit	IA Mark	SE Mark	Total Mark
BOT 803	OCCUPATIONAL THERAPY IN PEDIATRICS	144 (80 T + 64 P)	6	5+2=7	20 (T) + 20 (P)	80 (T) + 80 (P)	200

### OCCUPATIONAL THERAPY IN PEDIATRICS

**COURSE DESCRIPTION:** - The subject serves to integrate the knowledge gained by the students

in paediatrics with skills to apply these in clinical situations of dysfunction in paediatrics.

**COURSE OBJECTIVE:** - After the specified hours of lectures and demonstration the students will

be able to do functional diagnosis and identify disabilities due to paediatrics dysfunction plan and set treatment goals.

**COURSE OUTCOMES:** -

CO1: Be able to develop skills to implement timely and appropriate Occupational Therapy assessment tools/ techniques to ensure holistic approach to patient evaluation to prioritize patient's problems.

CO2: Be able to select timely Occupational Therapy interventions to reduce morbidity and occupational Therapy management strategies, Suitable for patient's problems and indicator conditions based on the best available evidence.

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## Theory

### Psychological Aspects

- (1) Psychological reactions to disability in childhood and Occupational Therapy role.
- (2) Psychological aspects of hospitalization, and Occupational therapy role.

### Treatment Approaches

- (1) Play Therapy.
- (2) Creative activities.

### Frames of References

- (1) Bobath NDT.
- (2) Rood's neuromuscular facilitation.
- (3) Ayre's Sensory Integration Approach.
- (4) Biomechanical frame of reference
- (5) Developmental FOR
- (6) Peto's - conductive Education.
- (7) PNF

### Occupational Therapy Application

- (1) Cardio respiratory conditions of childhood.
- (2) Cerebral palsy
- (3) Visuo- perceptual and Visuo- motor dysfunction
- (4) Muscular dystrophy
- (5) Erb's palsy
- (6) Poliomyelitis
- (7) Spina bifida and hydrocephalus.
- (8) Arthrogryphsis and other congenital orthopaedic disorders.

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- (9) Stills disease.
- (10) Early intervention for congenital neurological disorders (High risk infants)
- (11) Nutritional disorders,
- (12) Mental retardation and Down's syndrome.
- (13) Congenital Syndromes and Chromosomal abnormalities
- (14) Specific learning disabilities
- (15) Pervasive Developmental Disorder
- (16) Attention Deficit Hyperactivity Disorder
- (17) Behaviour disorders.
- (18) Visual / auditory loss.
- (19) Speech and communication disorders.
- (20) Acquired Immuno Deficiency Syndrome.
- (21) Seizure disorders
- (22) Haemophilia
- (23) NICU

**Occupational Therapy Intervention for specific areas of dysfunction**

- (1) Oromotor dysfunction
- (2) Pre writing and writing skills
- (3) Psychosocial dysfunction
- (4) Postural Control

**Pediatric Splinting and Adaptive Devices:**

- (1) Including, seating devices, Adaptations for feeding, Mobility and Ambulatory devices, Indication and use of splint for correction of CDH

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## REHABILITATION MEDICINE

### BOT-804

Course No.	Title	Total Hour	Hours / week	Credit	IA Mark	SE Mark	Total Mark
BOT 804	REHABILITATION MEDICINE	50 T	3	3	20 (T)	80 (T)	200

**COURSE DESCRIPTION-** The subject serves to integrate the knowledge gained by the students in rehabilitation medicine and other areas with skills to apply these in clinical situations of health and disease and its prevention. The objective of the course is that after the specified hours of lectures and demonstrations the student will be able to identify rehabilitation methods to prevent disabilities and dysfunctions due to various disease conditions and plan and set treatment goals and apply the skills gained in rehabilitating and restoring functions.

**COURSE OBJECTIVE-** The objective of the course is that after the specified hours of lectures and demonstrations the student will be able to identify rehabilitation methods to prevent disabilities and dysfunctions due to various disease.

### COURSE OUTCOMES-

CO1: To understand the team approach in rehabilitation of disability. To understand the role of community and other institutions for rehabilitation.

CO2: Identification of residual potentials in patients with partial or total disability (temporary or permanent). Formulation of appropriate goals (long & short term) in treatment & rehabilitation will be discussed.

CO3: Application of various orthosis, prosthesis, wheelchairs and other assistive devices for different medical and physical conditions.

CO4: To understand the importance of administration in setting of department.

CO5: To understand the organizational structure of a department or an organization.

### Theory

1. Introduction to Rehabilitation medicine
2. Definition concerned in the phases of disability process, explanation of its aims & principles. Scope of rehabilitation.
3. Definition concerned with the causes of Impairment, Functional limitation and Disability

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4. Disability Prevention. Limitation & Rehabilitation.
5. Present Rehabilitation Services
6. Legislations for rehabilitation services for the Disabled and P.W.D. acts & Recent Amendments.
7. Rehabilitation Team & its members, their role.
8. Community & Rehabilitation including C.B.R. Advantages of C.B.R. over I.B.R.
9. Contribution of Social Worker towards rehabilitation
10. Vocational evaluation & Goals for disabled, role of Vocational Counselor.
11. Rural rehabilitation incorporated with Primary Health Centre
12. Principles of Communication & its problems and management.
13. Behavioral problems in the Disabled its principle of management.
14. Architectural barriers possible modifications in relation to different disabled conditions.
15. Achieving functional independence
16. Occupational rehabilitation
17. Concepts in geriatric rehabilitation
18. Disability evaluation
19. Visual disability: Definition and classification, mobility techniques, communication skills, prevention of blindness.
20. Socio-economic Rehabilitation:
  - (a) Outline of Social and Vocational Counseling
  - (b) Outline the social implications of disability for the individual and for the community

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- (c) Pre-vocational Evaluation & Role of V.C. Govt. & NGO  
(d) Discuss methods and team involvement in pre-vocational evaluation and training.
21. Functional Assessment scales & its clinical uses eg, functional independent measure, Sylvan index, PEDI, Gross Motor Function, VAS, ASIA, BBS, Modified Ashworth.
22. Ethics  
(a) The implications of and confirmation to the roles of professional conduct  
(b) Legal responsibility for their actions in the professional context and understanding liability and obligations in case of medico legal action  
(c) A wider knowledge of ethics relating to current social and medical policy in the provision of health care
23. Prosthesis and Orthosis  
(a) Definition and Basic Principles  
(b) Designing and Construction of Upper & Lower extremity Orthosis & Spinal Orthosis.  
(c) Prescription and design of footwear & its modification  
(d) Ambulatory Aids & Assistive Devices  
(e) Measurement and P.O.P. cast techniques  
(f) Low cost thermo-labile material for construction of orthosis.
24. Wheelchair:  
(d) Type and modifications of wheelchair  
(e) Wheelchair Mobility  
(f) WHO Guideline  
i. Assessment  
ii. Prescription  
iii. Training

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## ORGANIZATION, ADMINISTRATION & LEADERSHIP

### BOT-805

Course No.	Title	Total Hour	Hours/ week	Credit	IA Mark	SE Mark	Total Mark
BOT 805	ORGANIZATION, ADMINISTRATION & LEADERSHIP	30T	2	2	20 (T)	80 (T)	100

**COURSE DESCRIPTION:-** Acquire the knowledge of Organization, Administration and leadership, where Occupational therapy plays a vital role for O.T delivery system and to patient treatment and training.

**COURSE OBJECTIVE:-** To identify, discuss and Co-relation between Occupational Therapy leadership and administration.

### COURSE OUTCOME:-

CO1: To understand Administration and organization.

CO2: Explain aspect of administration in general and relation to O.T work situations.

Co3: To understand, Construction of new department and modification as old department.

Co4: To understand legal aspects related to rehabilitation, Medico legal cases and workmen's compensation Act.

### ORGANIZATION AND ADMINISTRATION

- A. Outline the purpose of the subject in relation to OT Define Organization. Explain aspects of administration in general and in relation to OT work situations. Outline principles of administration.
- B. Describe methods of administration in an OT department.
1. Records - their purpose eg. attendance, statistics, inventory, stock.
  2. Maintenance of records. eg. methods of community and institutional based departments (CBR & IBR)
  3. Referrals – purpose and types of referral.
  4. Documentation
- C. Demonstrate administration of the following.

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1. Store keeping – materials, inventory records, Purchase ordering, Petty cash accounting.
2. General maintenance of equipment, furniture, buildings, costing of splints / aids / equipment / articles / make in OT.

D. Describe and demonstrate: a) Types of correspondence b) Methods of filing.

E. Describe methods for care of equipment and materials.

F. Discuss budgeting – including items for an annual budget.

G. Discuss considerations for construction of a new department, and modification of an old department including: a) Space required b) Allotment of space, eg. Suitability for access, plumbing requirements, & circulation of air.

