The Tamil Nadu
Dr. M. G. R. Medical University
MADRAS

Regulations of the University

In exercise of the powers conferred by Section 44 of the Tamil Nadu Dr. M. G. R. Medical University, Madras, Act, 1987 (Tamil Nadu Act 37 of 1987), the Standing Academic Board of the Tamil Nadu Dr. M. G. R. Medical University, Madras hereby makes the following regulations :—

SHORT TITLE AND COMMENCEMENT :—

These regulations shall be called "THE REGULATIONS FOR THE BACHELOR OF OCCUPATIONAL THERAPY (B O.T.) DEGREE COURSE OF THE TAMIL NADU DR. M. G. R. MEDICAL UNIVERSITY, MADRAS".

They shall come into force from the academic year 1993-94 ssession onward except the regulation, relating to the eligibility criteria, which come into effect from 1992-93 session.

The regulations and Syllabus are subject to modification by the Standing Academic Board from time to time.

REGULATIONS

1. ELIGIBILITY

Candidates belonging to all categories for admission to the Bachelor of Occupational Therapy course should have passed at the qualifying examinations (Academic Stream) after a period of 12 years of study with the following subjects of Physics, Chemistry and Biology / Botany and Zoology.

2. AGE LIMIT FOR ADMISSION

A candidate should have completed the age of 17 years at the time of admission or would complete the age on or before 31st December of the year of admission to the B.O.T. degree course.

3. PHYSICAL FITNESS CERTIFICATE

Every candidate before admission to the course shall submit to the Principal of the Institution a certificate of medical fitness from an authorised medical officer that the candidate is physically fit to undergo the academic course and does not suffer from any disability or contagious diseases.

4. ELIGIBILITY CERTIFICATE

Candidates who have passed any qualifying examination other than the Higher Secondary Course Examination conducted by the Government of Tamil Nadu shall obtain an Eligibility Certificate from the University by remitting the prescribed fees along with the application form before seeking admission to any one of the affiliated institution.

5. REGISTRATION

A candidate admitted to the course in any of the affiliated colleges shall register with this University by remitting the prescribed fee along with the application form for registration duly filled in and forwarded to this University through the Head of the Institution within the stipulated date.

6. DURATION OF THE COURSE

The duration of certified study for the Bachelor of Occupational Course shall extend over a period of Three academic years comprising of 6 semester and six months of compulsory internship.

7. MEDIUM OF INSTRUCTIONS

English shall be the Medium of Instructions for all the subjects of study and for examinations of the Bachelor of Occupational Therapy Degree Course

8. CURRICULUM

The curriculum and the syllabi for the course shall be as prescribed by the Standing Academic Board from time to time.

9. COMMENCEMENT OF THE COURSE

The course shall commence from 1st July of the Academic year.

10. COMMENCEMENT OF EXAMINATIONS

April 15 / November 15th.

If the date of commencement of Examination falls on Saturdays, Sundays or declared Public Holidays, the examination shall begin on the next working day.

11. CUT - OFF DATES FOR ADMISSION TO EXAMINATIONS

a) The Candidates admitted during 1st July to 15th July of the Academic year shall be registered to take their first semester examination, (after fulfilment of the regulations) only in the month of November of the academic year.

b) The candidates admitted from 16th July to 30th November of the academic year shall be registered to takeup their first semester examination, (after fulfilment of the regulations) only in the month of April of the ensuing year.

c) Candidates admitted from December 1st to 31st March of the academic year shall be registered for the academic year of admission but they have to undergo the course to take up their first semester examination along with the subsequent year batch of students.

12. WORKING DAYS DURING A SEMESTER

Each semester shall consist of not less than 100 working days.

13. ATTENDANCE REQUIRED FOR ADMISSION TO EXAMINATIONS

a) No candidate shall be permitted to appear in any one of the parts of B. O. T. Degree Course unless he/she has attended the cou se in the subject for the prescribed period in an affiliated institution recognised by this University and produces the necessa·y certificate of study, attendance and satisfactory conduct from the Head of the institution.

b) A candidate is required to put in minimum 80% of attendance in both theory and practical separately in each subject before admission to the examination.

c) A candidate lacking in the prescribed attendance and progress in any one subject in theory and practical in the first appearance shall not be permitted for admission to the entire examinations

14. CONDONATION OF LACK OF ATTENDANCE

Condonation of shortage of attendance upto a maximum of 10% in the prescribed eligible attendance for admission to an examination rests with the discretionary powers of the Vice - Chancellor. A candidate lacking in attendance should submit an application in the prescribed form and remit the stipulated fee 15 days prior to the commencement of the theory examination.

Participation in NCC/NSS and other co-curricular acctivities representing the institution or University. (The Head of the Institution shall instruct the concerned officers in charge of the student activities in their institution to endore the leave).

15. INTERNAL ASSESSMENT MARKS

a) A minimum of three written examinations shall be conducted in each subject during a semester and the average marks of the three performances shall be taken into consideration for the award of sessional marks.

b) A minimum of two practical examinations shall be conducted in each subject (wherever practicals have been included in the curriculum) during a semester and an average of the two performances shall be taken into consideration for award of sessional marks

c) A failed candidate in any subject shall be provided an opportunity to improve his sessional marks by conducting a minimum of two examinations in theory and practicals separately.

d) If a falied candidate does not appear for any "Improvement Mark Examinations" in the failed subject(s) the internal marks awarded for the previous examination shall be carried over for his subsequent apperance(s).

e) The internal assesment marks shall be submitted to the University endorsed by the Head of the Institution 15 days prior to the commencement of the theory examinations

16. MARKS QUALIFYING FOR A PASS

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

a) 40% of marks in theory in the subjects where University examinations are conducted and aggregate of 50% marks in University theory examination and internal evaluation taken together in the subject.

b) 40% of marks in the University examinations and 50% marks in University theory, oral and internal evaluation marks taken together

c) 40% of marks in the University theory examination; 50% marks in University practical examinations and 50% aggregate in theory, practical and internal evaluation marks taken together.

17. EXEMPTION FROM RE-EXAMINATION IN A SUBJECT

Candidates who have failed in the examination but obtained pass marks in any subject shall be exempted from re-examination in that subject.

18. CARRY-OVER OF FAILED SUBJECTS

a. Candidates are permitted to carry-over the failed subject in first semester to second semester.

b. Candidates will be permitted to undergo study and training in third semester only after passing all the subject (s) in first and second semesters.

c. Candidates will be permitted to carry-over the failed subject (s) in the third semester to the fourth semester.

d. Candidates will be permitted to undergo study and training in fifth semester only after passing all the subject(s) of third semester.

e Candidates are permitted to carry-over of failed subject(s) of fourth semester to fifth semester.

f. Candidates will be permitted to undergo study and training in sixth semester only after passing all the subject (s) of fourth semester.

g. Candidates are permitted to carry-over of failed subject(s) of fifth semester to sixth semester.

19. REVIEW OF ANSWER PAPERS OF FAILED CANDIDATES

As per the regulations prescribed for review of answer papers by this university.

20. RE-ADMISSION AFTER BREAK OF STUDY

a. Candidates having a break of study of 5 years and above from the date of admission and more than two spells of break will not be generally considered for re-admission.

b. The five years period of break of study shall be calculated from the date of first admission of the candidate to the course for the subsequent spells of break of study.

c. Candidates having break of study shall be considered for re-admission provided that they are not subjected to any disciplinary action and no charges are pending or contemplated against them.

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

e. The candidates having a break of study upto 5 years shall apply for re-admission in the prescribed form and remitting the stipulated fee for condonation to the Academic Officer of this University. The candidates may be re-admitted in the correspondence course of study at the commencement of the session and shall undergo a minimum period of study of 3 (three) months and after fulfilment of the regulations of this University be admitted for the examination The candidates shall be granted exemption in the subjects they have already passed.

21. MIGRATION / TRANSFER OF CANDIDATES

a. Migration / Transfer of candidates from one recognised institution to another Institution of this University or from another University shall not generally be considered.

b. However, under extraordinary circumstances, the Vice-Chancellor shall have the powers to place any migration / transfer he deems fit in the Governing council and get its approval for grant of permission migration / transfer to candidates undergoing course of study in affiliated institutions of this University.

22. VACATION

The Heads of Institutions shall declare 6 (six) weeks vacation in an academic year to the students. The period(s) of vacation can be decided by the Head of the Institution.

23. COMPULSORY INTERNSHIP

Every candidate admitted to Bachelor of Occupational Therapy Degree Course shall undergo Six (6) months of compulsory internship in the institution he has studied after successful completion of the final examination.

24. AWARD OF DEGREE

The Degree shall be awarded by the University only after the completion of the compulsory Internship.

25. AUTHORITY FOR ISSUE OF INTERNSHIP COMPLETION CERTIFICATE

The Heads of Institutions shall issue a certificate of successful completion of internship to each candidate after satisfying that the candidate has completed the training programme and has acquired the skills to function independently.

26. AUTHORITY TO ISSUE TRANSCRIPT

The University shall be the Authority for issuing Transcript after remitting the prescribed fee of Rs. 100/- (Rupees One Hundred only)

27. SCHEME OF EXAMINATIONS

The scheme of examinations is as follows :

(Duration Hours :-Dur. Hrs.; Sessional Marks :-Sec. Mks.
University Marks :-Unv. Mks.)

	Dur Hrs	Sec Mks	Unv Mks
SEMESTER I			
Psychology & Sociology	3	50	100

SEMESTER II				
Anatomy	theory	3	50	100
	oral	—	—	50
Physiology	theory	3	50	100
	oral	—	—	50
SEMESTER III				
OT Basic Principles & Therapeutic activities	theory	3	50	100
	oral & practical	—	—	100
Gen. Med., Gen. Surg.,&Paeds.		3	50	100
SEMESTER IV				
Community Medicine		3	50	100
Health Psychology, Clinical Psychology & Psychiatry		3	50	100
SEMESTER V				
Clinical Orthopaedics & Neurology		3	50	100
Rehabilitation Medicine	theory	3	50	100
OT in Paediatrics	theory	3	50	100
	oral & practical	—	—	100
OT in Psychiatry	theory	3	50	100
	oral & practical	—	—	100
SEMESTER VI				
OT in Orthopaedics & Neurology	theory	3	50	100
	oral & practical	—	—	100

OT Organisation, Administration & work-study	theory	3	50	100
OT in Rehabilitation	theory	3	50	100
	oral & practical	—	—	100
Project		—	50	50

28. RECOMMENDED CLOCK HOURS OF INSTRUCTION FOR EACH SUBJECT :

Sociology	50
Psychology (Parts A & B)	90
Anatomy	200
Biomechanics & Applied Anatomy	80
Physiology	100
Applied Physiology	30
Basic Nursing & First Aid	40
General Medicine, General Surgery, Paeds., etc.	135
Pathology & Microbiology	50
Child Psychology	25
Psychiatry	35
Clinical Orthepaedics	55
Clinical Neurology	55
Clinical Cardio-Respiratory	55
Principles of Rehabilitation Medicine	55
Community Medicine	55
Basic Principles of OT	60
Therapeutic Activities (Sem. I to III)	720
OT in Paediatrics	50

OT in Ortho. & Neuro.	70
OT in Psychiatory	75
OT in Rehabilitation	60
OT in Admn., Organisation, & Workstudy	60
Project, Biostatistics & Research Methodology	200
Physical Education	45
Visits & Special Lectures	75
Clinicals (Semester III to VI)	1220
Clinicals (Internship)]	1150
Total Hours	3780
+	
Internship	1150

PROFORMA

Format for furnishing details of candidates in whose cases Condonation of shortage of attendance has been granted for appearing for THEORY EXAMINATIONS

Name of the College : .....

Academic Year for which Condonation has been granted for : .....

Sl. No.	Name of the Candidate (s)	Name of the Course and Branch	Total No of working days / hours for the year / Semester	Minimum No. of days required for attendance certificate (80%)	No. of days attended by the candidate	Actual shortage of attendance
1	2	3	4	5	6	7
1.						
2.						
3.						
4.						
5.						

1. Requested Condonation of attendance in respect of the above candidate / s as the shortage of attendance is within the Condonation limit.
2. The Demand Draft for Rs.....being the Condonation fee of shortage of attendance, drawn in favour of the Registrar, The Tamil Nadu Dr. M G.R. Medical University, Madras is / are enclosed.

Date :

Signature of the Principal with College Seal

Signature of the Head of the University Departments with seal

Place :

Note :

1. The fee prescribed for Condonation of shortage of attendance is Rs. 50/ - per student.
2. The forms should reach the University at least 15 days before the commencement of respective University Examinations.
3. A separate list (Three copies Degreewise) showing candidates who have not earned the required attendance and are not eligible for Condonation should also be sent at least 15 days before the commencement of Examinations.

SYLLABUS

The basic role of an occupational therapist may be identified as :

A. Patient care - this may include evaluation, treatment and or training. and communication of these aspects to the treatment team and the patient's family.

B. Organisation and administration of the occupationai therapy delivery system.

C. Personal and professional growth.

BEHAVIOURAL OBJECTIVES

A. PATIENT CARE

A newly qualified occupational therapist will be able to do the following :

1. EVALUATION :

a. Select and apply appropriate evaluation methods to identify areas of dysfunction - physical, intellectual & emotional.

b. Obtain appropriate background information on physical, psychological, social, functional and vocational aspects of clients referred for O.T.

c. Aid in early identification of impairment in infants exposed to high risk factors and early functional impairment of individuals in the community.

d. Conduct prevocational evaluation, as appropriate.

2. MANAGEMENT

a. Plan and carry out measures for preventing or diminishing the deforming or debilitating effects of impairment.

b. Plan and practise suitable treatment for improving physical and psychological functioning in daily life, in cooperation with appropriate team members.

c. From short term specific treatment objective related to the patient's condition and progress, and long term objectives for rehabilitation.

d. Take part in design, preparation and appropriate use of side appliances, adaptations for maximum functional independence.

e. Provide remedial training for children and adults with sensory perceptual and cognitive dysfunction.

f. Plan intervention within the local community for individuals and high risk children with early functional impairment.

g. Identify factors of potential risk in the community, and aim to prevent functional impairment.