H. Plan assessment forms eg. pre-vocational. ADL, hand function & higher functions for initial evaluation and progress recording.

I. Outline method of writing OT department annual reports. Calculate monthly and annual statistics. Make plans for future requirements eg. consider staff patient ratio, equipment and staff requirements.

J. Plan to organize picnic or sports programme for patients.

K. Outline legal aspects related to rehabilitation: Medico Legal cases, Workmen's Compensation Act & Insurance facilities. Other financial benefits available for the disabled.

L. Outline safety precautions in OT. Discuss considerations relating to the following.

1. When using small hand tools.

2. General safety in the OT department, eg. moving patients, training attenders and "helpers" , while using safety machinery, while doing activities outside. Safety precautions in relation to patients with,

- a. Leprosy
- b. Hemiplegia
- c. Paraplegia
- d. Back injuries
- e. Epilepsy, M.R.
- f. Suicidal patients.
- g. Patients with incoordination.

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**3. Infection control**

- M. Plan teaching methods for assistants and OT students in the clinical situation.
- N. Discuss staff management and development, purpose of staff meetings.
- O. Practical work to be carried out under supervision, during clinical postings in V & VI semester. Eg. Maintaining records, stores requests, care of equipment, inventory check, costing of aid, adaptations, petty cash records. Documentation

**EVALUATION**

Internals : theory and assignments University : theory

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## RESEARCH PROJECT

### BOT-806

The student need to submit a minimum of two case studies based on Evidence based occupational Therapy evaluated during the clinical training hours and submit the same to the department at the end of fourth year before final examination. The student shall not be allowed to appear for the final examination without submission of research project.

## CRITIQUE ENQUIRY, CASE PRESENTATION AND CASE

## DISCUSSION

### BOT-807

The central goal of the case presentation and discussion is to enable students to create and critique methodologically sophisticated case study research designs in the occupational Therapy. This will also will look at the epistemological assumptions, comparative strengths and weaknesses, and proper domain of case study methods and alternative methods, particularly statistical methods and formal modeling, and address ways of combining these methods in a single research project. The seminar then examines field research techniques, including archival research and interviews.

## CLINICAL Posting

### BOT-808

Students will be posted in rotation in the following areas/wards. The students will be clinically trained to provide occupational Therapy care for the patients under supervision. They will be trained on bed side approach, patient assessment, performing special tests, identifying indications for treatment, ruling out contraindications, decision on treatment parameters, dosage and use relevant outcome measures under supervision. Evidence based practice will be part of training.

1. Occupational Therapy (Pediatrics)
2. Occupational Therapy (SI + NDT)
3. Occupational Therapy (Musculoskeletal)-
4. Occupational Therapy (Neurology)-

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5. Pediatrics-
6. Psychiatry
7. Chest + Respiratory Medicine
8. NICU, PICU, ICU-

## **INTERNSHIP**

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 8 hours per day.

**1. Initial Assessment Documentation:** Clinical staff must document the following information:

- a. Initial assessment documented based on SOAP format.
- b. Subjective examination (symptomatic)
- c. Objective examination (measureable, observable)
- d. Action/Analysis (interpretation of current condition/intervention provided)
- e. Plan of action
- f. Written or verbal feedback to the client or other relevant carers
- g. Discharge plan documented
- h. Agreement to treatment plan by patient or “person responsible”

**2. Progress Documentation:** Progress documentation may include the

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following information:

- a. Any individual intervention should be documented in SOAP format (including response to intervention/s using outcome measures)
- b. Oral consent obtained and documented when there is a significant change in treatment/treatment options/status of patient's health.
- c. Written consent obtained for designated invasive procedures
- d. Change in status or events that may affect discharge plans/goals
- e. Documented consultation with key clinical team members
- f. Skills based outcomes and monitor able indicators for bachelors of occupational Therapy

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**Bachelor of Occupational Therapy**

**Competency Statements**

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. Analyzing 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 treatment plan
7. Implements intervention.
8. Be able to accurately explain the treatment plans and able to demonstrate and teach self exercises
9. Advise patient on appropriate nutrition, exercises, rest, relaxation other issues
10. Evaluates 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.
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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**List of Recommended Books for BOT Course (60 seats)**

<b>Human Anatomy</b>			
S.N.	Title	Author	No. of copy
1	Textbook of Anatomy Upper Limb & Thorax Vol-1 <sup>st</sup>	Singh, Vishram	21
2	Textbook of Anatomy Abdomen & Lower Limb Vol-2	Singh, Vishram	21
3	Human Anatomy : Lower Limb and Abdomen Vol.2	Chaurasia, B.D.	15
4	Human Anatomy : Head, Neck and Brain Vol.3	Chaurasia, B.D.	15
5	Textbook of Anatomy Head Neck & Brain Vol 3	Singh, Vishram	15
6	Cunningham's Manual of Practical Anatomy Thorax & Abdomen vol 2	Romanes, G.J.	15
7	Hand Book of General Anatomy	Chaurasia, B.D.	14
8	Cunnighams Manual of Practical Anatomy vol 1	Romanes, G.J.	14
9	Cunningham's Manual of Practical Anatomy Head & Neck vol 3	Romanes, G.J.	14
10	Textbook of Anatomy with Colour Atlas Vol.1	Singh, Inderbir	11

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11	Text Book of Anatomy with Colour Atlas Vol.2	Singh, Inderbir	11
12	Text Book of Anatomy with Colour Atlas Vol.3	Singh, Inderbir	11
13	General Anatomy	Pal G.P	10
14	Human Anatomy: Regional & Applied - Vol 1	Chaurasia's, B.D.	10
15	Text Book of Human Neuroanatomy	Singh, Inderbir	10
16	McMinn's Color Atlas of Human Anatomy	Abrahams, P.H.	9
17	Clinical Anatomy	Snell, Richards	9
18	Gray's Anatomy for Students	Drake, Richard L.	9
19	Grant's Atlas of Anatomy	Agur, Anne M.R.	8
20	Anatomy and physiology for Occupational Therapists	Singh, Inderbir	6
21	Clinical Neuroanatomy for Medical Students	Snell, Richards	6
22	Last's Anatomy : Regional and Applied	Sinnatamby, C.S.	5
23	Human Anatomy : Upper Limb and Thorax Vol.1	Chaurasia, B.D.	5
24	Textbook of Clinical Neuroanatomy	Singh, Vishram	5
25	Text Book of Human Histology	Singh, Inderbir	4
26	Text Book of Human Osteology	Singh, Inderbir	4

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27	Essentials of Human Anatomy Vol-1	Datta, A.K	4
28	Essentials of Human Anatomy Head & Neck	Datta, A.K	4
29	Cunnighams Manual of Practical Anatomy	Romanes, G.J.	4
30	Gross Anatomy Workbook	Gandotra,A	4
31	Atlas of Histology	Eroschenko, V.P.	1
32	Human Anatomy Regional Applied	Chaurasia's, B.D.	1
33	Human Embryology	Singh, Inderbir	1
34	Inderbir Singh' Text Book of Anatomy Upper Limb Thorax Vol 1	Devi, V. Subhadra	1
35	Inderbir Singh' Text Book of Anatomy Lower Limb Abdomen and Pelvis Vol 2	Devi, V. Subhadra	1
36	Inderbir Singh' Text Book of Anatomy Head and Neck Neuroanatomy Vol 3	Devi, V. Subhadra	1
37	Text Book of Human Anatomy	Tanton, B.K.	1
38	Principles of Anatomy & Physiology	Tortora, G.J.	1
<b>Human Physiology</b>			
S.N.	Title	Author	No. of copy
1	Comprehensive Textbook of Medical Physiology Vol-1	Pal G.P	15
2	Comprehensive Textbook of Medical Physiology Vol-2	Pal,G.K	15





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3	Text book of Physiology Vol-1	Jain, A.K.	15
4	Text book of Physiology Vol 02	Jain, A.K.	15
5	Basic of Medical Physiology	Venkatesh,D	15
6	Essentials of Medical Physiology	Sembulingam, K	15
7	Human Physiology and Biochemistry for Physical Therapy & Occupational Therapy	Jain, A.K.	10
8	Workbook of Practical Physiology	AITBS	10
9	Review of Medical Physiology	Ganong, William.F	3
10	Text Book of Physiology	Ahuja, Veena	1
11	A Text Book of Practical Physiology	Ghai, C.L.	6
12	Medical Physiology	Marya, R.K.	4
13	MCQ In Human Physiology	Tandon O.P.	1
14	Understanding Medical Physiology	Bijlani,R.L.	1
15	Handbook of Human Physiology	Ratan, Vidya	1
16	Manual of Practical Physiology	Jain, A.K.	1
17	Human Anatomy and Physiology	Jain, A.K.	1
19	Viva in Human Physiology	Ratan, Vidya	1