3. COMMUNICATION

a. Communicate with patients and family members regarding treatment objectives and methods, to prepare both patients and their families for readjustment in the home and community.

b Communicate to the whole treatment team the functional problems and requirements of their clients, for treatment and rehabilitation planning.

c. Communicate and carry out appropriate training of village health workers ; to enable them to carry out specific treatment instructions, and be a liason with the occupational therapist regarding progress of patients referred to them.

B. ORGANISATION & ADMINISTRATION of the O. T. delivery system. A newly qualified occupational therapist will have knowledge of the principles of organizing and administering an occupational therapy facility, on which to develop the ability to :

1. EVALUATION

a. Use problem solving methods to identify the needs, and establish appropriate goals and objectives for the delivery of O T. in a particular setting.

b. Assess the cost effectiveness of the facility.

2. PLANNING

Design a cost effective programme of treatment or training, appropriate to the felt needs of the programme and to the principles of occupational therapy.

3. COMMUNICATION

Communicate the above plans or proposals to the appropriate authorites for approval and implementation.

4. ADMINISTRATION

a. Perform administrative tasks effectively for the running of the O.T. facility.

b. Demonstrate effective supervisory and leadership skills.

C. PERSONAL & PROFESSIONAL GROWTH

A newly qualified occupational therapist will be able to -

1. EVALUATION

Demonstrate maturity in self evaluation and assesment in order to develop professional behaviour and competence.

2. PLANNING

Formulate goals and objectives, for continuing education, growth and development. personally and in the profession.

3. RESEARCH

a. Formulate basic objectives, principles and methods, for carrying out appropriate research.

b. Identify useful subjects for research, and initiate, relevant discussion and planning with appropriate resource people.

c. Contribute to personal and professional growth by pursuing a particular area of interest which is effective and beneficial to the profession.

D. Ist YEAR (sem. I & II)

After completing the 1st year of study, BOT students will achieve the following objectives to a level of 75% accuracy. They will be able to :

1. Demonstrate a basic knowledge of Anatomy, Physiology, Psychology, Sociology, relevant First Aid & Nursing techniques.

2. Define, distinguish and identify the medical terms necessary for a basic understanding of physical mental and emotional impairment, and the conditions relating to these.

3. Demonstrate practical knowledge of therapeutic activities learnt in Semesters I & II.

4. Briefly outline aims and application of therapeutic activity.

5. Briefly outline the history, current scope and aims of O.T. relation to the medical / psychiatric rehabilitation team.

E. IInd YEAR (sem. III & IV)

After completing the 2nd year of study, BOT students will achieve the following objective to a level of 75% accuracy. They will be able to :-

1. Demonstrate functional anatomy and biomechanics with reference to the orthopaedic, neurological and paediatric conditions observed in clinical situations.

2. Identify and seclect appropriate O.T. media for patients treated in common clinical situations.

3. Differentiate psychiatric conditions, outline methods of evaluation used by psychiatric and clinical psychologists, and identify treatment approaches used.

4. Identify paediatric medical, neurological, orthopaedic and surgical conditions commonly referred for O.T., outline diagnostic procedures and identify appropriate treatment methods.

5. Identify the O.T. role, and select suitable O.T. approaches and methods for children's physical, mental and emotional illnesses or disabilities.

6. Outline social structure and groups; and problems identified with these in India; discuss health hazards and methods of health education and disease prevention in the community.

F. IIIrd YEAR (Sem. V & VI)

On completing the VI Semester, BOT students will be gained the ability to :

1. Acquire professional knowlege independently; and improve in application or practical treatment techniques and in appropriate use of activities as treatment media.

2. Gain the confidence, cooperation and respect of their patients, and react appropriately in all treatment situations.

3. Contribute usefully to the treatment team, discuss treatment goals and patient's achievements objectively. Measure / assess and record assessments and progress accurately.

4. Compare and discuss the different contributions of IBR and CBR programmes.

5. Apply appropriate treatment principles to plan and carry out functional treatment, deformity prevention, and rehabilitation measures, for clients with any type of physical, mental or emotional impairment or disability.

6. Outline principles and methods of organization of occupational therapy in different settings.

7. Demonstrate methods of administration used in occupational therapy departments.

8. Demonstrate the principles, of workstudy in relation to analysis of work situation, prevocational exploration and evaluation, and organization of sheltered work.

9. Identify a subject for research or case study, plan appropriate methodology for a research project, and demonstrate results and their significance.

ELEMENTARY SOCIOLOGY

Examination at the end of : I Semester Instruction hours : 50

COURSE DESCRIPTION

This course will introduce to the students the basic sociological concepts, principles and social process. Social Institutions (In relation to the individual, family and community) and the various social factors affecting the family in rural and urban communities in India will be studied.

COURSE OBJECTIVES

The objective of this course is that after 50 hours of lectures, demonstrations Practicals and clinics the student will be able to demonstrate an understanding of the role of sociocultural factors as determinants of health and behaviour in health and sickness. They will be able to relate this to therapeutic situations in the practice of physiotherapy and occupational therapy.

In addition the student will be able to fulfil with 75% accuracy (as measure by written, oral & practical internal evaluation) the following objectives of the course.

A. Understand the role of family and community in the development of human behaviour.

B. Develop a holistic outlook toward the structure of the society and community resources.

C. Identify the subtle influence of culture in the development of human personality, the role of beliefs and value as determinants of individual and group behaviour.

D. Understand the social and economic aspect of community that influence the health of the people.

E. Learn to assess the social problem and participate in social planning.

F. Identify social Institution and resources.

G. Understand the significance of social interaction in the process of rehabilitation.

H. Appreciate the role of therapist as a member of society, and the interdependence of individuals and society.

COURSE OUTLINE

A. INTRODUCTION

Definitions of sociology, Sociology as a science of society, uses of the study of sociology, application of knowledge of sociology in physiotherapy and occupational therapy.

B. SOCIOLOGY AND HEALTH

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 the health of the people.

C. SOCIALIZATION

Meaning of socialization, influence of social factors on personality, socialization in hospitals, socialization in the rehabilitation of patients.

D. SOCIAL GROUPS

Concept 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 settings.

E. FAMILY

Influence of family on human personality, discussion of changes in the functions of a family, influence of the family on the individual's health, family and nutrition, the effects of sickness on family, family and psychosomatic disease.

F. COMMUNITY

Concept of community, role of rural and urban communities in public health, role of community in determining beliefs, practices and home remedies in treatment.

G. CULTURE

Components of culture, impact of culture on human behaviour, Cultural meaning of sickness, Response of sickness & choice of treatment (role of culture as social consciousness in moulding the perception of reality), Culture induced symptoms and disease, Sub-culture of medical workers.

H. CASTE SYSTEM

Features of the modern caste system and its trends

I. SOCIAL CHANGE

Meaning of social change, Factors of social change, human adaption and social change, Social change and stress, Social change and deviance, Social change and health programmes. the role of social planning in the improvement of health and in rehabili tation.

J. SOCIAL CONTROL

Meaning of social control, role of norms, folkways, customs, morals, religion law and other means of social control in the regulation of human behaviour, Social deviance and disease.

K. SOCIAL PROBLEMS OF THE DISABLED

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

L. SOCIAL SECURITY

Social security and social legislation in relation to the disabled.

M. SOCIAL WORKER

The role of a medical social worker.

EVALUATION

BOOKS FOR REFERENCE

1. SACHDEVA, D. R. AND BHUSHAN. V. An Introduction to Sociology - Allahabad; Kitab Mahal Limited, 1974.

2. MADAN, G. R. Indian Social Problems, Vol. I Madras, Applied Publications, 1973.

Elementary General And Health Psychology

Part A General pschology

Examination at the end of : I Semester Instruction hours : 55

Part B—Health Psychology

Examination at the end of : IV Semester

Instruction hours : 35

COURSE DESCRIPTION

This course will enable the student to understand specific psychological factors and effects in physical illnesses and thus help them to have a holistic approach in their dealings with patients during admission, treatment, rehabilitation and discharge.

COURSE OBJECTIVES

The objective of this course is that after 90 hours of lectures, demonstrations, practicals and clinics the student will be able to recognize and help with the psychological factors involved in disability, pain, disfigurement, unconscious patients, chronic illnesses, death, bereavement and medical - surgical patients / conditions. They should also understand the elementary principles of behaviour for applying in the therapeutic environment.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical internal evaluation) the following objectives of the course.

1. Psychosocial assessment of patients in various developmental stages.

2. Explain the concept of stress and its relationship to health, sickness and one's profession.

3. Identify ego defence mechanisms and learn counselling techniques to help those in need.

4. Help them to understand the reasons of non-compliance among patients and improve compliance behaviour.

COURSE OUTLINE

The course will be divided into Parts A & B. Part A will be a pre-clinical subject devoted to the elementary principles of behaviour and will be examined separately at the end of the first semester. Part B will be taught as an applied subject after the student has been exposed to clinical work. There will be a separate examination in Part B for the B. O T. course students only.

PART A - GENERAL PSYCHOLOGY

A. DEFINITION OF PSYCHOLOGY

1. Definition of psychology, basic information in relation to following schools methods and branches.

a. Schools : Structuralism, functionalism, behaviourism psychoanalysis, gestalt psychology

b. Methods: Introspection, observation, inventory and experimental method.

c. Branches : General, child, social, abnormal, industrial, clinical, counselling, educational.

B. HEREDITY AND ENVIRONMENT

Twins, Relative importance of heredity and environment, their role in relation to physical characteristics, intelligence and personality, nature—nature controversy,

C. DEVELOPMENT AND GROWTH BEHAVIOUR

Infancy, childhood, adolescence, adulthood, middle age, old age.

D. INTELLIGENCE

Definitions : IQ, Mental Age, List of various intelligence tests - WAIS, WISC, Bhatia's performance test, Raven's Progressive Matrices test.

E. MOTIVATION

Definitions: motive, drive, incentive and reinforcement, Basic information about primary needs: hunger, thirst, sleep, elimination activity, air, avoidance of pain, attitude to sex.

Psychological needs: Information, security, self - esteem, competence, love and hope.

F. EMOTIONS

Definition, Differentiate from feelings, physiological changes of emotion, Role of RAS, hypothalamus, cerebral cortex, sympathetic nervous system, adrenal gland, heredity and emotion, Nature and control of anger, fear and anxiety.

G. PERSONALITY

1. Definition, List the components: Physical characteristics, character, abilities, temperament interest an attitudes.

2. Discuss briefly the role of heredity, nervous system, physical characteristics, abilities, family and culture on personality development.

3. Basic concepts of Freud: Unconscious, conscious, Id, ego and superego. List and define the oral, anal and phallic stages of personality department. List and define the 8 stages as proposed by Erickson, 4 concepts of learning as proposed by Dollard and Miller; drive, cue, response and reinforcement.

4. Personality assessment; interview, standardised, non-standardised. Exhaustive and stress interviews, List and define inventories BAI, CPI and MMPI. Projective tests: Rorschach, TAT and sentence completion test.

H. LEARNING

Definition. List the laws of learning as proposed by Thorndike. Types of learning: Briefly describe, classical conditioning, operant conditioning, insight, observation and Trial adn Error

type List the effective ways to learn: Massed Vs. Spaced, Wole Vs. Part, Recitation Vs. Reading, Serial Vs. Free recall, knowledge of results, Association, Organization, Mnemonic methods, Incidental Vs. Intentional learning, role of language.

I. THINKING

Definition, concepts, creativity, steps in creative thinking, list the traits of creative people, delusions.

J. FRUSTRATION

Definition, sources, solution Conflict; Approach - approach, avoidance - avoidance, and approach - avoidance, solution.

K. SENSATION, ATTENTION AND PERCEPTION

1. List the senses: Vision, Hearing, Olfactory, Gustatory and cutaneous sensation, movement, equilibrium and visceral sense. Define attention and list factors that determine attention: nature of stimulus intensity, colour, change, extensity, repetition, movement, size, curiosity, primary motives.

2. Define perception and list the principles of perception: Figure ground, constancy, similarity proximity, closure, continuity values and interests, past experience context, needs, moods, religion, sex and age, perceived susceptibility perceived seriousness, perceived benefits, and socioeconomic status.

3. Define illusion and hallucination.

4. List visual, auditory, cutaneous, gustatory and olfactory hallucination.

L. DEMOCRATIC AND AUTHORITARIAN LEADERSHIP

Qualities of leadership: Physical factors, intelligence, self-confidence, sociability, will and dominance. Define attitude. change of attitude by: Additional information, changes in group-affiliation, enforced modification by law and procedures that affect personality. (Psychotherapy, Counselling and religious conversion).

M. DEFENCE MECHANISMS OF THE EGO

Denial, rationalization, projection, reaction formation, identification, repression, emotional insulation, undoing, introjection, acting out, depersonalization.

PART B—HEALTH PSYCHOLOGY

A. PSYCHOLOGICAL REACTIONS OF A PATIENT

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, perpetual changes, confusion, disorientation, hallucinations, delusions, illusions, anger, hostility, loss of hope.

B. REACTIONS TO LOSS

Reactions to loss, death and bereavement: shock and disbelief, development of awareness, restitution, resolution. Stages of acceptance as proposed by Kubler-Ross.

C. STRESS

Physiological and psychological changes, Relation to health and sickness: Psychosomatics, professional stress, burnout.

D. COMMUNICATIONS

1. Types - verbal, non-verbal, elements in communication, barriers to good communication, developing effective communication, specific communication techniques.

2. Counselling: Definition, Aim, defferentiate from guidance, principles in counselling and personality qualities of counsellors.

E. COMPLIANCE

Nature, factors, contributing to non-compliance, improving compliance.

F. EMOTIONAL NEEDS

Emotional needs and psychological factors in relation to unconscious patients, handicapped patients, bed-ridden patients, chronic pain, spinal cord injury, paralysis, cerebral palsy, burns, amputations, disfigurement, head injury, degenerative disorders, parkinsonism, leprosy, incontinence and mental illness.

G. GERIATRIC PSYCHOLOGY

Specific psychological reations and needs of geriatric patients.

H. PAEDIATRIC PSYCHOLOGY

Specific psychological reactions and needs of paediatric patients.

I. BEHAVIOUR MODIFICATION

Application of various conditioning and learning principles to modify patient behaviour.

K. SUBSTANCE ABUSE

Psychological aspects of substance abuse : smoking, alcoholism and drug addiction

L. PERSONALITY STYLES

Different personality styles of patients.

EVALUATION

ANATOMY

Examination at the end of: II Semester Instruction hrs : 200

COURSE DESCRIPTION

The study of Anatomy will include identification of all gross anatomical structures. Particular emphasis will be placed on description of bones, joints, muscles, the brain, Cardio-pulmonary and nervous systems, as these are related to the application of physiotherapy and occupational therapy.

COURSE OBJECTIVES

The objective of this course is that after 200 hours of lectures, demonstrations, and practicals, the student will be able to demonstrate knowledge in human anatomy as is necessary for the study and practice of physiotherapy and occupational therapy.

In addition, the student will be able to fulfil with 75% accuracy (as measured written & oral internal evaluation) the following objectives of the course.

A. INTRODUCTION

1. Define Anatomy and mention its subdivisions.

2. Name regions, cavities and systems of the body.

3 Defines anatomical positions and anatomical terms.

B. CELL

1. Defines a cell.

2. Mentions the shape, size and parts of a cell.

3. Names and gives functions of organelles. Names inclusion bodies.

4. Defines chromosomes, genes.

5. Reviews mitosis and meiosis. Mentions the main events, but stages not necessary.

C. TISSUES

1. Classifies tissues.

2. Classifies and mentions the microscopic structure of types of tissues such as epithelial, connective, muscular and nervous tissues. Gives examples for each type of tissue.

D. CARDIO - VASCULAR SYSTEM

1. a. Comprehends the external and internal features of the structure of the heart and their implications.

   b. Mentions position of the heart.

   c. Identifies and names the chambers of the heart, surfaces and borders of the heart.

   d. Identifies the venae cavae, pulmonary trunk and aorta.

   e. Mentions the internal features of the chambers of the heart.

2. a. States the basic features of the blood supply & nervous supply of the heart.

   b. States the basic arrangement of the pericardium.

   c. Identifies the coronary arteries and coronary sinus.

   d. Names the parts of the conducting system of heart.

3. a. Mentions the position and general distribution of major arteries and major veins, and names their main branches.

   b. Names the types of arteries and veins; gives examples and idicates a basic microscopic structure of types of blood vessels.

E. LYMPHATIC SYSTEM

1. Comprehends the general and regional arrangements of the lymphatic system.

2. Names the lymphatic organs and mentions their location.
3. Illustrates the basic structural features of lymphatic vessels, lymphnodes, thymus, spleen and tonsils.
4. Assigns functional roles to the lymphatic system.
5. States the position and immediate relations of spleen.

F. RESPIRATORY SYSTEM

1. a. Lists the parts of the respiratory system.
   b. Comprehends the functional anatomy of the parts of the respiratory system.
   c. Mentions the basic features of innervation of bronchi and lungs.
2. a States the position extent and gross and microscopic structure of the parietal pleura.
   b. Comprehends the arrangements of pleura. Mentions the parts, and position of the parietal pleura.
   c. Names the recesses of pleura.
   d. Identifies the trachea and bronchi.
   e. Identifies the right lung and left lung.
   f. Names the components of the hilum of lung.
   g. Names the bronchopulmonary segments.
   h. Illustrates the main features of the microscopic structure of the lung.
   i. Identified the borders and surfaces of the lung on the specimen.

G. DIGESTIVE SYSTEM (n. b. no details are required)

1. a. Lists the parts of the digestive system.

b. Mentions the boundaries and features of the mouth.

c. Classifies teeth.

d. Mentions position, extent, subdivisions, communications, internal features and muscles of pharynx.

e. Names the tonsils and defines fauces.

f. Identifies internal features of the mouth and pharynx of the specimen.

2. a. States the position, course and extent of oesophagus.

b. Identifies oesophagus of the specimen.

c. States the basic nerve supply.

3. a. Mentions the position and gross structure of the stomach.

b. Identifies the stomach and its borders, the surfaces and subdivisions.

c. Enumerates the immediate relations of the stomach.

d. States the basic nerve supply of the stomach.

4. a. Names the subdivisions of the intestine and mentions their positions.

b. Mentions the differences between small and large intestine.

5. a. Names the arteries arising from the abdominal aorta. Names the organs supplied by these branches.

b. Is aware of the names and positions of the principal autonomic visceral nerve plexus in the abdomen and pelvis, and the organs supplied by them.

6. Mentions the position and gross features of the liver and biliary system.

7. Names the positions and subdivisions of the pancreas.

8. a. Names the major salivary glands.

   b. Idicate their positions.

   c Mentions the site of openings of their ducts.

H. GENITO - URINARY SYSTEM (n. b. no details are required)

1. a. Comprehends the basic functional implications and the basic structure of the kidney and ureter.

   b. Mentions the position, size and shape of kidney.

   c. Names the immediate relations of the kidney.

   d. Indicate the cortex, medulla, pyramids, sinus, calyces, and pelvis of ureter in a macro section of the kidney.

   e. Illustrates the structure of a nephron.

   f. Identifies the ureter and indicate the position of the ureter.

2. a. States the anatomy of the bladder and urethra.

   b. Mentions the positions, shape and size and surfaces of the bladder.

   c. Indicates the immediate relations of the bladder.

   d. Mentions the basic innervation of the bladder.

   e. Names and identifies the subdivisions of the male urethra.

   f. Mentions the position, extent and immediate relations of male urethra.

g. Locates and identifies the female urethra.

h. Mentions the position, extent and immediate relations of the female urethra.

i. Names the sphincters of the urethra.

3. a. Lists and locates the parts of the male reproductive system. States the anatomy and functional cosiderations of the testis, male accessory organs of reproduction and external organs.

b. Names the constituent structures of the spermatic cord.

c. Mentions the position of the inguinal canal.

d. Names the component structures and parts of the penis.

4. a. List and locates the parts of female reproductive system. States the anatomy and functional considerations of ovary, uterine tubes, uterus, vagina and female external genitalia.

b. Mentions the basic features of parts of the female external genitalia.

c. Enumerates the factors responsible for the maintenance of the position of the uterus and anatomy of its prolapse.

d. Mentions the position, extent and gross structure of the female breast.

5. Name the common, internal, and external iliac arteries.

1. NERVOUS SYSTEM

1. a. Defines the subdivisions of the nervous system. Defines central, peripheral and autonomic nervous systems and names their subdivisions.

Comprehends the position and form of the spinal cord, its structure and functions in terms of neuronal connections.

b. Indicates the position and extent of the spinal cord.

c. Illustrates the principal features shown in a transverse section of the spinal cord.

d. Specifies the basic features of a mono and multisynaptic spinal reflex pathway.

e. Illustrates the white and gray matter, and anterior, lateral and posterior columns of the spinal cord.

f. Mentions the origin, termination and position of important ascending and descending tracts, sites of crossing of fibres of these tracts, and function of each tract.

g. States the main consequences of spinal cord transection and hemi section, and explains the rationale of cordotomy.

h. indicates the blood supply and meninges of spinal cord.

2. a. Names the subdivision of the brain.
Identifies and mentions the external features of parts of the brain.

b. Mentions tne internal structure and basic features of parts of the brain stem and names the nuclei and fibre tracts with special emphasis on cranial nerve nuclei.

c. Identifies and mentions parts of the cerebellum.

d. Mentions the external features and internal structures of the cerebellum and names its various afferent and efferent fibres tracts and their termination.

e. Mentions the features of the gross components of the cerebrum.

f. Mentions and identifies fhe location of gyri, sulci, and cortical areas.

g. States and identifies association, commissural and projection fibres.

h. Defines and identifies components of forebrain, including cerebral cortex, insula, olfactory bulb, olfactory tract, uncus, fornix, basal ganglia, thalamus, hypothalamus, internal capsule, corpus callosum etc.

i. Predicts the rseults of damage to internal capsule.

j. Outlines sensory and motor pathways and is able to trace these pathways.

k. Names sensory and motor nerve endings with function.

l. Defines pyramidal motor system and names its tracts.

m. Defines upper and lower motor neurones

n. Names the parts and tracts of the extra - pyramidal system and indicate the functions.

3. Outlines the basic structures of sensory organs :- Nose, tongue, eye, ear, and skin.

4. Briefly outlines the nature and basis of muscle tone.

Mentions the anatomical pathways involved in the production and maintenance of muscle tone.

5. a. States the formation, circulation and drainage of CSF.

b. Locates and identifies the ventricles.

c. Identifies and names the meninges and space around and locates the cisterns.

d. Defines lumbar puncture and cisternal puncture.

e. States the features of the meninges.

f. Recognises the differences between extradural, subdural and subarachnoid haemorrage.

6. a. Outlines the arrangement of major blood vessels around the brain and spinal cord.

b. Mentions the arteries forming the Circle of Willis.

c. Name the branches of major arteries supplying the brain and spinal cord and mentions the parts of their supply.

d. Perdicts the result of blockage or rupture of central deep branches.

e. Predicts the result of occlusion of cerebral arteries.

f. Predicts the result of occulsion of vertibral or basilar arteries.

g. Identifies and mentions the connections of dural venous sinuses.

h. Names and identifies the parts of the limbic system. Mentions their function in emotion and behaviour.

7. a. Mentions the position and structure of the autonomic nervous system.

b. Mentions the sites of origin and termination of the preganglionic and postganglionic svmpathetic and parasympathetic fibres.

c Names and locates the sympathetic and parasympathetic ganglia.

d. Summarises the functional differences between the sympathetic and parasympathetic systems.

8 a. Enumerates the cranial nerves in serial order

b. Mentions the nuclei of origin & termination and indicates the site of attachment to brain / brain stem.

c. Explains the general distribution of the cranial nerves and the course of the VIIth nerve.

d. Predicts the result of injury to cranial nerves.

9. a. Anatomy or spinal cord—reveiw.

b. Names the groups of spinal nerves.

c. Explains the formation and branches of the spinal nerves and distribution of anterior and posterior rami.

d. Locates and names the plexuses of nerves.

e. Indicates and course and distribution of branches of the plexuses of the nerves.

J. ENDOCRINE SYSTEM

1. Lists the endocrine organs and mentions their position.

2. Mentions the hormones produced by each endocrine organ.

K. INTRODUCTION TO BONES (Oeteology)

1. a. Defines skeleton.

b. Mentions the subdivisions of the skeleton. Names the bones in each subdivision. Knows the number of bones in each subdivision and total number of bones.

c. Classifies the bones and gives examples.

d. Enumerates the common surface features of bones.

e. Defines ossification. Explains the types of ossification and gives examples. Defines ossification centre. Explains the growth of long bone in length and width.

f. Indicates blood supply and nerve supply of a bone.

2. When regional anatomy is taught :

a. Identifies, names and correctly orientates the bones.

b. Identifies surfaces, borders and all other surface features.

c. Marks and indicates the muscular and ligamentous attachments on the bone.

L. INTRODUCTION TO JOINTS (Syndesmology/Arthrology)

1. a. Defines a joint or articulation.

b. Classifies the joints and gives examples for each type. Defines each type of joint.

c. Mentions the basic features of a synovial joint.

d. Defines the axis and movements possible in a synovial joint.

e. Defines range of movement and limiting factors.

f. Indicates the blood supply and nerve supply in general.

g. Defines stability of a joint.

h. Demonstrates common movements.

2. When regional anatomy is taught :-

a. Mentions the type, the articular surfaces, ligaments, movements axes of movements. chief muscles producing the movements, limiting factors and nerve supply and blood supply of all individual joints.

b. Mentions the factors for stability.

c. Articulates the bones correctly.

d. Indicate applied anatomy for all joints.

M. INTRODUCTION TO MUSCLES (SKELETAL MUSCLE) (Myology)

1. a. Defines a skeletal muscle.

b. Defines faciae, tendon, aponeurosis.

c. Classifies the skeletal muscles by shape etc, and gives examples.

d. Defines origin, insertion, muscle work (contractions), types of muscle work, range of muscle work, group actions - protagonists, antagonists, synergists and fixators; shunt and spurt muscles; types of levers with examples

2. When the regional anatomy is taught:

a. Mentions the position, origin, insertion, nerve supply and actions of the skeletal muscles. (for the skeletal muscles of soft palate, pharynx and larynx, position, action and nerve supply may be sufficient).

b. Indicates groups of muscles by position and action, group action and nerve supply of groups of muscles.

c. Indicates segmental innervation of muscles.

d. Predicts the result of paralysis of individual and groups of muscles.

N. UPPER EXTREMITY

1. Pectoral region:

a. Outlines the features of the pectoral region.

b. Names, identifies and correctly orientates the sternum, clavicle, scapula and humerus.

c. Outlines the main features of the bones of shoulder girdle.

d. Identifies the parts, borders and surfaces of sternum. Mentions its other features.

e. Identifies the ends, surfaces, curvatures and other features of clavicle.

f Identifies the borders, angles, surfaces, processes fossae and other features of scapula.

g. Identifies the ends, head, greater and lesser tubercles and anatomical and surgical necks of humerus; also the capitulum, trochlea, and radial, coronoid and olecranon fossae and epicondyles.

h. Locates and identifies the muscles of pectoral region. Mentions their origin, insertion, nerve supply and action.

2. Scapular region :

a. Comprehends the main features of the muscles in the scapular region.

b. States the layered arrangements of the muscles of the back.

c. Names and identifies the muscles of the scapular region. Mentions their origin, insertion, nerve supply and actions.

d. Demonstrates the bony land marks of scapula, humerus and clavicle.

3. Axilla :

a. Mentions and identifies the boundaries and contents of axilla. Names the branches of axillary artery. Names and identifies the cords and branches of brachial plexus and mentions their root value.

b. Illustrates the formation of brachial plexus.

4. Shoulder girdle :

a. Comprehends and applies to function the main features of joints of the shoulder girdle.

b. Names the joints of shoulder girdle. Identifies the articular surfaces and names the ligaments and movements of sternoclavicular and acromioclavicular joints.

Mentions the types of the joints.

c. Demonstrates and names the movements of scapula. Mentions the chief muscles producing these movements.

Correlates movements of scapula.

d. Assigns functional roles to the articular disc and costoclavicular ligament of sternoclavicular joint and coracoclavicular ligament.