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### Occupational Therapy

1	Behaviour Therapy with Hyperactive & Learning Disabled Children	Benjamin Lahey.
2.	Theories of Learning	G.H.Bowker. 5 <sup>th</sup> Ed
3.	Occupational Therapy: Configuration of a Profession	A.C.Mosey
4.	Activities Therapy	A.C.Mosey5
5.	Psychosocial Components of Occupational Therapy	A.C.Mosey
6.	Introduction to Psychology	Dr.Munn. 4 <sup>th</sup> Ed.
7..	Occupational Therapy in Short Term Psychiatry	Moya Wilson. 2 <sup>nd</sup> Ed
8.	Occupational Therapy in Long Term Psychiatry	Moya Wilson. 2 <sup>nd</sup> Ed
9.	Occupational Therapy & Mental Health	Jennifer Creek
10	A Handbook of Psychiatry	L.P.Shah, Hema Shah. 2 <sup>nd</sup> Ed
11.	Psychiatry for Students & General Practitioners	M.H.Gandhi, S.M.Gandhi
12.	Abnormal Psychology & Modern Life	J.C.Coleman
13.	MCQs in Psychiatry	N.Ahuja
14.	Occupational Therapy Evidence in Practice for Mental Health	C.Long, J.Cronin-Davis
15.	Psychosocial Components of OT	A.C.Mosey
16	Synopsis Of Psychiatry	Kaplan & Saddock
17	Group Dynamics in Occupational Therapy	Marilyn Cole
18	Occupational Therapy & Mental Health	J.Creek. 4 <sup>th</sup> Edition
19	Mental Health – Concepts & Techniques for Occupational Therapy Assistant	M.B.Early, 4 <sup>th</sup> Edition.
20	Occupational Therapy:A communication Process in Psychiatry	Fidler G, Fidler J
21	Abnormal Psychology	James Page
22	Psychiatric Problems in Children	J.C.Marfatia
23	Occupational Therapy in Mental Health	Catana Brown, Virginia Stoffel
24	Occupational Therapy in Mental health	Dr.S.R. Apte
25	Study of Mentally Challenged	Dr.S.R. Apte
26	Cognitive psychology	M.Eysenck M.Keane
27	A short textbook of psychiatry	N.Ahuja. 7 <sup>th</sup> Es



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28	A Handbook of psychiatry	Dr.L.P.Shah
29	Psychiatry for students & general Practitioners	Dr.M.Gandhi
30	Psychiatric Occupational Therapy	S.R.Apte
31	Occupational Therapy in Mental Health	S.R.Apte
32	Introduction to Psychology	Morgan King. 6 <sup>th</sup> Ed
33	Notes in Psychiatry	A.Desouza
34	Textbook of Integrative Mental health care	James lake

<b>Biochemistry</b>			
S.N.	Title	Author	No. of copy
1	Biochemistry	Satyanarayana, U.	24
2	Biochemistry For Physiotherapy And Allied Health Sciences Students	Shetty,B.V	11
3	Introductory Practical Biochemistry	Sawhney, S. K.	9
4	Harper's Illustrated Biochemistry	Murray, Robertk	5
5	Text Book of Biochemistry for Medical Students	Vasudevan, DM	5
6	Outline of Biochemistry	Conn, Eric E.	4
7	A Dictionary of Biochemistry	Sharma, J.L.	4
8	Biochemistry for Students	Malhotra, V.K.	4
9	Fundamentals of Biochemistry	Deb, A.C.	4
10	Text Book of Medical Biochemistry	Chatterje, M.N.	4
11	Text Book of Biochemistry for Paramedical Students	Ramamoorthy, P	1

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12	Medical Biochemistry for Physiotherapy Students	Kaur, Harpreet	1
13	Concise Textbook of Biochemistry	Rajagopal, G	1
14	Concepts of Biochemistry for Physiotherapy and Pharmacy	Singh, S.P.	1

### Psychology

S.N.	Title	Author	No. of copy
1	Introduction to Psychology	Morgan, Clifford T	10
2	Shorter Oxford Text Book of Psychiatry	Gelder, Michael	10
3	Modern Clinical Psychology	Korchin, S.J	9
4	Sociology For Physiotherapists	Khanna, Purnima	5
5	Introduction to Psychology	Smith, Edward, E.	4
6	Experimentals Physiology	Woodworth, R.S.	4
7	Social Psychology	Macdavid, John W.	4
8	An Introduction to Sociology	Sachdeva, D.R.	4
9	Psychology for Physiotherapists	Ramalingam, A T	2
10	Psychology	Baron, Robert A	1
11	Social Physiology	Baron, Robert A	1

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12	Introduction to Psychology	Fernald, LD	1
13	Sociology For Physiotherapists	Bid	1
14	Principles of Sociology	Das, G.	1
15	A Text Book of Sociology for Physiotherapy	Kumari, Neelam	1

**Yoga**

1	Yoga and Rehabilitation	Nilima Patel	10
2	Yoga for Health and Wellbeing	BKS Iyengar	10
3	The Heartfulness Way	Kamlesh D Patel	10
4	Principles of Exercise in Physiotherapy	Sivaram,C	10

**First Aid & Emergency Care**

S.N.	Title	Author	No. of copy
1	First Aid for Nursing	Indrani,T,K	12
2	First AID and Emergency Care	Harris, N	10
3	Fundamentals of Nursing	Sethi, Dipak	10
4	Manual of First Aid	Gupta,L.C	2

**Computers**

S.N.	Title	Author	No. of Copy
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Atal Bihari Vajpayee Medical University, Lucknow, U.P.

1	Computer Fundamentals	Sinha, P.K.	9
2	Environmental Science	Agarwal K.C	5
3	Hazardous waste incineration	Brunner R.C	1
4	Marine Pollution	Clark R.S	1
5	Environmental encyclopedia	Cunningham W.P	1
6	Environmental chemistry	Cooper, T.H. Gorhani, E&Hepworth,	1

**General Books**

S.N.	Title	Author	No. of Copy
1	Abhinav's Dictionary of Physiotherapy	Sharma, Ashwani.	9
2	Dictionary of Physiotherapy	Gupta, Abhishek	4
3	Introduction to Physiotherapy	Suraj Kumar	4
4	Illustrated Oxford Dictionary	D.K	1

**Pathology**

S.N.	Title	Author	No. of copy
1	A Text Book of Pathology	Harsh Mohan	30

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2	Basic Pathology	Kumar, Vinay	5
3	Robin's and cotran pathologic basis of disease	Kumar, Vinay	4
4	Essential of Pathology	Chaun, H.V.S.	4
5	General and Systematic Pathology	Underwood, J.C.E	1
6	Pathophysiology	Marya, R.K.	1
7	Text Book of Pathology for Allied Health Sciences	Nayak, Ramdas	1
8	T.B. of Medical Laboratory Technology	Godkar .P.B	1

**Microbiology**

S.N.	Title	Author	No. of copy
1	Text Book of Microbiology	Panikar, C.K.	19
2	Essential of Microbiology	Chaun, H.V.S.	4
3	Text Book of Microbiology for Physiotherapy	Beveja, C.P	1
4	Jawetz, Melnick, & Adelbergs Medical Microbiology	Brooks, G.F	1
5	Essentials of Medical Microbiology	Sastry, A S	1

**Pharmacology**

S.N.	Title	Author	No. of copy
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1	Essentials of Medical Pharmacology	Tripathi, K.D.	21
2	A Concise T.B. of Pharmacology	Murugesh, N.	9
3	Text book of Pharmacology for Physiotherapy	Uday Kumar	7
4	Pharmacology & Pharmacotherapeutics	Satoskar, R.S.	4
6	Pharmacology for Physiotherapists	Ramesh, K.V	2
7	Multiple choice question in Pharmacology	Tripathi, K.D.	2
8	Goodman & Gilman's the Pharmacological basis of Therapeutics	Brunton, L.L	1
9	Textbook of Pharmacology for Dental and Allied Health Sciences	Udaykumar, Padmaja	1
10	Pharmacology for Physiotherapist	Sharma, J.L.	1

### Biomechanics

S.N.	Title	Author	No. of copy
1	Joint Structure and Function	Norkin, Cynthia	28
2	Brunstrom's Clinical Kinesiology	Smith, Laura K.	9
3	Biomechanics the Nucleus of Physiotherapy	Raj Kumar, R.V	6
4	Textbook of Biomechanics	Koley, S	6

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5	Textbook of Kinanthropometry	Koley,S	3
6	Text Book of Kinesiology	Bindal, VD	1
7	Manual of Kinesiological Taping	Jain Piyush	1
8	Principles of Mechanics & Biomechanics	Bell, Frank	1
9	Biomechanics of Human Movement	Adrian, MJ	1
10	Basic Biomechanics	Hall,S.J	1

**Orthopaedics**

S.N.	Title	Author	No. of copy
1	Essential Orthopaedics	Maheshwari. J.	25
2	Apley's System of Orthopaedics and Fractures	Solomaon, Louis	20
3	Out line of Orthopaedics	Adams J.C	20
4	Essentials of Orthopaedics for Physiotherapists	Ebnezar, John	10
5	Textbook of Orthopaedics & Traumatology	Natarajan, Mayil Vahanan	10
6	Handbook of Orthopaedics	Panda, UN	5
7	Clinical Orthopedic Examination	McRae, Ronald	4
8	Step by Step Injection techniques in orthopaedics	Ebnezar, John	3
9	Text book of Orthopaedics	Kotwal, Orakash	10

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**Neurology & Neuro Surgery**

S.N.	Title	Author	No. of copy
1	Neurology and Neurosurgery Illustrated	Lindsay, Kenneth	25
2	Brain & Bannister's Clinical Neurology	Bannister, S.R	10
3	Barr's The Human Nervous System	Kiernan, J.A.	1

**General Medicine**

S.N.	Title	Author	No. of copy
1	Davidson's Principles and Practice of Medicine	Boon, Nicholas A	15
2	Essential Pediatrics	Ghai, O.P	9
3	Hutchison's Clinical Methods	Swash, Michael L.	9
4	Medicine for Student	Golawala, Aspi F.	4
5	Hand book of Ophthalmology	Chatterjee, B.M	2
6	Textbook of Medicine Vol-1	Das, Krishna	1
7	Textbook of Medicine Vol-2	Das, Krishna	1
8	Clinical Problems in General Medicine & Surgery	Devitt, Peter	1
9	Signs and Syndromes in Dermatology	Inamadar, Arun	1

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10	Ophthalmology	Padmini, H.R	1
11	Text Book of Community Medicine with Recent Advances	Das, B.C	1
<b>General Surgery</b>			
S.N.	Title	Author	No. of copy
1	A Concise Text book of Surgery	Das S	10
2	Howkin and Bourne Shaw's T.B. Of Gynaecology	Padubidri, V.G	9
3	Bailey & Love's Short Practice of Surgery	Russell, RCG	4
<b>Research and Biostatistics</b>			
S.N.	Title	Author	No. of copy
1	Research Methodology Methods and Techniques	Kothari, C.R.	10
2	Synopsis of Biostatistics	Singh, Sunita	9
3	Methods in Biostatistics	Mahajan, B.K.	4
4	Research Methodology and Bio-Statistics	Bais, Vinod Kumar	1
5	Clinical Research made Easy	Bhandri, Mohit	1

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**GENERAL**

No	Name of the book	Author
1	Rehabilitation Medicine	Nandu Chhabria
2	Occupational Therapy for Physical Dysfunction	Trombley & Scott. 1 <sup>st</sup> Ed
3	Willard & Spackman's Occupational Therapy	H.L.Hopkins. 6 <sup>th</sup> Ed
4	Student's Modern Dictionary.	5 <sup>th</sup> Ed
5	The Art of teaching Medical Students	M.L.Kothari, L.A.Mehta
6	Comprehensive Rehabilitation of Burns	S.V.Fisher, p.A.Helm
7	Activities Therapy	A.C.Mosey
8	Movement Science- Foundations for Physical Therapy in Rehabilitation	Carr & Shephard
9	Occupational Therapy for Physical Injuries.	Veena Slaich
10	Practical Research Methods for Physiotherapists	C.M.Hicks
11	Rehabilitation of Physically Handicapped	M.L.Chainani
12	Biomechanics of Human Motion	M.Williams, H.R.Lissner
13	Muscle Testing(UL & LL)	Kendall( Xeroxed)
14	Occupational Therapy for Practice Skills for Physical Dysfunction	Lorriane Pedretti(Xeroxed)
15	Black's Medical Dictionary	J.D.Comrie
16	Exercise in Pregnancy	Mittel Mark Wiswell. 2 <sup>nd</sup> Ed
17	Clinical Medicine	Dr.K.C.Patel. 1 <sup>st</sup> Ed
18	Physical Activity in Disease Prevention & Treatment	R.Masironi, H.Denolin
19	Occupational Therapy & Physical Dysfunction	Ann Turner. 3 <sup>rd</sup> Ed
20	Kinesiology_ Application to Physical Motion	G.L.soderberg
21	Occupational Therapy & Activities Health: Towards Health Through Activities	S.Cynkin, A.M.Robinson
22	Study Guide to accompany Occupational Therapy for Physical Dysfunction	M.A.Bush. 3 <sup>rd</sup> Ed
23	Occupational Therapy for Physical Dysfunction	Trombley. 3 <sup>rd</sup> Ed
24	Control of Human Movement	M.L.Latash
25	Ergonomics- man in his Working Environment	K.F.H.Murrel

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26	Therapeutic Exercise	J.V.Basmajin, S.Wolf. 5 <sup>th</sup> Ed.
27	Focus on Medical English	E.Cillari
28	Home Rehabilitation Exercises	AOTA
29	Play Therapy	V.M.Axline
30	A Handbook of Skin & STDs- Including Leprosy & HIV	U.Khopkar, S.L.Wadhwa
31	Occupational Therapy for Physical Dysfunction	Trombley. 2nd Ed
32	Human Physiology- Vol-I	C.C.Chaterjee
33	Human Physiology- Vol-II	C.C.Chaterjee
34	A Textbook of Medical Conditions for Physiotherapists	J.E.Cash

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35	Human Anatomy- Vol I- Upper Limb & Thorax	B.D.Chaurasia. 2 <sup>nd</sup> Ed
36	Human Anatomy- Vol II-Head, neck & Brain	B.D.Chaurasia. 1st Ed
37	Willard & Spackman's Occupational Therapy	H.L.Hopkins. 7 <sup>th</sup> Ed
38	Undergraduate Surgery.	A.K.Nan. 2 <sup>nd</sup> Ed.
39	Human Anatomy- Lower Limb & Abdomen	B.D.Chaurasia. 1st Ed
40	Medicine for Students	A,F.Golwalla. 14 <sup>th</sup> Ed
41	Modern College Physiology	R.W.Stacy, J.A.Santolucito
42	The Principles & Practice of Medicine	S.Davidson. 3 <sup>rd</sup> Ed
43	Dorland's Pocket Medical Dictionary	25 <sup>th</sup> Ed
44	Rapidex Computer Course	V.Gupta. 4 <sup>th</sup> Ed
45	Wordstar-Through Version 7.0	V.Gupta. 3 <sup>rd</sup> Ed
46	Studying a Study & Testing a Test-how to read the Health Science Literature	R.K.Riegelman, R.P.Hirsch. 3 <sup>rd</sup> Ed
47	Clinical Kinesiology for Physical Therapist Asst.	L.Lippert. 2 <sup>nd</sup> Ed
48	Human Walking	J.Rose, J.G.Gamble. 2 <sup>nd</sup> Ed
49	Occupational Therapy- Enabling Function & Well Being	C.H.Christiansen, C.M.Baum. 2 <sup>nd</sup> Ed
50	Human Movement-An Introductory Text	M.Trew, T.Everett. 3 <sup>rd</sup> Ed
51	Quick Reference Dictionary for Occupational Therapy	Karen Jacobs. 2 <sup>nd</sup> Ed
52	Therapeutic Exercise- Moving Towards Function	C.M.Hall. L.T.Brody
53	Statistical Methods in Medical Research	P. Armitage. G.Berry. 4 <sup>th</sup> Ed
54	Test Battery Manual	
55	Textbook of Rehabilitation	S.sunder. 2 <sup>nd</sup> Ed
56	Clinical Science & Clinical Research	Dr.R.D.Lele
57	Methods in Biostatistics	B.K.Mahajan
58	The Art of Teaching Medical Students	Bhuiyan, Rege, Supe
59	Occupational Therapy for Physical Dysfunction	Trombley. 5 <sup>th</sup> Ed. (Xerox)
60	Manual on Foot care in DM	
61	Textbook of Physiotherapy for Obstetric & Gynaecological Conditions	G.B.Madhuri
62	Human Development	Diane Papalia