5. Shoulder joint :

a. Mentions the type, articular surfaces and ligaments of the shoulder joint.

b. Defines and demonstrates the movements of shoulder joint.

c. Names and identifies the chief muscles producing these movements. Analyses these movements and mentions limiting factors.

d. Mentions the blood supply and nerve supply of this joint.

e. Analyses the association of movements of scapula and movements of the shoulder joints.

f. Mentions the limiting factors and the factors for its stability. Indicates applied anatomy.

6. Upper arm :

   a. Names and identifies the muscles at the front and back of the upper arm.

   b. Names and identifies the ends, borders, surfaces and features of the humerus. Identifies the head, anatomical neck, tubercles, surgical neck, bicipital groove, condyle, capitulum, trochlea epicondyles, radial, coronoid and olecranon fossae.

   c. Mentions the origin, insertion, nerve supply and actions of the muscles of the front and back of the upper arm.

   d. Indicates the course, relations and distribution of radial and musculo - cutaneous nerves.

7. Elbow joint :

   a. Mentions the type, articular surfaces and ligaments of elbow joint.

   b. Defines and demonstrates the movements possible and names the chief muscles producing these movements.

   c. Mentions the factors for stability and limiting factors.

   d. Indicates the applied anatomy.

   e. Mentions the blood supply and nerve supply.

   f. Explains the carrying angle.

8. Forearm, wrist and hand :

   a. Mentions the bones of forearm, Identifies the ends, borders, surfaces and features of radius and ulna.

   b. Identifies the head, neck, tuberosity and styloid process of radius. Identifies the coronoid process, olecranon process, trochlear notch, tuberosity, head and styloid process of ulna. Also the radial notch of ulna and ulnar notch of radius.

c. Names and identifies the carpal bones, metacarpal bones and phalanges in an articulated hand.

d. Identifies the muscles of front and back of the foream.

e. Mentions the position, origin, insertion, nerve supply and action of these mucles.

f. Indicates the course, relations and distribution of median, ulnar and radial nerves.

g. Mentions the type, articular surface and ligaments of radioulnar joints. Defines the movements of supination and pronation. Mentions the axis and muscles producing these movements. Analyses these movements and applies to functional role in routine day to day actions.

h. Mentions the position and distribution of ulnar and radial arteries and ulnar, median and radial nerves.

i. Names and locates the carpal bones Mentions the type, articular surface and ligaments of wrist joint.

Defines and demonstrates the movements and mentions the muscles producing them. Mentions its blood supply and nerve supply.

Mentions the visible tendons around the wrist and their synovial sheaths.

j. Predicts the result of paralysis of muscles of the forearm.

k. Mentions the functional implications of prehension in the structure of hand.

l. Indicates the arrangement of tendons of the digits, retinaculae, fibrous flexor sheaths, and synovial sheaths.

m. Evaluates the hinge type of interphalangeal joints, ellipsoid type of metacarpophalangeal joints and saddle type of carpometacarpal joint.

n. Names and identifies the small muscles of the hand. Mentions their position, origin, insertion, nerve supply and action.

o. Mentions the types of bones forming and ligaments of the joints of the hand. Defines the movement and the muscles producing these movements. Predicts the results of paralysis of the small muscles of hand.

p. Demonstrates the types of grip.

9. Nerves of upper limb :

a. Comprehends and applies the knowledge of position and distribution of nerves of upper limb.

b. Mentions the root value of the nerves.

c. Identifies the nerves and mentions the position course, relations and distribution of nerves of upper limb.

d. Predicts the result of injury to these nerves.

10. Blood Vessels of upper limb :

a. Comprehends and applies the knowledge of the position and distribution of blood vessels and lymph nodes.

b. Traces the main arteries and veins.

c. Indicates their position and names the main branches of tributaries.

d. Names and locates the lymph nodes.

11. Cutaneous Nerves of upper limb :

a. Names the cutaneous nerves and illustrates the areas of their distribution.

b. Illustrates the dermatomes.

O. LOWER EXTREMITY

1. a. Names, identifies and orientates hip bone, femur, tibia, fibula and patella.

   b. Identifies the components and features of hip bones. Identifies the ends, borders, surfaces, head, neck, trochanters, condyles and epicondyles of femur and the features of the tibia and fibula.

   c. Identifies and mentions the origin, insertion, nerve supply and action of the muscles in the front of thigh.

   d. Mentions the boundaries and contents of femoral triangle and subsartorial canal.

   e. Indicates the position, course and distribution of femoral nerve.

   f. Indicates the course and main branches of femoral artery and mentions the blood supply of neck of femur.

   g. Indicates the position of femoral vein.

2. Medical side of thigh :

   a. Names and identifies the muscles of the medical side of thigh. Mentions their origin, insertion, nerve supply and action.

   b. Indicates the course, relations and distribution of obturator nerve.

3. Back of thigh :

   a. Identifies and mentions the position, origin, insertion, nerve supply and action of the hamstring muscles.

   b. Indicates the position, course, relation and distribution of sciatic nerve.

4. Gluteal region :

   a. Identifies and mentions the position, origin, insertion, nerve supply and action of the muscles.

   b. Names and mentions the position and course of the nerves found there and names the arteries there.

5. Hip joints :

   a. Mentions the type, articular surface and ligaments.

   b. Defines the movements and names the chief muscles producing the movements.

   c. Mentions the blood supply, nerve supply, factor for stability and limiting factors.

   d. Indicates applied anatomy.

6. Knee joint :

   a. Mentions the type, articular surfaces, and ligaments.

   b. Defines the movements and names and chief muscles for the movements.

   c. Analyses the movements.

   d. Knows the blood supply and nerve supply.

   e. Indicates applied anatomy.

   f. Defines locking and unlocking of the joint.

7. Popliteal fossa ;

   a. Indicates the boundaries and contents.

   b. Mentions the position and branches of tibial and common peroneal nerves.

8. Front of leg and dorsum of foot :

   a. Names and identifies the tarsal bones, metatarsal bones and phalanges in an articulated foot.

b. Names and identifies the muscles

c. Mentions the positions, origin, insertion, nerve supply and action of the muscles.

d. Position and distribution of deep peroneal nerve.

e. Indicates the position and attachments of extensor retinaculae.

f. Mentions and identifies the features of the tibia and fibula.

9. Lateral Side of leg :

a. Names and identifies the muscles.

b. Mentions the position, orgin, insertion, never supply and action of muscles.

c. States the position, course and distribution of superficial peroneal nerve.

d. States the position and attachment of peroneal retinacula.

10. Back of leg and sole of foot :

a. Name and identifies the features of the bones of the foot.

b. Names and identifies the muscles of back of leg.

c. Mentions the position, arrangement, origin, insertion, nerve supply and action of the muscles.

d States the position, course and distribution of tibial artery.

e. States the position, and distribution of posterior tibial artery.

f. Mentions the position, and attachment of flexor retinaculum.

g. Mentions the arrangement, origin, insertion, nerve supply and action of muscles of the foot.

h. Indicates the types of formation, and factors for the maintenance of the arches of foot.

i. Mentions the type, articular surface, ligaments, movements chief muscles for the movement. axes of movements and applied anatomy of tibiofibular joints, ankle joints, subtalar joints, M.P. joints and I.P. joints.

j. Palpates and identifies the tendons around the ankle and dorsum of foot.

11. Nerves :

a. Indicates the position, formation and branches of lumbar and sacral plexuses.

b. Mentions the root value of the nerves.

c. Mentions the position, course, relation and distribution of the nerves.

d. Predicts the result of injury to the nerves.

e. Illustrates cutaneous innervation of dermatomes.

12. Blood Vessels :

a. Indicates the position of arteries and their main branches.

b. Indicates the position of veins and their main tributaries.

c. Indicates the position of lymph nodes.

P. TRUNK - THORAX - ABDOMEN

Vertebral Column :

1 States the basic osteology of vertebral column.

2. Identifies the parts of a typical vertebra. Identifies and states the main features of typical vertebra of each group of vertebrae. Identifies a typical vertebrae.

3. States the form, structure and movements of joints of vertebral column. Mentions the movements and the muscles producing them.

4. Identifies the intervertebral disc and mentions its parts

5. States the formation and ligaments of the intervertebal joints.

6. Names and identifies the curvatures of the vertebral column and indicate deformities.

7. States the contents of vertebral canal.

THORAX :

1. a. States the main features of the bones and joints of thoracic cage. Mentions the boundaries.

   b. States the parts and features of sternum.

   c Defines true, false and floating ribs. Mentions the parts and features of typical ribs. Knows the main features of a typical rib.

   d. Mentions the type and formation of the joints between rib and vertebrae, between costal cartilage and sternum, and between costal cartilages.

   e. Mentions the type and formation of joints between parts of sternum. Indicates the importance of sternal angle.

f. Analyses pump handle and bucket handle movements of ribs.

g. Palpates bony land marks such as jugular notch, sternal angle, xiphisternum and spines of thoracic vertebrae.

2. a. Defines intercostal space and lists the contents.

Mentions the course and branches of typical intercostal nerve. Names the muscles of thorax. Mentions the origin insertion, nerve supply and action of intercostal muscles and diaphragm.

b. Names the structures passing through the diaphragm and mentions the orifices in the diaphragm.

3. a. Defines the boundaries, and subdivisions of the mediastinum and lists the contents. Identifies the contents.

b. States the features of thoracic parts of sympathetic trunk.

Abdomen :

1. a. Mentions the main features of lumbar vertebrae, sacrum and coccyx.

b. Mentions the formation and subdivisions of the bony pelvis. Lists the features of the female bony pelvis and their roles.

c. Mentions the type, articular surfaces, ligaments and movements of the joints of pelvis.

2 a. Defines abdominal cavity.

b. Lists the layers of anterior abdominal wall. Names and mentions the origin, insertion, nerve supply and action of the muscles, and the features of these muscles.

c. Explains the formation of rectus sheath and lists its contents.

d. Defines inguinal canal and knows its position, extent, formation and contents. Indicates its clinical importance. Defines inguinal hernia.

e. Names and identifies the muscles of posterior abdominal wall. Gives their origin, insertion, and action. Lis's the organs on the posterior abdominal wall. Names the blood vessels on the posterior wall.

f. Mentions the position and formation of lumbar plexus. Names its branches.

g. States the anatomy of lumbar region. Understands the disposition of muscles of the back in layers. Mentions the arrangement of lumbar fascia. Identifies the muscles in lumbar region. Understands the lumbar routs to abdomen. Identifies and mentions the attachments and actions of the large muscles of back. (at least the ones ending capitis).

h. Distinguishes abdominal cavity and peritoneal cavity.

i. Mentions the features of lumbar part of sympathetic trunk and other sympathetic ganglia.

j. Mentions the branches and distribution of the abdominal aorta and iliac arteries.

k. States the Inferior vena cava and iliac veins and mentions their tributaries.

G. PELVIS

1. States the main features of subdivision, boundaries, walls and floor of pelvis.

2. Mentions the features of the public symphysis and sacroiliac joints.

3 Distinguishes and mentions the major differences between the male and female pelvis.

4. Identifies the muscles of the pelvic floor and mentions their attachments, actions and nerve supply.

6. Mentions the structure of the urogenital diaphragm.

R. HEAD AND NECK

Musculo skeletal and neurovascular features. Identifies the anterior and posterior triangles of neck. Names the subdivisions. Lists the contents.

1. a. States the main features of the skull and the facial skeleton.

   b. Identifies the large skull bones and their parts.

   c. Identifies the cranial fossae and hypophyseal fossa.

   d. Identifies the internal and external auditory meatuses, foream magnum and stylomastoid forearm and names the main structures passing through them.

   e Identifies and names the main muscles of the face. Mentions their nerve supply and action.

   f. Predicts the results of paralysis to the facial muscles and sequel of injury to the facial nerve. (VII nerve)

   g. Maps the cutaneous distribution of the three divisions of the trigeminal (Vth) nerve on the face.

2. a. Identifies the general feature of a typical cervical vertebra, atlas, axis and seventh cervical vertebra.

   b. Identifies the erector spinae, sternomastoid and scalene muscles geniohyoid. Mentions their attachments, actions and nerve supply.

   c. Identifies the phrenic, accessory and vagus nerves. Mentions their distribution.

d. Identifies and states the position, distribution and root values of the nerves of cervical anp brachial plexuses.

e. Demonstrates the action of sternomastoid.

f. Mentions the type, articular surfaces, ligaments, movements, and muscles producing these movements, at the atlanto - occipital and atlanto - axial joints. Demonstrates these movements and the movements of the cervical part of vertebral column.

3. a. Identifies the subclavian, vertebral and cartoid arteries. Mentions the position and extent of these arteries.

b. Identifies the components of the Circle of Willis. Mentions the distribution of internal and external carotid and vertebral arteries. Predicts the sequelae of occulsion of these arteries.

c. Identifies the internal jugular and subclavian veins. Mentions their position, formation and termination.

4. a. States the basic organization of the autonomic nervous system.

b. States the sites of craniosacral and thoracolumbar outflows.

c. Defines the modes of distribution of pre and postganglionic efferent neurones in sympathetic and para sympathetic nervous system.

d. Names the cranial nerves containing para sympathetic fibres and mentions their distribution.

e. Distinguishes between sympathetic and para sympathetic systems in relation to their functions.

Eye :

1. States the position of the lacrimal apparatus, the functional implications of structure of the eye and the lacrimal apparatus.

2. Names and illustrates the coats, their subdivisions, the refractive media, the chambers of the eye and the optic nerve.

3. Mentions the structure of retina and optic pathway.

4 Has a basic understanding of the light and accomodation reflex. (omitting the pathway).

5. Mentions the distribution of the three divisions of trigeminal (Vth) nerve.

6. Names and states the nerve supply and simple actions of the extraoccular muscles.

7. Predicts the results of lesions of 3rd, 4th and 6th cranial nerves.

Nose :

1. Names the bony components of the nose.

2. Mentions the parts and boundaries of the nose.

3. States the main features of the nasal cavity.

4. Names and identifies the para nasal air sinuses and locates their openings.

Temporomandibular joint :

1. States the type, articular surface, ligaments, possible movements, muscles performing the movements and nerve supply of the temporomandibular joint.

2. Palpates and identifies the joint and its articular surfaces.

3. Identifies and names the muscles of mastication. Mentions their actions and nerve supply.

Mouth :

1. States the main features of the mouth cavity tongue, Palate, salivary glands, teeth and gums.

2. Mentions the sensory and motor innervation of the tongue.

3. Identifies the salivary glands.

4. Demonstrates movements of the tongue and palate.

5. Tests and produces the swallowing (gag) reflex.

6. Predicts the sequelae of lesions of the VIIth and XIIth cranial nerves.

Pharynx :

1. States the position and extent of the pharynx.

2 States the three subdivisions and the features of each subdivision

3. Names the muscles of pharynx and their action

4. Mentions the sensory and motor innervation of the pharynx.

Larynx and trachea :

1. Identifies the hyoid and states its parts

2. Identifies the larynx and names the laryngeal cartilages.

3. States the boundaries of laryngeal inlet and glottis.

4. Identifies the vocal and vestibular folds.

5. States the movements of the laryngeal certilages. Names the laryngeal muscles and mentions their attachments, action and nerve supply.

6. Defines the position, extent and gross structure of the trachea.

7. States the mechanics of phonation and speech, production of sound voice and speech.

Ear :

1. States the basic structural plan of the organs of hearing and equilibrium.

2. Mentions the three subdivisions of the ear.

3. Mentions the nerve endings for hearing and equilibrium.

Cranial nerves :

1. Enumerates the cranial nerves in serial order.

2. Relates and interprets the number to the names.

3 Indicates the nuclei of origin of termination.

4. Mentions the attachments to the brain and the cranial exit.

5. States the sensory and motor distribution.

6. States the position and course of VII nerve.

7. Predicts the sequel of lesion.

EVALUATION

Applied Anatomy & Biomechanics

Examination at the end of : IV Semester

Instruction hours : 80

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 musculo-skeletal function and dysfunction.

COURSE OBJECTIVES

The objectives of this course is that after 80 hours of lectures, demonstrations and practicals the student will be able to demonstrate an understanding of the principles of Biomechanics and Kinesiology and their application in health and disease.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written & oral evaluation) the following objectives of the course.

COURSE OUTLINE

A. MECHANICS

1. Describe types of motion, planes of motion, direction of motion and quantity of motion.

2. Define forces, force vectors, components of forces.

3. Describe gravity, segmental centres of gravity, center of gravity of the human body, stability and center of gravity, relocation of the centre of gravity.

4. Describe Reaction forces, Newton's Law of Reaction.

5. Describe equilibrium - Law of inertia and Establishing equilibrium of an object.

6. Describe objects in motion; Law of Acceleration, Joint distraction in a linear force system and Force of friction.

7. Describe concurrent Force Systems: Composition of forces, Muscle Action Lines, Total muscle force vector, Divergent muscle pulls, Anatomic pulleys.

8. Describe parallel Force Systems :- First class levers second class levers - Third class levers - Torque - Mechanical Advantage.

9. Define moment Arm: Moment Arm of a muscle force, Moment arm of gravity and Anatomic pulleys.

10. Describe equilibrium of a lever.

DESCRIBE THE FOLLOWING :

1. Three types of motion.

2. The plane in which a given joint motion occurs, and the axis around which the motion occurs.

3. The location of the centre of gravity of a solid object, the location of the centre of gravity of a segmental object, the location of the centre of the gravity of the human body.

4. The action line of a single muscle.

5 The name, point of application, direction, and magnitude of any interforce, given its reaction force.

6. A liner force system, a concurrent force system, a parallel force system.

7. The relationship between torque, moment arm and rotatory force component.

8. Two methods of determining torque for the same given set of forces.

9. How anatomic pulleys may change action line, moment arm, and torque of muscles passing through them.

10. In general terms, the point in the joint range of motion at which a muscle acting over that joint is biomechanically most efficient.

11. How external forces can be manipulated to maximise torque.

12. Friction, its relationship to contacting surfaces and to the applied forces.

DETERMINE THE FOLLOWING :

1. The identity (name) of diagrammed forces on an object.

2. The new centre of gravity of an object when segments are rearranged, given the original centres of gravity.

3. The resultant vector in a linear force system, a concurrent force system, and a parallel force system.

4. If a given object is in linear and rotational equilibrium.

5. The magnitude and direction on of acceleration of an object not in equilibrium.

6. Which forces are joint distraction forces and which are joint compression forces. What are the equilibrium force for each ?

7. The magnitude and direction of friction in a given problem.

8. The class of term in a given problem.

COMPARE THE FOLLOWING :

1. Mechanical advantage in a second and third class lever.

2. Work done by muscles in a second and third class lever.

3. Stability of an object in two given situations in which location of the centre of gravity and the base of support of the object.

DRAW THE FOLLOWING :

1. The action line of a muscle.

2. The rotary force component, the translatory force component, and the moment arm for a given force on a lever.

B. JOINT STRUCTURE AND FUNCTION

1. Describe the basic principles of joint design and a human joint.

2 Describe the tissues present in human joints ; including dense fibrous tissue, bone, cartilage and connective tissue.

3. Classify Joints - synarthrosis, Amphiarthrosis, Diarthrosis, subclassification of synovial joints.

4. Describe joint function, kinematic chains, range of motion,

5. Describe the general effects of injury and disease,

RECALL THE FOLLOWING :

1. The elementary principles of joint design.

2. The three main classification of joints.

3. The five features common to all diarthrodial joints.

4. Types of materials used in human joint construction.

5. Properties of connective tissue.

IDENTIFY THE FOLLOWING :

1. The axis of motion for any given motion at a specific joint (knee, hip, metacarpophalangeal).

2. The plane of motion for any given motion at a specific joint (shoulder, interphalangeal, wrist.

3. The degrees of freedom at any given joint.

4. The distinguishing features of a diarthrodial joint.

5. The structures that contribute to joint stability.

COMPARE THE FOLLOWING :

1. A synarthrosis with an amphiarthrosis on the basis of methods, materials and function.

2. A synarthrosis with a diarthrosis on the basis of methods, materials and function.

3. Closed kinematic chain with an open kinematic chain.

4. Dense fibrous tissue with bone.

5. Hyaline cartilage with fibrocartilage.

C. MUSCLE STRUCTURE AND FUNCTION

1. Describe Mobility and stability functions of muscles.

2. Describe elements of muscle structure - Composition of a muscle fibre, the motor unit, types of muscle fibres, muscle fibre size, arrangement and number, Muscle tension, length - tension relationship.

3. Describe types of muscle contraction, speed and angular Velocity, Applied load, Voluntary control, Torque & Isokinetic exercise.

4. Summarise factors affecting muscle tension.

5. Classify muscles - spurt and shunt muscles, Tonic and phasic muscles.

6. Factors affecting muscle function : Type of joint and location of muscle attachment, number of joints, passive insufficiency, Sensory receptors.

DESCRIBE THE FOLLOWING :

1. Ordering of the myofibrils in a sarcomere.

2. An alpha motor neuron.
3. The connective tissue in a muscle.
4. How tension develops in a muscle.
5. Isokinetic exercise.

DEFINE THE FOLLOWING :

1. Active and passive insufficiency.
2. Active and passive tension.
3. Concentric, eccentric and isometric contractions.
4. Reverse action.
5. Agonists, antagonists and synergists.

RECALL THE FOLLOWING :

1. Factors affecting muscle tension.
2. Characteristics of different fibre types.
3. Characteristics of motor units.
4. Factors affecting angular velocity.

DIFFERENTIATE THE FOLLOWING :

1. A spurt from a shunt muscle.
2. A phase from a tonic muscle.
3. Agonist from an antagonist,
4. Active from passive insufficiency.
5. Concentric from eccentric contractions.

COMPARE THE FOLLOWING :

1. Tension development in eccentric versus concentric contractions.

2. The angular velocity of isometric versus concentric & isokinetic contractions.

3. Isokinetic exercise with concentric exercise.

D. THE VERTEBRAL COLUMN

1. Describe the general structure and function of the vertebral column including: Primary and secondary course. Articulations, Ligaments and muscles, typical vertebra, inter-vertebral disc.

2. Describe factors affecting stability and motility.

3. Regional structure and function of cervical, dorsal, lumbar and sacral vertebrae.

4. Describe the muscles of the vertebral column - Flexors, Extensors, Rotators and Lateral flexors.

5. Describe the effects of injury and developmental deficits.

DESCRIBE THE FOLLOWING :

1. The curves of the vertebral column using appropriate terminology.

2. The articulations of the vertebral column.

3. The major ligaments of the vertebral column.

4. The structural components of typical and atypical vertebrae.

5. The intervertebral disc.

6. Regional characteristics of vertebral structure.

7. Motions of the vertebrel column.

8. Lumbar-pelvic rhythm.

9. Rotation of the vertebrae in each region.

10. Movements of the ribs during rotation.

IDENTIFY THE FOLLOWING :

1. Structure that provide stability for the column.

2. Muscles of the vertebral column and the specific functions of each.

3. Ligaments that limit specific motions (i. e. flexion extension, lateral flexion, rotation).

4. Forces acting on the vertebral column during specific motions.

EXPLAIN THE FOLLOWING :

1. The relationship between the intervertebral and facet joints during motions of the vertebral column.

2. The role of the intervertebral disc in stability and mobility.

3. The effects of forces acting on the structural components during motion and at rest.

ANALYSE THE FOLLOWING :

1. The effects of disease process, injury, or other defects in the vertebrae.

2. The effects of an increased lumbosacral angle on the pelvis and lumbar vertebral column.

F. THE SHOULDER COMPLEX

1. Describe the structural components of the shoulder complex including the articulating surfaces, capsular attachments and ligaments and movements of the following joints :

i) Sternoclavicular ii) Acromioclavicular

iii) Scapulothoracic iv) Glenohumeral

2. Describe the function of the shoulder complex including dynamic stability of the glenohumeral joint, musculohumeral Rhythm, Scapulothoracic and glenohumeral contributions.

3. Describe the muscles of elevation (Deltoid, Supraspinatus, Infraspinatus, Teres minor, Subscapularis, Upper Trapazius, lower Trapazius, Serratus anterior, Middle Trapazius & Rhomboides).

4 Describe the muscles of depression Latissimus dorsi Pectoralis, Teres Major, Rhomboides).

DESCRIBE THE FOLLOWING :

1. The articular surfaces of the joints of the complex.

2 The function of the liagments of each joint.

3. Accessory joint structures and the function of each.

4. Motions and ranges available at each joint and movement of articular surfaces within the joint.

5. The normal mechanism of dynamic stability of the glenohumeral joint, utilizing principles of biomechanics.

6. The normal mechanism of glenohumeral stability in the dependent arm.

7. Scapulohumeral rhythm, including contribu tions of each joints.

8. The extent of dependent or independent function of each joint in scapulohumeral rhythm.

9. How restriction in the range of elevation of the arm may occur.

10. One muscular force couple at a given joint and its function.

11. The effect a given muscular deficit may have on shoulder complex function.

COMPARE THE FOLLOWING :

1. The advantages and disadvantages of coracoacromial arch.

2. The structural stability of the three joints, including the tendency toward degenerative changes and derangement.

Draw the action lines of muscles of the shoulder complex and the moment arm for each, and resolve each into components.

G. THE ELBOW COMPLEX

1. Describe the structure of the Humeroulnar and Humeroradial joints including articulating surfaces, joint capsule, Ligaments & Muscles.

2. Describe the function of the Humeroulnar and Humeroradial joints including the Axis of motion, Range of motion, Muscle action.

3. Describe the structure of the superior and inferior radioulnar joints.

4. Describe the function of the superior and inferior Radioulnar joints.

5. Describe the mobility and stability of the Elbow complex and its relationship to Hand and Wrist.

6. Describe the effects of injury and the resistance to longitudinal compression forces, to distraction forces & to Medial-lateral forces.

DESCRIBE THE FOLLOWING :

1. All of the articulating surfaces associated with each of the following joints-humero-ulnar, humeroradial superior and inferior radioulnar.

2. The ligaments associated with all the joints of the elbow complex.

IDENTIFY THE FOLLOWING :

1. Axes of motion for supination and apronarion and flexion and extension.

2. The degrees of freedom associated with each of the joints of the elbow complex.

3. Factors limiting the range of motion inflexion and extension.

4. Factors that create the carrying angle.

5. Factors limiting motion in supination and pronation.

COMPARE THE FOLLOWING :

1. The translatory and rotatory components of the brachioradial is and brachial is at all points in the range of motion.

2. The moment arms of the flexors at any point in the range of motion.

3. Muscle activity of the extensors in a closed kinematic chain with activity in an open kinematic chain.

4. The role of pronator teres with the role of pronator quadratus.

5. The role of biceus with that of brachialis.

6. The resistances of elbow joint to longitudianal tensile forces with its resistance to compressive forces.

7. The features of a classic tennis elbow with the features of cubital tunnel syndrome.

8. The role of and structure of the annular ligament with the role and structure of the articular disc.

H THE WRIST AND HAND COMPLEX

1. Describe the wrist complex including Radiocarpal joint Midcarpal joint and the Ligaments of the wrist complex.

2. Describe the function of the radiocarpal and midcarpal joints including the movements and muscles involved.

3. Describe the Hand complex including: Structure on fingers (Carpometacarpal, Metacarpophalangeal and interphalangeal joints of fingers, ligaments Range of motion).

4. Describe the finger musculature including Extrinsic & MCP, PIP and DIP joint function, and Intrinsic finger muscles.

5. Describe the structure of the Carpometacarpal, MCP and IP joints of thumb.

6. Describe the Thumb Musculature including the Extrinsic & Intrinsic thumb muscles.

7. Describe Prehension, Power, Cylindrical, Spherical & Hook grips.

8. Describe Precision handling, Pad to pad, Tip to tip and Pad to side prehension and Functional position of wrist and hand.

DESCRIBE THE FOLLOWING :

1. The articular surfaces of the joints of the wrist and hand complexes.

2. The ligaments of the joints of the wrist and hand, including the significance of each.

3. Accessory joint structures found in the wrist and hand complex, including the function of each.

4. Types of movements and types of motion of the radiocarpal joint, the midcarpal joint, and the total wrist complex.

5. The sequence of joint activity occuring from full wrist flexion to extension including the role of the scaphoid, the sequence of joint activity in radial and ulnar deviation from neutral.