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63	Taber's Cyclopedic Medical Dictionary. Vol-I	
64	Taber's Cyclopedic Medical Dictionary. Vol-II	
65	Anatomy & Physiology for Physiotherapists	Inderbir Singh
66	MCQs in Community Health	O.P.Agarwal
67	MCQs in Medicine	U.N.Panda
68	MCQs in Biomechanics	NS Senthil Kumar
69	MCQs in Plastic Surgery	Ramesh Chandra
70	Manual of Physical Medicine & Rehabilitation	Brammer
71	Textbook of Anatomy	Inderbir Singh
72	Textbook of Histology	Inderbir Singh
73	Human Embryology	Inderbir Singh
74	Concise Medical Physiology	Sujit Chaudhari
75	Textbook of Medical Biochemistry	S.Ramakrishnan
76	Occupational Therapy : Practice Skills for Physical Dysfunction	L.Pedretti. 4 <sup>th</sup> Ed

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77	Willard & Spackman's Occupational Therapy	E.Crepeau. 9 <sup>th</sup> Ed
78	Therapeutic Exercise: Foundations & Tech.	Kisner. 3 <sup>rd</sup> Ed.
79	Physical rehabilitation: Assessment & Treatment	O'Sullivan. 4 <sup>th</sup> Ed
80	Joint Structure & Function	C.C.Norkin. 2 <sup>nd</sup> Ed
81	Physical Rehabilitation: Assessment & Treatment	O'Sullivan. 3 <sup>rd</sup> Ed.
82	Davidson's principles & practice of Medicine	Christopher E
83	API Textbook of Medicine	G.S.Sainani
84	Kinesiology- Scientific Basis of Human Motion	Katherine Wells. 6 <sup>th</sup> Ed
85	Therapeutic Exercise	J.V.Basmajian. 3 <sup>rd</sup> Ed
86	Clinical Orthopaedic Rehabilitation	S.Brent Brotzman. 2 <sup>nd</sup> Ed
87	Muscles Testing & Function	Kendall. 3 <sup>rd</sup> Ed
88	Biofeedback-Principles & Practice for Clinicians	J.V.Basmajian. 3 <sup>rd</sup> Ed
89	Therapeutic Exercise	J.V.Basmajian. 5 <sup>th</sup> Ed
90	William's & Lissner's Biomechanics of Human Motion	B.F.Leveau. 3 <sup>rd</sup> Ed
91	Krusen's Handbook of Physical Medicine & Rehabilitation	F.J.Kottke. J.F.Lehmann. 4 <sup>th</sup> Ed.
92	Quick Reference to Occupational Therapy	K.L.Reed
93	A Practical Approach to Post graduate Dissertation	R.Raveendran, B.Geetanjali
94	Physical Rehabilitation	O'Sullivan. 5 <sup>th</sup> Ed
95	Willard & Spackman's Occupational Therapy	H.L.Hopkins. 8 <sup>th</sup> Ed
96	Occupational Therapy for Physical Dysfunction	C.A.Trombley. 4 <sup>th</sup> Ed
97	Objective Evaluation of Impairment & Ability in Locomotor Handicapped.	Dr.S.Ramar
98	Occupational Therapy: Practical Skills for Physical Dysfunction	L.Pedretti. 4 <sup>th</sup> Ed
99	Measurement of Joint Motion: A Guide to Goniometry	C.C.Norkin. D.J.White. 2 <sup>nd</sup> Ed.
100	Therapeutic Exercise- Foundations & Techniques	C.Kisner, L.A.Colby
101	Muscle Testing – Technique of Manual Examination	Hislop & Montgomery

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102	Physical Rehabilitation: Assessment & Treatment	O'Sullivan. 4 <sup>th</sup> Ed.
103	Ergonomics for Therapists	Karen Jacobs
104	Occupational Therapy & Physical Dysfunction.	Ann Turner.5 <sup>th</sup> Ed
105	Physical Medicine & Rehabilitation- Vol I	Joel A. Delisa
106	Physical Medicine & Rehabilitation- Vol II	Joel A. Delisa
107	Occupational Therapy for Physical Dysfunction	C.A.Trombley.5 <sup>th</sup> Ed
108	Willard & Spackman's Occupational Therapy	E.Crepeau. 10 <sup>th</sup> Ed
109	Pedretti's Occupational Therapy	Heidi Pendleton. 6 <sup>th</sup> Ed
110	Willard & Spackman's Occupational Therapy	E.Crepeau, E.Cohn, BoytSchell. 11 <sup>th</sup> Edition
111	Electrotherapy Explained: Principles & Practice	Robertson, Ward etal, 4 <sup>th</sup> Ed
112	.Therapeutic Exercise: Foundations & Tech.	Kisner & Colby. 5 <sup>th</sup> Ed
113	Conceptual Foundations of Occupational Therapy Practice	Gary Keilhofner 4 <sup>th</sup> Ed
114	Essentials of Physical Medicine & Rehabilitation	Frontera, Silver & Rizzo.2 <sup>nd</sup> Ed
115	Grays' Anatomy	R.Warwick
116	Therapeutic modalities in rehabilitation	William Prentice
117	Cash's textbook of General Medical and Surgical conditions for physiotherapists	Patricia Davies
118	Physical Medicine & Rehabilitation	Byran Young
119	Disability Evaluation (Gazette)	Xerox
120	MCQs in Biomechanics & Occupational Therapy in Orthopaedic Conditions	P.Solanki
121	MCQs in Fundamentals of Occupational Therapy	P.Solanki
122	Exercise Physiology & Ergonomics	Asis Goswami
123	The Principles of Exercise Therapy	M.Dena Gardiner 4 <sup>th</sup> Ed
124	Yogic Exercises – Physiologic & Psychic Process	S.Dutta Ray
125	Therapeutic Exercise	Kisnar 6 <sup>th</sup> Ed
126	Medicine	G.Matthew P.Agarwal
127	Therapeutic Exercise	Kisnar 6 <sup>th</sup> Ed
128	Textbook of pathology	Harshmohan. 7 <sup>th</sup> Ed
129	Pathology-Quick review & MCQs	Harshmohan. 4 <sup>th</sup> ed



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130	Essentials of Biochemistry	Pankaja Naik 1 <sup>st</sup> Ed
131	Textbook of Microbiology	Ananthnarayan 9 <sup>th</sup> Ed
132	Mahajan's Methods in Biostatistics for medical students & Research workers	Arun Bhadra, Khanal. 8 <sup>th</sup> Ed
133	Research Methodology Simplified	M.Parikh, A.Hazra
134	Evidence Based Practice for Occupational Therapists	M Clare Taylor
135	The Rehabilitation Specialist's Handbook	Rothstein
136	Occupational Therapy for Physical Dysfunction	Trombley & Radomski. 6 <sup>th</sup> Ed.
137	Conditions in Occupational Therapy	Ben Atchinson, Diane Durette
138	Muscles- Testing & Function with Posture & Pain	Kendall. 5 <sup>th</sup> Ed
139	Willard & Spackman's Occupational Therapy	Barbara Boyt, Glen Gillen, Marjorie Scaffa. 12 <sup>th</sup> Ed
140	Pedretti's Occupational Therapy: Practice Skills for Physical Dysfunction	H.Pendleton, Winifred Schultz. 7 <sup>th</sup> Ed
141	Joint Structure & Function	C.Norkin, P.Levangie. 5 <sup>th</sup> ed
142	Foundations & techniques – therapeutic exercise	Kisner 3 <sup>rd</sup> ed
143	Models of Practice in occupational Therapy	Kathyleen Reed
144	Applied scientific Inquiry in the Health profession- An epistemological Orientation	A.C.Mosey

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145	Guide to exercises for Hemophilics	J.Kale
146	Occupational therapy :Foundations for Practice	R.Hagedorn
147	Occupational Therapy and physical Dysfunction	Ann Turner
148	Occupational Therapy for physical Dysfunction	Trombley 2 <sup>nd</sup> d

**CBR**

No	Name of the Book	Author
1	Park's Textbook of Preventive & Social Medicine	K.Park. 16 <sup>th</sup> Ed
2	Training in Rehabilitation Managemnt (CBRApproach)	Dr.B.D.Athani
3	Community Based Rehabilitation in DevelopedCountries.	
4	Key Multiple Choice Questions in CommunityMedicine	Radha Y. Aras
5	Community Based Rehabilitation	Malcom Peats
6	Disabled Village Children	David Werner. 1 <sup>st</sup> Ed (Xerox)
7	Community Practice in Occupational Therapy-A guide to serving community	Susan K. meyers
8	Low Cost Aids	Don Caston ( xeroxed )
9	Park's textbook of preventive & Socialmedicine	K.Park 23 <sup>rd</sup> Ed

**NEUROLOGY**

No.	Name of the book	Autho r
1	The Nervous System	W.F.Ganong
2	Movement Behaviour & Motor Learning	Bryant J Cratty. 3 <sup>rd</sup> Ed
3	Handbook of Minimal Brain Dysfunction-aCritical View	H.E.Rie, E.D.Rie
4	The Shoulder in Hemiplegia	Rene Calliet
5	Proprioceptive Neuromuscular Facilitation-Patterns & Techniques.	D.E.Voss, M.K.Ionta. 3 <sup>rd</sup> Ed
6	Occupational Therapy Approaches to Stroke	A.A.Wilcock. 1 <sup>st</sup> Ed

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7	Spinal Cord Injuries- Concepts & Management Approaches	L.E.Buchann. D.A. Nawaczenski
8	Adult Hemiplegia	B.Bobath
9	The Human Nervous System- Anatomical Viewpoint	M.L.Barr, J.A.Kiernan. 4 <sup>th</sup> Ed
10	The Quadraphonic Approach- Management of Postural & Cognitive Dysfunction	B.C.Abreu
11	Brain's Clinical Neurology.	R.Bannister. 6 <sup>th</sup> Ed
12	Bickerstaff's Neurological Examination in Clinical Practice	J.Spillane. 6 <sup>th</sup> Ed
13	The Mental Status Examination in Neurology	R.L.Strub, F.W.Black. 3 <sup>rd</sup> Ed
14	The Brain & Behavior- Assessing Cortical Dysfunction through Activities of Daily Living	Gudrun Arnadottir.
15	Adult Hemiplegia- Evaluation & Treatment	B.Bobath. 3 <sup>rd</sup> Ed
16	Rehabilitation of the Spine	C.Liebenson
17	CT Teaching Manual	Mathias Hofer
18	Neurological Examination	Fuller
19	Neurological Rehabilitation	Carr- Shephard
20	Physical Management in Neurological Rehabilitation	Maria Stokes
21	Neurology & Neurosurgery Illustrated	Lindsay
22	Neurology Secrets	Rolak
23	Textbook of Human Neuroanatomy	Inderbir Singh
24	Manual Examination & Treatment of spine & Extremities	Carolyn Wadsworth
25	Neurological Rehabilitation	D.A.Umphred. 3 <sup>rd</sup> Ed
26	Cash's Textbook of Neurology for Physiotherapists	Patricia Downie
27	Muscles Alive Their functions Revealed by Electromyography.	J.V.Basmajian. 5 <sup>th</sup> Ed
28	Neurological Rehabilitation	D.A.Umphred. 5 <sup>th</sup> Ed
29	Rehabilitation of Movement	J.Pitt Brooke, H.Reid
30	Motor Control- Translating Research into Clinical Practice	Anne Shumway- Cook. 3 <sup>rd</sup> Ed
31	Neurological Differential Diagnosis	Patten John. 2 <sup>nd</sup> Ed
32	Vestibular Rehabilitation	Susan J., Herdman
33	Functional Neurorehabilitation	Dolores , Bertoti
34	Steps to Follow: The Comprehensive Treatment of Patients with Hemiplegia	Patricia Davies. 2 <sup>nd</sup> Ed.



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35	Parkinsons' Disease & movement Disorder	T.N.Mehrotra, K.B.Bhattacharya
36	Steps to Follow: The Comprehensive Treatment of Patients with Hemiplegia	Patricia Davies. 2 <sup>nd</sup> Ed.
37	Right in the middle selective trunk activity intreatment of adult hemiplegia	Patricia Davies
38	Neurological Physiotherapy	Susan Edwards
39	MCQs for Physiotherapists in Neurology	K. Lakshmi Prabha
40	Dejong's The Neurologic Examination	William Campbell
41	Neurorehabilitation: a Multidisciplinary Approach	Dr.V.Jacob, Dr.H.Biju, Dr.A.Sharma
42	Adult Stroke Patient-A Manual for evaluation & treatment of perceptual & cognitive dysfunction	B.Zoltan. 2 <sup>nd</sup> Ed. (Xerox)
43	Stroke Rehabilitation(Xerox)	Glen Gillen. 3 <sup>rd</sup> ed
44	Neurological Rehabilitation	Darcy 6 <sup>th</sup> Ed
45	Brain clinical neurology	R.Bannister. 4 <sup>th</sup> Ed

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ORTHOPAEDICS

No	Name of the book	Author
1	Surgical Disorders of the Peripheral Nerves	Sir Herbert Seddon. 2 <sup>nd</sup> Ed.
2	Rehabilitation of Hand	C.B.Wynn Parry. 6 <sup>th</sup> Ed
3	Surgical Problems in the Aged	K.D.J.vowles
4	Rehabilitation of the Hand	J.M.Hunter
5	Atlas of Orthotics- Biomechanical Principles & Application	American Academy of Ortho. Surg.
6	Orthotics Etcetra	John B. Redford
7	Hand Splinting- Principles & Methods	E.E.Fess, K.S.Gettle
8	Rehabilitation of the Injured Knee	L.Y.Hunter, F.J.Funk`
9	Orthotics: Principles & Practice	G.K.Rose
10	Spinal Cord Injuries- Concepts & Management Approaches	L.E.Buchann. D.A. Nawaczenski
11	Clinical Mechanics of the Hand	Paul Brand
12	Amputation Surgery & Lower Limb Prosthetics	G.Murdoch, Donovan. 1 <sup>st</sup> Ed
13	Sports Injuries- Mechanism, Prevention & Treatment	R.C.Schneider
14	Rheumatoid Arthritis- Etiology, Diagnosis & Management	P.D.Utsinger, N.J.Zvaifler
15	Atlas of Orthotics	Xeroxed
16	Amputation & Prosthesis	M.Vitali, K.P.Robinson. 2 <sup>nd</sup> Ed
17	Psychology of Sport Injury	John Heil
18	Training for Sport & Activity-The Physiological Basis of the Conditioning Process	J.H.Wilmore, D.L.Costill. 3 <sup>rd</sup> Ed
19	The Hand- Vol-IV	R.Tubiana
20	Hand Pain & Impairment	R.Calliet. 3 <sup>rd</sup> Ed.
21	Basic Biomechanics of Musculoskeletal System	M.Nordin, V.H.Frankel. 2 <sup>nd</sup> Ed
22	Foundations of Physical Education, Exercises & Sport Science	W.C.Adams
23	Outline of Fractures	J.C.Adams. 9 <sup>th</sup> Ed
24	Outline of Orthopaedics	J.C.Adams. 10 <sup>th</sup> Ed.

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Atal Bihari Vajpayee Medical University, Lucknow, U.P.

25	Essential Orthopaedics.	J.Maheshwari. 1 <sup>st</sup> Ed
26	Orthopaedic Physical Therapy	R.A.Donatelli. 2 <sup>nd</sup> Ed
27	Low Back Pain Syndrome	R.Calliet. 4 <sup>th</sup> Ed
28	Hand Splinting- Principles of Design & Fabrication.	J.C.Wilton., T.A.Dival
29	Knee Pain & Disability	R.Calliet. 3 <sup>rd</sup> Ed
30	Foot & Ankle Pain	R.Calliet
31	Traction & Orthopaedic Appliances.	J.D.M.Stewart. J.P.Hallett
32	Essentials of Orthopaedic & Applied	J.Joshi. P.Kotwal
33	Treatment & Rehabilitation of Fractures.	S.Hoppenfield. V.L.Murthy
34	Amputation & Prosthetics-A CaseStudyApproach	Bella May. 2 <sup>nd</sup> Ed
35	Journal of Hand Therapy	April-June 2002
36	Manual Examination & Treatment of spine &Extremities	Carolyn Wadsworth
37	Musculoskeletal Anatomy & Human Movement	Golding
38	The Physiology of Joints-Vol-I- UL	Kapandji . 5 <sup>th</sup> Ed
39	The Physiology of Joints-Vol-II- LL	Kapandji . 5 <sup>th</sup> Ed
40	The Physiology of Joints-Vol-III- Trunk	Kapandji . 2 <sup>nd</sup> Ed
41	Orthopaedic Rehabilitation , Assessment &Enablement	J.C.Y.Leong, Jesse Jupiter
42	Cash's Textbook of Orthopaedics & Rheumatology for Physiotherapists	Patricia Downie
43	Clinical Orthopaedic Rehabilitation	S.Brent Brotzman. 1 <sup>st</sup> Ed
44	Rehabilitation of Hand	Hunter. 2 <sup>nd</sup> Ed
45	The Hand- Fundamentals of Therapy	J.B.Morrin
46	Clinical Orthopaedic Rehabilitation	S.Brent Brotzman. 2 <sup>nd</sup> Ed
47	Hand Splinting- Principles & Methods	E..Fess. C.A.Philips. 2 <sup>nd</sup> Ed.
48	Atlas of Limb Prosthetics-Surgical, Prosthetic & Rehabilitation Principles	J.H.Bowker, J.W.Micheal. 2 <sup>nd</sup> Ed
49	Hand Rehabilitation: A Practical Guide	G.L.Clarke, E.F.S.Wilgis
50	Orthopaedic Physical Assessment	.J.Magee. 2 <sup>nd</sup> Ed
51	Basic Biomechanics of the MusculoskeletalSystem	M.Nordin, V.H.Frankel. 2 <sup>nd</sup> Ed
52	Joint Structure & Function	C.C.Norkin . 4 <sup>th</sup> Ed
53	Introduction to Splinting- A Clinical Reasoning &Problem Solving Approach	Coppard & Lohman.(Xerox)
54	Rehabilitation of Hand & Upper Extremity.	Hunter. 5 <sup>th</sup> Ed. Vol-I
55	Rehabilitation of Hand & Upper Extremity.	Hunter. 5 <sup>th</sup> Ed. Vol-II
56	Orthotics in Rehabilitation	Pat Mckee.
57	Musculoskeletal Interventions: Techniques forTherapeutic Exercises.	M.Voight, B.Hoogenboom, W.Prentice