6. The role of the wrist musculature in producing wrist motion.

7. Motions and ranges available to joints of the hand complex.

8. The gliding mechanisms of the extrinsic finger flexors.

9. The structure of the extensor mechanism, including the muscles and ligaments that compose it.

10. How M.C.P. extension occurs, including the muscles that produce and control it.

11. How flexion and extension of the PIP joint occur, including the muscular and ligamentous forces that produce and control these motions.

12. How flexion and extension of DIP joints occur, including the muscular and ligamentous forces that produce and control these motions.

13. The role of the wrist in optimising length - tension in the extrinsic hand muscles.

14. The activity of reposition, including the muscles that perform it.

15. The functional position of the wrist and hand.

DIFFERENTIATE BETWEEN

1. The role of the interossei and lumbrical muscles at the MCP and IP joints.

2. The muscles used in cylindrical grip to those active in spherical grip, hook grip, and lateral prehension.

3. The muscles that are active in pad - to - pad, tip - to - tip, and pad to side prehension.

COMPARE

1 The activity of muscles of the thumb (in opposition of the thumb to the index finger) with the activity of those active in opposition to the little finger.

2. The characteristics of power grip with those of precision handling.

3. The most easily disrupted form of precision handling that may be used some one without any active hand musculature; what are the pre-requisites : for each ?

I. THE HIP COMPLEX

1. Describe the general features of the hip joint including the articulating surfaces on the pelvis & the femur; Angulations; Angle of indication, Angle of Torsion; Internal architecture of femur and pelvis; joint capsule. Ligaments & Muscles (Flexors, Extensors - one joint extensors, two joint extensors, Adductors, Medial Rotators and Lateral Rotators).

2 Describe the function of hip - Rotation between pelvis, lumber spine and hip; Pelvic motion - Anterior posterior pelvic tilting, Lumbar pelvic rhythm, Lateral pelvic tilting, Pelvic rotation.

3. Summarise the pelvic motions in the static erect posture.

4. Describe Femoral motion.

5. Describe Hip stability in Erect Bilateral stance, sagital plane equilibrium and Unilateral stance.

6. Describe reduction of Forces with weight shifting and using a cane and deviations from normal in muscular weakness & Bony abnormalities.

DESCRIBE THE FOLLOWING :

1. The articulating surfaces of the pelvis and femur.

2. The structure and function of the trabecular systems of the pelvis and femur,

3. The structure and function of the ligaments of the hip joint.

4. The angle of inclination and the angle of torsion.

5. The planes and axes of the following pelvic motions and the accompanying motions at the lumbar spine and hip joints, pelvic rotation, and anterior, posterior and lateral tilting of the pelvis.

6. The muscle activity that produces tilting and rotation of the pelvis.

7. Motions of the femur on the pelvis including planes and axes of motion.

8. The structure and function of all the muscles associated with the hip joints.

9. The forces that act on the head of femur.

10. The position of greatest stability at the hip.

EXPLAIN THE FOLLOWING :

1. How sagittal and frontal plane equilibrium are maintained in erect bilateral stance.

2. How frontal plane equilibrium is achieved in unilateral stance

3. How force acting on the femoral head may be reduced.

4. How the function of the two joint muscle at the hip are affected by changes in the position of the knee and hip.

5. The functional and structural relationship among the hip, knee, pelvis and lumbar spine.

COMPARE THE FOLLOWING :

1. Forces acting on the femoral head in erect bilateral stance with the forces acting on the head in erect unilateral stance.

2. Coxa valga with coxa vara on the basis of hip stability and mobility.

3. The motions that occur at the hip, pelvis and lumbar spine during forward trunk bending with the motions that occur during anterior and posterior tilting of the pelvis in the erect standing position.

4. Anterversion with retroversion on the basis of hip stability and mobility.

5. The structure and function of the following muscles : Flexors and extensors, abductors and adductors, lateral and medial rotators.

J. THE KNEE COMPLEX

1. Describe the structure of the Tibiofemoral joint Articulating surfaces on femur and tibia, the menisci, Joint capsule and bursae, Ligaments and other supporting structures, Anterior - posterior and Medial - Lateral stability ; Muscle structure ; Knee flexors & extensors : Axes of knee complex : Mechanical axis, Anatomic axis and axis of motion.

2. Describe the function of the Tibiofemoral joint : Range of motion. Flexion and extension, Rotation, Abduction and Adduction, locking and unlocking ; Function of Menisci and Muscle function

3. Describe the structure of the patellofemoral joint.

4. Describe the function of the patellofemoral joint.

5. Describe the effects of injury and disease in the Tibiofemoral and patellofemoral joints.

DESCRIBE THE FOLLOWING :

1. The articulating surfaces of tibiofemoral and patellofemoral joints.

2. The joint capsule.

3. The anatomic and mechanical axes of knee.

4. Motion of the femoral condyles during flexion and extension in a closed kinematic chain.

5. Motion of the tibio in flextion & extension in an open kinematic chain.

DRAW ;

The Q angle when given an illustration of the lower extremity.

2. Moment arm of quadriceps at the following degree of knee flexion : 90 deg., 130 deg., 30 deg., 10 deg.

3. The action lines of vastus lateralis and the vastus medialis oblique.

LOCATE :

1. The origins and insertions of all the muscles at the knee.

2. The bursae surrounding the knee.

3. The attachments of the ligaments of the medial and lateral compartments.

IDENTIFY :

1. Structures that contribute to the medial stability of the knee including dynamic and static stabilisers.

2. Structures that contribute to the lateral stability of the knee including dynamic and static stabilisers.

3. Structures that contribute to the posterior stability of the knee including dynamic and static stabilisers.

4. Structures that contribute to the anterior stability of the knee including dynamic and static stabilisers.

5. Structures that contribute to the rotatory stability of knee.

6. The normal forces that are acting on the knee.

COMPARE :

1. The knee and the elbow joint on the basis of similarities / dissimmilarities in structure and function.

2. The lateral with the medial meniscus on the basis of structure and function.

3. The forces on the patellofemoral joint in full flexion with full extension.

4. The action of quadriceps in an open kinematic chain with that in a closed kinematic chain.

5. The effectiveness of the hamstrings as knee flexors in each of the follwing hip positions :- hyperextension. ten degrees of flexion and full flexion (open kinematic chain).

6. The effectiveness of the rectus femoris as a knee extensor at sixty degrees of knee flexion with its effectiveness at ten degrees of knee flexion.

EXPLAIN :

1. The function of the menisci.

2. How a tear of the medial collateral ligament may affect joint function.

3. The functions of the suprapatellar, gastrocnemius. infrapatellar and prepatellor bursae.

4. Why the semiflexed position of the knee is the least painful position.

5. Why the knee may be more susceptible to injury than the hip joint.

K. TYPE ANKLE - FOOT COMPLEX

DESCRIBE the structure, ligaments, axis and function of the following : ankle joint, tibiofibular joints, subtalar joints, Talocal-

caneonavicular joints, Transverse Tarsal joint, Tarsometatarsal joint, Plantar arches, Metatarsophalangeal joints, Interphalangeal joints.

Define the terminology unique to the ankle foot complex, including inversion - exarsion, pronation - supination, dorsiflexion - plantar flexion, flexion - extension and adduction and abduction.

DESCRIBE :

1. The compound articulations of the ankle, subtalar, talocalcaneonavicular, transverse tarsal and tarsometatarsal joints.

2. The role of the tibiofibular joints and supporting ligaments.

3. The degrees of freedom and range of motion available at the joint of the ankle and the foot.

4. The significant ligaments that support the ankle, subtalar and transverse tarsal joints.

5. The triplanar nature of ankle joint motion.

6. The articular movements that occur in the weight-bearing subtalar joint during inversion-eversion.

7. The relationship between tibial rotation and subtalar / talocal caneonavicular inversion-eversion.

8. The relationship between hind foot inversion-eversion and motility-stability of the transverse tarsal joint.

9. The function of the tarsometatarsal joints. including when motion at these joints is called upon.

10. Supination - pronation of the forefoot at the tarsometatarsal joints.

11. Distribution of weight within the foot.

12. The structure and function of the plantar arches including the primary supporting structure.

13. When muscles supplement arch support, including those muscles that specifically contribute.

14. The effects of toe extension on the plantar aches.

15 The general function of the extrinsic muscles of ankle & foot.

16. The general function of the intrinsic muscle of foot.

L. POSTURE

1. Describe the effects of gravity and indicate the location of the gravity line in the sagitatal plane in optimal posture.

2. Analyse posture with respect to the optimala alignment of joints in the antero-posterior and lateral views.

DESCRIBE :

1. The position of hip, knee and ankle joints in optimal erect posture.

2. The position of body's gravity line in optimal erect posture, using appropriate points of reference.

3. The effects of gravitational moments on body segments in optimal erect posture.

4. The gravitational moments acting around the vertebral column, pelvis, hip, knee and ankle in optimal erect posture.

5. Muscles and ligamentous structures that counter balance gravitational moments in optimal erect posture.

6 The following postural deviations : pesplanus, halluxvalqus, pes cavus, idiopathic scoliosis, kyphosis and lordosis.

7. The effects of the above postural deviations on body structures i. e. ligaments, joints and muscles.

DETERMINE :

1. How changes in the location of the body's gravity line will affect gravitational moments acting around specified joints axes.

2. How changes in the alignment of body segments will affect either the magnitude or the deviation of the gravitational moments.

3. How changes in alignment will affect supporting structures such as ligaments, joint capsules, muscles, and joints surfaces.

M. GAIT

DEFINE :

1. The stance, swing and double support phases of gait.

2. The subdivisions of the stance and swing phases of gait.

3. The time and distance parameters of gait.

DESCRIBE :

1. Joint motion at the hip, knee and ankle for one extremity during a gait cycle.

2. The location of line of gravity in relation to the hip, knee, and ankle during the stance phases of gait.

3. The gravitational moments of force acting at the hip, knee and ankle during the stance phase.

EXPLAIN :

1. Muscle activity at the hip, knee and ankle throughout the gait cycle, including why and when a particular muscle is active and the type of contraction required.

2. The role of each of the determinants of gait.

3. The muscle activity that occurs in the upper extremity and trunk

COMPARE :

1. Motion of upper extremities and trunk with motion of pelvis and lower extremities.

2. The traditional gait terminology with the new terminology.

3. Normal gait with a gait in which there is a weakness of the hip extensors and abductors.

4. Normal gait with a gair in which there is unequal leg lengths.

EVALUATION

Physiology

Examination at end of: II Semester Instruction hours: 100

COURSE DESCRIPTION

This course which runs concurrently with the anatomy course helps the student to understand the basis of normal human physiology with special emphasis on the functioning of the cardio-vascular, musculo-skeletal and nervous systems.

COURSE OBJECTIVES

The objective of this course is that after 100 hours of lectures, demonstrations, practicals and clinics the student will be able to demonstrate an understanding of elementary human physiology.

The student will be able to fulfil with 75% accuracy (as measured by written & oral internal evaluation) the following objectives of the course.

LECTURE OUTLINES

A. CELL INTRODUCTION

Outline of basic concepts of cell structure functions of components; transport across membranes.

B. SKIN

Structure; functions; blood flow; temperature regulation.

C. BLOOD

1. Outline of components; and their function; RBC, WBC, platelets, Blood groups.

2. Significance of RBC & WBC counts, ESR and other related tests.

3. Clotting mechanisms;

4. Blood volume and its regulation.

D. CIRCULATION

1. Structure & Properties of cardiac muscle; Cardiac cycle.
2. ECG; Heart sounds Cardiac output.
3. Factors regulating the action of the heart.
4. Blood pressure; its maintenance and regulation.
5. Cerebral circulation; Renal circulation; Pulmonary circulation.
6. Effects of exercise; effects of postural changes.
7. Lymph; factors affecting its flow.

E. RESPIRATION

1. Defence mechanisms in the Respiratory tree; mucociliary transport. Mechanics of Respiration.
2. Transport of blood gases, Acid-base balance.
3. Lung function tests (including lung volumes). Artificial ventilation.
4. Nervous and chemical regulation of respiration.
5. Hypoxia-types and causes.
6. Effects of exercise on respiration.

F. DIGESTION

1. Digestion in the mouth, stomach and intestine.
2. Bile; Pancreatic secretion.
3. Mechanisms of control of secretions and motility.
4. Diet and Nutrition.

G. EXCRETION

1. Structure of the nephrons.

2. Formation of urine.

3. Micturation.

H. ENDOCRINES

1. General metabolism. Carbohydrates, protein and fat metabolism.

2. Outline of the various hormones and their actions with special emphasis on Thyroxine and Parathyroid hormone.

I. REPRODUCTION

1. Male reproductory system.

2. Female reproductory system.

3. Outline of pregnancy; functions of placenta; Parturition; lactation; contraceptive measures.

4. Physiology of foetus; factors that affect foetal growth.

J. NERVOUS SYSTEM

1. Structure of neurones.

2. Properties of neurones; (excitation & conduction).

3. Synapses and synaptic transmission; Reflexes and properties of reflexes;

4. Sensory endings.

5. Spinal cord; Pathways in the spinal cord.

6. Brain stem; Thalmus; Basal ganglia; Cerebellum; Cerebral cortex;

7. Control of posture and control of voluntary motor activity.

8. Autonomic nervous system.

K. SPECIAL SENSES

1. Vision.

2. Audition; Olfaction; Gustation; Vestibular apparatus.

L. MUSCLE

1. Structure of muscle tissue: Gross structure and microscopic structure. Arrangement of myofibrills. Myoneural junction.

2. Chemical processes involved in muscle contraction.

3. Physiology of muscle contraction, Single muscle twitch, Quantal Summation, Wave Summation, Treppe, Tetany, Effects of temperature changes, All or none law, Fatigue, Isotonic, Isometric and isokinetic contractions.

4. Exercise metabolism, Oxygen debt, Respiratory quotient.

5. Development of endurance, Factors affecting endurance and muscle strength, Factors affecting general and cardiorespiratory endurance, Aerobic and anaerobic work, Efficiency of muscular activity, aerobic versus anaerobic (eg. speed, work, load, fatigue, diet, obesity).

6. Age and exercise, Age changes in muscle function, Age changes in CVS, Age changes in pulmonary function, Age and physical work capacity, Age and nervous system.

7. Environment and exercise, Adaptation to heat and cold, Exercise in heat and in cold. Human limitation in heat, Acclimatization to heat, Exercise at high altitudes.

PRACTICAL DEMONSTRATIONS

A. Determination of RBC & WBC counts.

B. Examination of different types of WBC in stained blood smears.

C. Circulation in the web of the frog's feet.

D. Ischaemic pain.

E. & F. Muscle Contraction in frog : simple muscle curve, tetany, wave summation, quantal summation, fatigue.

G. Lung Volumes.

H. Effect of exercise on ventilation.

I. Physical fitness.

K. Determination of BP ; effect of exercise on BP.

L. Examination of sensory and motor systems ;
Examination of superficial and deep reflexes.

M. Tests of vision (acuity and colour perception) and hearing (Rhine's fest and Weber's test).

EVALUATION

APPLIED PHYSIOLOGY

Not for University Examination Instruction hours : 30

COURSE DESCRIPTION

This course supplements the knowledge of physiology and enables the student to have a better understanding of how abnormal physiology affects human function and dysfunction.

COURSE OBJECTIVES

The objective of this course is that after 30 hours of lectures, demonstrations, practicals and clinics the student will be able to demonstrate an understanding of the effect of abnormal physiology on function and dysfunction of the human body.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written & oral internal evaluation) the following objectives of the course.

COURSE OUTLINE

A. THE HEART AND CIRCULATION

1. Structure and properties of heart muscles.
2. The action of the heart.
3. Determinants of cardiac performance.
4. Normal E.C.G.
5. Maintenance of blood pressure.
6. Cardiac arrest and heart failure.
7. Outline of lymphatic circulation & pulmonary circulation.
8. Cardiovascular compensation for postural and gravitational changes.
9. Hypertension.

10. Oedema.

11. Central and peripheral venous pressures.

B. NERVOUS SYSTEM AND MUSCLES

1. Outline of structure and function of the central nervous system.

2. Outline of the autonomic nervous system.

3. Types of nerve cells, electrical phenomena in nervecells.

4. Properties of mixed nerves.

5. Reflex action, reciprocal innervation.

6. Degeneration and re-generation of nerves.

7. Control of posture.

8. Outline of voluntary movement.

9. Cutaneous, deep and superficial sensation.

10. Synaptic transmission.

11. Neuro Muscular transmission

12. Properties of muscles, contractile responses, types of contraction, electrical phenomena and tonic reflexes.

C. RESPIRATION

1. Mechanics of respiration.

2. Breath sounds.

3. Properties of gases.

4. Exchange of gases.

5. Gas tensions in air at sea level, tracheal air, cellular air, mixed air, plasma, arterial blood and mixed venous blood.

6. Lung volumes.
7. Magnitude of death space.
8. Control of bronchial smooth muscle.
9 Lung compliance.
10. Nervous control of respiration.
11. Chemical controle of respiration.
12. Voluntary control of respiration.
13. Oxygen and carbon dioxide transport.
14. Acid base reactions in blood.
15. Effects of exercise on respiration.
16. Artificial respiration.

EVALUATION

Nursing and First Aid

(Not for University Examination) Instruction hours : 40
(Theory-24, Pract.-12)

COURSE DESCRIPTION

This course enables students to have a better understanding of and develop skill in giving first aid treatment in emergencies in either the hospital or the community.

COURSE OBJECTIVES

The objectives of this course is that after 36 hours of lectures, demonstrations, practicals and clinics the student will be able to demonstrate an understanding of the principles of first aid and demonstrate skill in giving first aid treatment in emergencies that may be met in the community and in their practice as therapists.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical internal evaluation) the following objectives of the course.

A. Understand the importance of first aid and explain the rules of first aid

B. Explain the scope of first aid and concept of emergency.

C. identify and give first aid in burns, fire accidents, road accidents, poisoning, drowning, insect bites and trauma due to a foreign body.

D. Identify various fractures and practice bandaging and splinting in care of fractures.

E. Describe the types of wounds, haemorrhages, shock and respiratory emergencies

F. Transportation of persons with various types of injuries.

G. Identify and give first aid treatment in community emergencies and in natural disasters.

H. Identify and utilise the community resources like voluntary agencies, local, national and international agencies.

I. Acquire knowledge about ambulance services and their functions in relation to emergencies.

COURSE OUTLINE

A. INTRODUCTION

Definition of first aid, Importance of first aid, Golden rules of first aid, Scope and concept of emergency.

B. FIRST AID EMERGENCIES

1. Burns & scalds: Causes, Degrees of burns, First aid treatment, General treatment.

2. Poisoning: Classification (irritants, acid alkali, narcotics), Signs and symptoms, First aid treatment, General treatment.

3. Trauma due to foreign body insertion: Eye, ear, nose, throat, stomach and lung.

4. Bites: First aid, signs, symptoms and treatment.

   a. Dog bites: rabies.

   b. Snake bite: neurotoxin, bleeding diathesis.

C. SKELETAL INJURIES

Definition, Types of fractures of various parts of the body, Causes, Signs, and symptoms, Rules of treatment, Transport of patient with fracture, first aid measures in dislocation of joints, Treatment of muscle injuries.

D. RESPIRATORY EMERGENCIES

1. Asphyxia: Etiology, signs & symptoms, rules of treatment.

2. Drowning: Definition and management.

3. Artificial respiration : types and techniques.

E. WOUNDS AND HAEMORRHAGE

1. Review of Anatomy and Physiology of the circulatory system.

2. Wounds : Classification, management.

3. Haemorrhages : Classification, signs and symptoms, rules for treatment of haemorrhage.

4. Treatment of haemorrhage from special areas (scalp, mouth, nose, ear, palm and various veins).

5. Internal haemorrhages : Visible and concealed.

F. SHOCK AND UNCONSCIOUSNESS

Definition, Types of shock, Common causes of shock, Signs and symptoms of shock (assessment of established shock), General and special treatment of established shock.

G. TRANSPORTATION OF THE INJURED

1. Methods of transportation : Single helper, Hand seat, Stretcher, Wheeled transport (ambulance).

2. Precautions taken : Blanket lift, Air and sea travel.

H. COMMUNITY EMERGENCIES

Role of first aider (immediate and late) in fires, explosions, floods, earth quakes, famine,

I. COMMUNITY RESOURCES

Police Assistance, Voluntary agencies (local, national, international), Ambulance services (Functions).

EVALUATION

Unit tests, term examinations, assignments, term examinations by doctor.

1. Test papers.

2. Final Practical + Oral test.

REFERENCES

1. Hoon R. S. "First aid to the injured" 1st edition, Delhi, St. John Ambulance Association.

2. Raine Hardhins and Hunt Vaheins "Urgencies and emergencies for Nurses" 1965 English Universities Press Ltd.

3. Gardner Hard "New Advanced First Aid" London Butter Worths 1969.

4. First Aid Textbook by American Red Cross 1945 The Blackiston Company, Philadelphia.

5. Golwalla Asoi "A Handbook of Emergencies" 2nd edition, Bombay Samet and Company, 1981.

General Medicine, General Surgery and Paediatrics

Examination at the end of : III Semester

Instruction hours : 135

COURSE DESCRIPTION

This course follows basic courses on Anatomy, Physiology, Psychology and Sociology It covers relevant aspects of General Medicine, General Surgery, Paediatrics, Plastic Surgery, E.N.T., Opthalmology and Radiology. A very short cou se in Pathology and Microbiology will be conducted concurrently.

COURSE OBJECTIVES

The objectives of this course is that after 135 hours of lectures & demonstrations, in addition to clinics the student will be able to demonstrate a general understanding of the diseases that therapists would encounter in their practice. They should have a brief idea of the etiology and pathology, what the patients symptoms. and the resultant functional disability. This would help the candidates to understand the limitations imposed by the diseases on any therapy that may be prescribed.

A particular effort has been made to avoid over burdening the student with clinical signs and diagnostic manoeuvres except in certain specific diseases such as rheumatoid arthritis.

Broad outlines of goals of pharmacological and surgical therapy should be imparted in those diseases in which physical or occupational therapy will be an important component of over all treatment.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical internal evaluation) the following objectives of the course.

COURSE OUTLINE

GENERAL MEDICINE

A INFECTIONS

Outline the mode of spread, and appropriate prevention measures of the following communicable diseases.

Bacterial - Tetanus.

Viral - Herpes simplex, zoster, varicella, Measles, German measles, Hepatitis B., AIDS.

Protozoal - Filaria.

B. HAEMATOLOGY

1. Define and briefly describe clinical aspects of iron deficiency, B 12 and folice acid deficiency anemias.

2. List types of bleeding diathesis.

3. Describe the clinical features of Haemophilia.

C. RESPIRATORY TRACT

1. Bronchitis - Define, list etiological factors and describe symptoms.

2. Pneumonia - List types of pneumonia (lobar, broncho, aspiration pneumonias).

3. List etiologic agents and briefly outline symptoms and complications of pneumonia.

4. Asthma - Define, describe briefly the etiological factors and clinical features of actue exacerbation.

5. Chronic obstructive airway diseases - Define emphysema and chronic bronchitis. Briefly describe the pathology, symptoms of diseases and clinical course.

6. Tuberculosis - Describe the etiology, pathology and clinical features of pulmonary TB.

7. Bronchiectasis - Define and describe briefly the pathology, and clinical symptoms of bronchiectasis, bronchopulmonary segments and basis of postural drainage.

8. Emphysema - Difine and briefly describe etiological factors.

9. Chest well deformities - Describe funnel chest, Pigeon chest barrel chest, kyphoscoliosis of thoracic spine.

10. Briefly outline functional disability of occupational, lung diseases, List pneumoconioses

D. CARDIO - VASCULAR SYSTEM

1. Cardiac failure - Defina, List causes and symptoms.

2. Rheumatic fever - Define and briefly describe etiology and gross pathology of rheumatic heart disease.

3. Infective endocarditis - Define and outline etiology, symptoms and complications.

4. Ischaemic heart disease - Outline pathology of IHD define angina pectoris and Myocardial infarction. Describe clinical features and broadly outline medical and surgical therapy.

5. Hypertension - Define and outline the clinical features, complications & goals of therapy.

6. Outline pathogenesis and clinical features of : Pulmonary embolism, Deep vein thrombosis, pulmonary infarct.

7. Congenital heart disease - List ASD, VSD, Fallot's Tetralogy and PDA & a briefly outline the pathologic anatomy.

E. BONE, JOINT AND CONNECTIVE ISSUE DISORDERS

1. Brief introduction to concept of autoimmune disease.

2. Define ; Systemic lupus erythematous, Polymyositis, Dermatomyositis, polyartheritis Nodosa, Scleroderma.

3. Rheumatoid arthritis - Describe etiology, clinical features and complications, drug therapy and non pharmacological therapy.

4. Osteoarthritis - Describe etiology, clinical features and complications and review nonsteroidal antiinflammatory drugs and steroids.

F. RENAL DISEASES

1. Define and briefly outline acute and chronic renal failure.

2. Urinary tract infection. Pathogenesis. Outline common clinical conditions complicated by UTI.

G. METABOLIC DISEASES

1. Diabetes-define and outline etiology. List types of diabetes & complications and briefly outline use of insulin, diet and oral hypoglycaemic agents in management of diabetes.

2. Obesity - Define and outline management.

H. GERIATRICS

1. List diseases commonly encountered in the elderly population and their role in causing disability; Hypertension, Ischaemic Heart disease, Cerebrovascular accidents, Benign prostatic Hyperplasia, Cataracts & other causes of failing vision.

GENERAL & PLASTIC SURGERY

1. Describe abdominal surgical incisions.

2. Outline the post operative complications in: Nephrectomy, Appendicectomy, Herniorraphy Mastectomy, Thyroidectomy, Colostomy, Adrenalectomy, Cystectomy, Hysterectomy. Prostatectomy, Cholecystectomy, Ileostomy.

3. Classify burns by depth and surface area, outline the causes, medical management and precautions in the acute stage.

4. List the potential deformities due to burns, methods of prevention and precautions. Mention cosmetic and functional treatment measures.

5. Outline the plastic surgery procedures and management in rehabilitation of burns, including splinting methods for common deformities and prevention of burns contractures.

PAEDIATRICS

1. Describe growth and development of a child from birth to 12 years : including physical, social, adaptive development.

2. List the maternal and neonatal factors contributing to high risk pregnancy the neonate: inherited diseases; maternal infections - viral and bacterial; maternal diseases incidental to pregnancy, such as gestational diabetes, pregnancy induced hypertension; chronic maternal diseases such as heart diseases, renal failure, tuberculosis, diabetes, epilepsy; bleeding in the mother at any trimester.

3. Briefly describe community programmes: International (WHO), national and local, for prevention of poliomyelitis, blindness, deafness, mental retardation and hypothyroidism. Outline the immunisation schedule for children.

4. Cerebral Palsy: Define and briefly outline etiology-Prenatal, perinatal and postnatal causes; briefly mention pathogenesis, types of cerebral palsy (Classification), findings on examination; General examination, examination of C.N.S. Musculoskeletal system, respiratory system, I tract & nutritional status.

Briefly outline associated defects: Mental retardation, microcephaly, blindness, hearing and speech impairment, squint and convulsions.

Briefly outline treatment.

Outline prevention: Appropriate management of high risk pregnancies, prevention of neonatal and postnatal infections, metabolic problems.

5. Muscular dystrophy,: Outline various forms, modes of inheritance and clinical manifestation; physical findings in relation to disabilities progression of various forms and prognosis. Describe treatment goals in forms which are and are not fatal.

6 Spinabifida, meningomyelocele: Outline development; clinical features-lower limbs, bladder and bowel control; complications-U.T.I. & hydrocephalus; medical treatment and surgical treatment.

7. Still's disease: classification, pathology in brief, physical findings, course & prognosis. Outline treatment, prevention and correction of deformity.

8. Acute C. N. S. infections: Classify (Bacterial and viral) and outline the acute illness, CNS sequelae leading to mental retardation, blindness, deafness, speech defect, motor paralysis, bladder and bowel problems seizure disorder and specific problems such as subdural effusion, hydrocephalus, pressure sores, feeding difficulties.