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Atal Bihari Vajpayee Medical University, Lucknow, U.P.

58	Textbook of Sports Medicine	Laila Das
59	Textbook of Orthopaedics	John Ebenezer 4 <sup>th</sup> Ed
60	Clinical Examination methods in Orthopaedics	John Ebenezer 2 <sup>nd</sup> Ed
61	Essentials of Orthopaedics	R.M. Shenoy
62	Neuromusculoskeletal Examination and assessment	Nicola Petty
63	Orthopaedic Physical Assessment	D Magee
64	Shoulder Pain	R.Calliet. 3 <sup>rd</sup> Ed
65	Neck & Arm Pain	R.Calliet. 3 <sup>rd</sup> Ed
66	Essential Orthopaedics	Maheshwari 5 <sup>th</sup> Ed
67	Clinical Sports Medicine	P.Brukner, K.Khan
68	Atlas of orthosis & Assisstive Devices(Xerox)	Goldberg
69	Outline of Orthopaedics	J.C.Adams 7 <sup>th</sup> Ed
70	Rehabilitation of hand	Hunter

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PAEDIATRICS

No	Name of the book	Author
1	Behaviour Therapy with Hyperactive & Learning Disabled Children	Benjamin Lahey
2	Handling the Young Cerebral Palsied Child at Home	N.R.Finnie. 2 <sup>nd</sup> Ed
3	A Therapists' Guide to Paediatric Assessment	L.K.Thomas,B.J.Hacker.1 <sup>st</sup> Ed
4	Sensory Integration- Theory & Practice	Anne Fisher, A.C.Bundy
5	Paediatric Occupational Therapy & Early Intervention	Jane Case- Smith. 2 <sup>nd</sup> Ed.
6	Journey to Empowerment- A Road Map for Special Children	Kavita Shanbag
7	Treatment of Cerebral Palsy & Motor Delay	Sophie Levitt. 3 <sup>rd</sup> Ed
8	The Development of the Infant & Young Child	R..S.Illingworth. 8 <sup>th</sup> Ed
9	Occupational Therapy for Children	P.N.Pratt, A.S.Allen. 2 <sup>nd</sup> Ed
10	Pediatric Occupational Therapy & Early Intervention	Jane Case- Smith. 2 <sup>nd</sup> Ed
11	Occupational Therapy for Children	Jane Case-Smith. 5 <sup>th</sup> Edition
12	The High Risk New Born	MKC Nair, Naveen Jain
13	Sensory Integration :Theory and Practice	Anita Bundy, Shelly Lane, Elizabeth M., 2 <sup>nd</sup> Edition
14	Hand Writing- Research & Resources- A guide to curriculum planning	
15	Sensory Integration & the child(Xerox)	Jean Ayres
16	Sensory Integration(Xerox)	A.Bundy. S.Lane. 2 <sup>nd</sup> Ed
17	Occupational Therapy for Children	Case-Smith, O'Brien- 6 <sup>th</sup> Ed
18	Physical Therapy for Children	Campbell4th Ed
19	Kinesiotaping in Paediatrics	Dr. Kenzo Kase. 2 <sup>nd</sup> Ed
20	Occupational therapy for children	Pat Nuse Allen Pratt. 2 <sup>nd</sup> ed

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**CARDIAC**

No	Name of the book	Author
1	Cardiac Rehabilitation- an Interdisciplinary Team Approach	S.J.Cornett, J.E.Watson
2	Stress Testing- Principles & Practice	M.H.Ellestad. 4 <sup>th</sup> Ed.
3	Essentials of Exercise Physiology	William McArdle. 2 <sup>nd</sup> Ed
4	Student Study Guide & workbook for Essentials of Exercise Physiology	V.Katch, F.Katch. 2 <sup>nd</sup> Ed
5	Concepts of Athletic Training	R.Pfeiffer, Brent Mangus
6	Cash's Textbook of Cardiovascular/Respiratory Physiotherapy	Mandy Smith, Val Ball
7	Health Fitness Instructor's Handbook	Edward Howley
8	Drugs for the Heart	Lionel Opie
9	Textbook of Work Physiology- Physiological Basis of Exercise	P.Astrand, K.Rodhal. 3 <sup>rd</sup> Ed
10	The Physiology of Training	Gregory Whyte
11	Exercise Physiology: Energy, Nutrition & Human Performance	McArdle, F.Katch, V.Katch. 6 <sup>th</sup> Edition
12	Cardiology Secrets	Glenn Levine

**LIST OF JOURNALS**

1] American Journal of Occupational Therapy

2] Archives of Physical Medicine &

Rehabilitation 3] Indian Journal of

Occupational Therapy

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4] International Journal of Therapy &

Rehabilitation5] Occupational Therapy

International

6] Indian journal of Physiotherapy & Occupational Therapy

### **LIST OF ONLINE JOURNALS**

1] Wiley, Lippincott online journals

2] BMJ JI. Collection (online)

29 Journals3] BMJ Case

Report

4] Acland Anatomy

Database, Video5]

Pediatric Care Online

(PCO)

**List of Occupational Therapy Equipment's required in Occupational Therapy OPD for commencement of BOT Course.**

### **LIST OF INSTRUMENTS & EQUIPMENTS** **BIO-MECHEMICAL UNIT**

S No	Name of equipment	NO OF EQUIPMENTS
1	Saw Machines (Fret's)	1
2	Nirmal Hand Exercise with	1

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	Pronation Supination Board (Multipurpose)	
3	Quads Chair	1
4	Medicine Balls	5
5	Sanding Unit	05 (Inclined ) & 03 Horizontal
6	Ankle Exerciser ( Foot Pump)	1
7	Spring Balance	1
8	Pedo Cycle	1
9	Tables	5
10	Chairs	5
11	Stools	4
12	Peg Board (Cylindrical)	01 (01Lane Missing)
13	Nut Bolt Frame	2
14	Couch	1
15	Alphabets	1
16	Rowing Machine	1
17	Round Peg Board	5
18	Size discrimination Peg Board	1
19	Shape discrimination Peg Board	1
20	Finger Ladder	1
21	Shoulder wheel	1
22	Depth Perception Board	5 ( Rods)

ADL UNIT

S No	Name of equipment	NO OF EQUIPMENTS
1	Wheel Chairs	02
2	Tables	02
3	Door Latch Frame Set	01
4	Nut Bolt Frame	01
5	Modified Spoons	06

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6	Small Spoons	01
7	Forks	03
8	Commode	02
9	Buttoning and Zippen Frame	05
10	Crutches	03 Sets & (01 Wooden)
11	Stool	01
12	Reacher	01
13	Canes	02
14	Walker	02
15	Adult Paraplegic walker	01
16	Rocker Knife	01
17	Elbow Crutches	02

PEDIATRIC UNIT

S No	Name of equipment	NO OF EQUIPMENTS
1	Bolster	01
2	Standing Frame	03
3	C.P Chair	02
4	Stools	01
5	Wooden Tripod Walker	01
6	Standing Frame Without Support	01
7	Mattress	03
8	Puttey	02
9	Table	01
10	Balance Board	01
11	Chair	06
12	Pinch Tree 24 Clothes Pins	01
13	Therapy ball	01 Spike

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14	Mirror	01
15	Wooden Peg Board	01
16	Circle Shape Board	01
17	Weight Cuffs	03
18	Puzzle	4-6 Pcs
19	Peg board	01 (3Missing)
20	Pyramid	01
21	Posting Challenge	01
22	Lacing Frame	01lace, 09 lace frame
23	Shoe Frame	01
24	Bead Shuttle	02
25	Auditory Box	01
26	Squeeze Ball	01
27	Sanding Wt. Cuff	02
28	Sand	01
29	Foam Blocks	04
30	Medicine Ball	02
31	Power Web	02
32	Walker	01
33	Scooter Board	01
34	Trampoline	01
35	Wedge	01
36	Prone Crawler	01
37	Chairs	02
38	Stool	01
39	Colour Plates	01
40	Wooden Bead Box ( 04 Sticks)	01

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SENSORY INTEGRATION UNIT

S No	Name of equipment	NO OF EQUIPMENTS
1	Trampoline	01
2	See-Saw	01
3	Ladder	02
4	Frame For Sand Activity	01
5	Mattress	08
6	Vestibular Board	1
7	T- Swing	1
8	Dolls	04 ( 02 new + 02 old)
9	Balls ( Soft)	04
10	Puzzles	4-6 (03Pcs)
11	Books	05
12	Pyramid with Rings	07
13	Baby hair Brush and Comb	01
14	Rattles	05
15	Tracking Fish	01
16	Bubble Bath	01
17	Clay	01
18	Cotton Balls	01
19	Tracing Paper	01
20	Small Box Different shapes and colors	01
21	Coordination Kit	01
22	Chair	02
23	Balloon Kit	01
24	Bolster	01
25	Bolster Swing	01
26	Platform Swing	01

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27	Tyre Swing	01
28	Scooter Board	01
29	Therapy Ball	02
30	Chairs	03
31	Gait Walker	01
32	Chair swing	01
33	Pulses Box	02
34	Lightings	03 Series
35	Rings Puzzle	1
36	Scotch Brite	1
37	Pillow	1
38	Table	01

BACK CARE UNIT

S No	Name of equipment	NO OF EQUIPMENTS
1	Dumbells	02
2	Weight Cuffs	03
3	Therabands	02
4	Resistance Tube	01
5	Spirometer	01
6	TENS	01
7	Hydrocollatar	01
8	Exercise Balls	02
9	Wobble Board	01
10	Exercise Wheel	01
11	Platy's Apparatus	01
12	Tables	02
13	Couch	01
14	Crape Bandage	02
15	Chairs	02
16	Percussion Hammer	01

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17	Ergo dynamic in cardiac care display board	01
18	Stools	03
19	Rods	02
20	Mat	01
21	Vibrator	01
22	US	01
23	X- Ray Machine	01

PHYSICAL AGENT MODALITIES UNIT

S No	Name of equipment	NO OF EQUIPMENTS
01	Interferential Therapy	01
02	Short Wave Diatherapy	01
03	Body Shaper	01
04	Cervical Traction	01

COPD

S No	Name of equipment	NO OF EQUIPMENTS
01	Magnetic Peg Board	01
02	Tissue Box	01
03	Medicine Balls	03
04	Exercise Gym Multipurpose	01
05	Mirror	01
06	Stair Climber	01
07	Foot Stepper	01
08	Mat	01 Blue
09	Mattress	01
10	Trunk Rotator	01
11	Chairs	03
12	Recumbent Cycle	01
13	Rehab Trainer	01
14	Table	01
15	Corner frame	01 (Vacant)

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**List of Equipment in standard lab**

SL	Items	Purpose
<b>1. OT for Physical Restoration</b>		
<b>Musculoskeletal &amp; Hand Section/Neurology Section</b>		
1.	Jamar Kit	Assessment
2.	J Tech (Tracker)	Assessment
3.	Micro Fret	Assessment
4.	Temperature Probe	Assessment
5.	Goniometer	Assessment
6.	Monofilaments	Assessment
7.	Purdue Peg Board	Assessment
8.	Crawford Small Part Dexterity Test	Assessment
9.	Jebson Hand Function Test	Assessment
10.	Bennet Hand Tool	Assessment
11.	O' connor Dexterity Test	Assessment
12.	Box and Block Test	Assessment
13.	Minnesota Dexterity Test	Assessment
14.	Volumeter	Assessment
15.	Finger Circumferentiometer	Assessment
16.	Deluxe Pedal Exercise	Treatment
17.	Transcutaneous Electrical Nerve Stimulator	Treatment
18.	2 Speed Massager	Treatment

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19.	Hitachi Magic Wand	Treatment
20.	Thumbciser	Assessment
21.	Magnetic Peg Board	Treatment
22.	Infra Red Temperature Scanner	Assessment
23.	Wrist Evaluation Kit	Assessment
24.	Splint Dynamometer	Assessment
25.	Dolorimeter	Assessment
26.	Wall Mounted Goniometer	Assessment
27.	Arthrodial Protractor	Assessment
28.	Vernier Caliper	Assessment
29.	Pneumatic Squeeze Dynamometer	Assessment
30.	Wessex Head Injury matrix	Assessment
31.	Weight Discriminator	Assessment
32.	Neuro Behavioral Functioning Inventory	Assessment
33.	Reaction Time Apparatus	Assessment
34.	Steadiness Tester	Assessment
35.	Stability Platform	Assessment
36.	Tremor Quantifier	Treatment
37.	Moberg Pickup Test	Assessment
38.	Tuning Fork Set	Assessment
39.	CPM Set	Intervention
40.	Paraffin Wax Bath-Tub	Intervention

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41.	Moist Heat Therapy Unit	Intervention
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**Cardio-Vascular & Respiratory Section If Any**

1.	Sthetoscope	Assessment
2.	BP Apparatus Manual	Assessment
3.	BP Apparatus Digital	Assessment

**II. Ergo Therapeutic section for Work Assessment and Work Hardening**

1.	Arm Ergometer	Assessment and Treatment
2.	Twelve Frame Nut And Bolt	Assessment and Treatment
3.	Pipe Assembly	Assessment and Treatment
4.	Posture Grid	Assessment and Treatment
5.	Spanner Set	Assessment and Treatment
6.	Screw Driver Set	Assessment and Treatment
7.	Hex Wrench Set	Assessment and

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		Treatment
8.	Work Hardening Set	Assessment and Intervention
9.	Precision Screw Drawer Set	Assessment and Intervention
10.	Spanner	Assessment and Intervention
11.	Screw Driver Set (Detachable)	Assessment and Intervention
12.	Stop Watch	Assessment and Intervention
13.	Fret Saw Machine (Cycle type)	Assessment and Intervention

DEMONSTRATION ROOM

S No	Name of equipment	NO OF EQUIPMENTS
01	Couch	01
02	Chair	02
03	Pillow	01
04	Table	01

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ORTHOSIS ROOM

S No	Name of equipment	NO OF EQUIPMENTS
1	Wire	01
2	Hammer	02
3	Aluminum Sheet	01
4	Rivet packet	01
5	Plier	04
6	Cotton Roll	01
7	Chart Paper	02
8	Stool	01
9	Chairs	02
10	Tables	02
11	Plastic Bowl	01
12	Crepe bandage	01
13	POP Pack	01
14	LS belt	01
15	Shoulder Stabilizer	01
16	Philadelphia collar	01
17	Knee hinge Brace	01
18	Wrist Support	01
19	Ulnar Deviator	01
20	Wrist Cock- UP	02
21	Functional Cock -UP	02
22	Dynamic Cock- UP	03
23	Thumb Support	01
24	Bouteinnere Splint	01
25	Knuckle Bender	01

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Furniture		
S.No.	Item	Quantity
1	Wooden Beds (High Height) with Mattress	10
2	Wooden Beds (Low Height) with Mattress	3
3	Wooden Stool (with seat)	13
4	Almirah (for equipment accessories)	1
5	Doctor's Table	1
6	Revolving Chair	1
7	Examination Bed (with Shelf)	1
8	X Ray Box	1
9	Patient's Waiting (Three Seater)	2
10	Wooden Movable Racks /Trolley	13
11	Step Stool	10

### SAMPLE QUESTION PAPER

Roll No:.....  
XXX

Paper code : BOT-

Bachelor of Occupational Therapy

Year (Main/Suppl.) Examination, 202\_

Paper Code- \_\_\_\_\_

Subject: \_\_\_\_\_

Time: 3 Hours

Maximum Marks: 80

Note: All questions are compulsory, attempt all questions in serial order

A. Long answer type :

3x10=30

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3.

B. Short answer type :

5x6=30

1.

2.

3.

4.

5.

C. Very short answer type:

10x2=20

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2.

3.

4.

5.

6.

7.

8.

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10.

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