9. Normal diet of newborn and child: List dietary calorie, fat, protein, mineral and vitamin requirement in a normal child and in a child with malnutrition. Classify and outline etiology, findings and treatment of Rickets: Vitamin D deficiency and resistant rickets.

10. Lung infections: Outline the clinical findings, complications and medical treatment of bronchiectasis, lung abscess and Bronchial asthma.

The following: X-ray demonstrations, Opthalmology, E.N.T. and Obstetrics & Gynaecology are not for University examinations.

OPTHALMOLOGY

Lecture - demonstrations only

Briefly outline the following :

1. Eye lesions in leprosy, inculding causes, treatment and complications of lagophthalmos.

2. Field defects arising from lesions in the visual pathway, their clinical symptoms and methods of testing.

3. Effects of paralysis of the occular muscles and treatment.

4. Causes, clinical features and a treatment of disorders of occular movement occuring in diseases such, as myasthenia gravis, progressive supranuclear palsy and lower motor neuron diseases.

5. Causes, clinical features, treatment and prognosis in visual failure arising from cataract, inflamatory disorders, vitamin A deficiency, Glaucoma and Trachoma ; emphasis on preventable causes and prophylactic measures.

6. Definition of blindness, and visual disability evaluation. Investigative procedures used for testing visual failure, including basic screening procedures for visual accuity suitable for community health surveys.

E.N.T.

Lecture - demonstrations only

1. Outline the Anatomy and physiology of hearing and the use of audiometry in assessment of hearing.

2. Briefly classify causes of hearing loss Outline conservative and surgical intervention, including types and availability of hearing aids.

3. Briefly outline the functions of the vestibular apparatus.

4. Briefly outline common ENT infections and diesases which affect hearing, breathing and speech ; and their management.

OBSTETRICS & GYNAECOLOGY

Lecture demonstrations only

1. Review the anatomy of the female pelvis and embryonic and foetal development.

2. Outline the physiological skeletal changes during pregnancy, delivery and post - partum period.

3. Describe an ante - natal programme in preparation for labour : ante - natal training, breathing, relaxation, pelvic and lower extremity exercises.

4. Outline the mechanism of labour and post - natal management after normal delivery, forceps delivery and caesarean sections.

5 Outline the pre - disposing factors and the role of exercises in the management of stress incontinence and prolapse uterus.

EVALUATION

Introduction to Pathology and Microbiology

(Not for University Examination) Instruction hours : 50

COURSE DESCRIPTION

This course follows the basic courses in anatomy and physiology, and compliments the course in general medicine & surgery being taught concurrently. 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 imposed by pathology on the functioning of the individual.

COURSE OBJECTIVES

The objective of this course is that after 25 hours of lectures, demonstrations, practicals and clinics the student will be able to demonstrate an understanding of the pathology and microbiology of common diseases that therapists would encounter in their daily practise. The course will also help therapists understand how to protect themselves and their patients from nosocomial infections during their interactions.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written & oral internal evaluation) the following objectives of the course.

COURSE OUTLINE

PATHOLOGY

A. Introduction: Concepts of diseases, classification of lesions.

B. Bacterial, viral and parasitic infections - a general outline.

C. Inflammation and repair, Degeneration, necrosis and gangrene.

D. Haemorrhage, shock, embolism, thrombosis.

E. Tuberculosis, Leprosy, typhoid.

F. Deficiency diseases.

G. Tumours : Aetiology & spread. Common tumours.

H. Blood : Anaemia, Heart and blood vessels, common congenital anamolies, Rheumatic & coronary heart diseases.

I. Respiratory system : Pneumonias, Bronchiectasis, Emphysema, Chronic bronchitis, Asthma.

J. Bone and joints : Antoimmune disease, septic arthritis, Osteomyelitis.

K. Skin : Leprosy.

L. Urinary system.

M. Central nervous system : CNS infections, vascular disorders.

N. Rheumatoid Arthritis.

O Sclerodema and Psoriasis

P. Diseases of muscle including poliomyelities, Myopathies.

Q. Volkmann's Ischaemia.

MICROBIOLOGY

L - Lecture.

LD - Lecture demonstration.

A. Introduction and history of microbiology. (L)

B. General lectures on micro - organisms : (LD)

1. Classification.

2. Shape and arrangement.

3. Special characteristics - spores, capsules, enzymes, motility, reproduction.

C. Disinfection and antiseptics. (LD)

D. Sterilization and asepsis. (LD)

E. Antibacterial agents - fundamental aspect, susceptibility tests. (LD)

F. Infection — source of infection (L)
— portals of entry
— spread of infection

G. Non - specific immunity (L)

H. Immunity - natural and acquired (L)

I. Allergy and hypersensitivity (L)

J. Outline of common pathogenic bacteria and diseases produced by them. Treatment and prevention. (L)

1. Respiratory tract infections.
2. Meningitis.
3. Enteric infections.
4. Anaerobic infections.
5. Urinary tract infections.
6. Leprosy, tuberculosis and miscellaneous infections.
7. Wound infections.
8. Sexually transmitted diseases.
9. Hospital acquired infections.

K. Pathogenic yeasts and fungi. (LD)

L. Virology - Virus infections, with special mention of Hepatitis, Poliomyelitis & Rabies. (LD)

EVALUATION

Clinical Neurology

Examination at the end of : V Semester
Instruction hours : 55

COURSE DESCRIPTION

Following the basic science and clinical science course this course introduces the student to the neurological conditions which commonly cause disability. 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 imposed by neurological pathology on the functioning of the individual.

COURSE OBJECTIVES

The objective of this course is that after 55 hours of lectures & demonstrations, in addition to clinics, the student will be able to demonstrate an understanding of neurological conditions causing disability and their managment.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, orai & practical internal evaluation) the following objectives of the course.

COURSE OUTLINE

A. NEUROANATOMY

Review the basic anatomy of the brain and spinal cord including : Blood supply of the brain and spinal cord, anatomy of the visual pathway, Connections of the cerebellum, and extrapyramidal system, relationship of the spinal nerves to the spinal cord segments, Long tracts of the spinal cord, the brachial and lumbar plexuses, and cranial nerves.

B. NEUROPHYSIOLOGY

Review in brief the Neurophysiological basis of : tone and disorders of tone and posture, bladder control, muscle contraction and movement and pain.

C. CLINICAL FEATURES & MANAGEMENT

Briefly outline the clinical features and management of the following Neurological Disorders :

1. Congenital and childhood disorders.
   a. Cerebral palsy.
   b. Hydrocephalus.
   c. Spina Bifida.
2. Cerebrovascular accidents.
   a. General classification; thrombotic, embolic, haemorrhagic & inflammatory strokes.
   b. Gross localisation and sequelae.
   c. Detailed rehabilitative programme.
3. Trauma - broad localisation, first aid and management of sequelae of head injury and spinal cord injury.
4. Diseases of the spinal cord.
   a. Craniovertebral junction anomalies
   b. Syringomyelia.
   c. Cervical and lumbar disc disease.
   d. Tumours,
   e. Spinal arachnoiditis.
5. Demyelinating diseases (central and peripheral).
   a. Guillain - Barre syndrome.
   b. Acute disseminated encephalomyelitis.
   c. Transverse myelitis.
   d. Multiple sclerosis.

6. Degenerative disorders.
   a. Parkinson's disease.
   b. Dementia.
7. Infections.
   a. Pyogenic Meningitis sequelae.
   b. Tuberculous infection of central nervous system.
   c. Poliomyelitis.
8. Diseases of the muscle classification, signs, symptoms, progression and management.
9. Peripheral nerve disorders.
   a. Peripheral nerve injuries : localisation and management.
   b. Entrapment neuropathies
   c. Peripheral neuropathies.
10 Miscellaneous.
   a. Epilepsy : Definition, classification and management.
   b. Myasthenia Gravis : Definition, course and management.
   c. Intracranial tumours : Broad classification, signs and symptoms.
   d. Motor neuron disease.

D. ASSESSMENT

Clinical assessment of neurological function to be taught through bedside or demonstration clinics spread out over at that 5 sessions

1. Basic history taking to determine whether the brain. spinal cord or peripheral nerve is involved.

2. Assessment of higher mental function such as orientation, memory, attention, speech and language.
3. Assessment of cranial nerves.
4. Assessment of motor power.
5. Assessment of sensory function touch, pain and position.
6. Assessment of tone - spasticity, rigidity and hypotonia.
7. Assessment of cerebellar function.
8. Assessment of higher cortical function - apraxia etc.
9. Assessment of gait abnormalities.

EVALUATION

Clinical Orthopaedics

Examination at the end of : V Semester

Instruction hours : 55

COURSE DESCRIPTION

Following the basic science and clinical science courses this course introduces the student to the orthopaedic conditions which commonly cause disability. 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 imposed by orthopaedic pathology on the functioning of the individual.

COURSE OBJECTIVES

The objective of this course is that after 55 hours of lectures & demonstrations, in addition to clinics, the student will be able to demonstrate an understanding of orthopaedic condition causing disability and their management.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical internal evaluation) the following objectives of the course.

COURSE OUTLINE

A. INTRODUCTION TO ORTHOPAEDICS

Introduction to orthopaedic terminology, tyepes of pathology commonly dealt with, clinical examination, common investigations and outline of non - operative & operative management.

B. PRINCIPLES OF OPERATIVE TREATMENT

List indications, contraindications and briefly outline principles of : Athrodesis, Arthroplasty, Osteotomy, Bonegrafting and Tendon - Transfers.

C. SPRAINS AND MUSCLE STRAINS

List common sites of sprains and muscle strains and describe the clinical manifestations and treatment the student will be able to demonstrate an understanding of the influence of social and environmental factors on the health of the individual and society.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral and practical internal evaluation) the following objectives of the course.

A. Outline the natural history of diseases and the influence of social, economic and cultural aspects of health and diseases.

B. Outline the various measures of prevention and methods of intervention - especially for diseases with disability.

C. Outline the national care delivery system and the public health administration system and the central and state level.

D. Outline selected national health programmes.

E. Define occupational health and list methods of prevention of occupational diseases and hazards.

F. Outline the Employees State Insurance scheme and its various benefits.

G. Describe the social security measures for protection from occupational hazards, accidents, diseases, and the workman's compensation act.

H. Outline the objectives and strategies of the national Family Welfare Programme.

I. Define community based and institution based rehabilitation Describe the advantage and disadvantages of institution and community based rehabilitation.

J. Describe the following communicable diseases with reference to reservoir, mode of transmission, route of entry and

levels of prevention a. Poliomyelitis, b. Meningitis, c. Encephalitis, d. Tuberculosis, e. Filariasis, f. Leprosy, g. Tetanus & h. Measles.

K. Describe the Epidemiology of Rheumatic heart disease, cancer, Chronic degenerative disease and cerebrovascular accidents.

L. Outline the influence of nutritional factors such as Protein Energy Malnutrition, Anaemia, Vitamin, deficiency and minerals on disability.

M. List the principles of health education methods of Communication and role of health education in rehabilitation services.

N. Define the role of community leaders and health professionals in health education

O. Outline the role of International health agencies in rehabilitation of the disabled.

EVALUATION

Clinical Cardio - Respiratory

Not for University Examination

Instruction hours : 55

COURSE DESCRIPTION

Following the basic science and clinical science courses this course introduces the student to the cardio - thoracic conditions which commonly cause disability. 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 limitation imposed by cardio - thoracic pathology on the functioning of the individual.

COURSE OBJECTIVES

The objective of this course is that after 55 hours of lectures & demonstrations. In addition to clinics, the student will be able to demonstrate an understanding of cardio - thoracic conditions causing disability and their management.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical internal evaluation) the following objectives of the course.

COURSE OUTLINE

A. ANATOMY AND PHYSIOLOGY

1. Describe in detail the anatomy of the lungs, bronchi and bronchopulmonary segments.

2. List the relationship of the bony thorax and lungs to each other and to the abdominal contents.

2. Briefly describe the variations in the bony cage in the following conditions :

   a. Cervical ribs

   b. rickets - rickety rosary

c. Pigeon chest

d. Funnel chest

e. Scoliosis

f. kyphosis

4. Describe the movements of the thorax : Bucket handle, pump handle.

5. List the muscles of respirations involved in inspirations and expirations (including accessory muscles that are involved).

6. Describe in brief the anatomy of the heart and its blood supply and briefly outline the electrical activity of the myocardium and normal ECG.

7. Describe the physiological control of respiration and highlight the function of the medullary and pontine respiratory centres and peripheral chemoreceptors.

8. Describe the mechanism for maintenance of blood pressure.

9. Describe in detail the cough reflex.

10. List the mechanical factors involved in breathing. Describe briefly factors affecting lung compliance and airway resistance.

11. List the factors affecting diffusion of oxygen and carbon dioxide in the lungs. Explain ventilation, perfusion and their interrelationship.

12. Outline the energy expenditure of various common activity of daily living.

13. Pulmonary function assessment : Briefly describe the pulmonary function tests and their use, briefly outline the basis and value of blood gas analysis.

14. Briefly outline the principles of cardio vascular stress testing.

B. CARDIAC SURGERY

1. List the cardiac conditions requiring closed heart surgery and briefly describe the following :

Acquired heart diseases (Mitral stenosis and Aortic stenosis), Congenital heart diseases (patent ductus arteriosus, Coarctation of aorta.)

2. List the cardiac conditions requiring open heart surgery and briefly describe the following: Congenital (Atrial septal defect, ventricular septal defect, pulmonary stenosis, Tetralogy of Fallot, Transposition of great vesseles and A.V. malformation), Acquired (Mitral stenosis, Mitral regurgitation, aortic srenosis, & regurgitation, coronary artery disease).

C. THORACIC SURGERY

1. Describe very briefly the clinical features and management of the following: Fracture ribs, Flail chest, Stove-in chest, Pneumothorax, Haemothorax, Haemopneumothorax, Lung contusion & laceration, Injury to Heart, Great vessels & Bronchus.

2. List the causes of empyema and its treatment. Describe briefly: Intercostal drainage, Rip resection, Decortication and window operation.

3. List the manifestations of pulmonary Tuberculosis and briefly describe tuberculoma, Bronchiectasis sicca, Bronchostenosis, Massive haemoptysis, Empyema & Destroyed lung.

4. Outline briefly the clinical features and management of the following suppurative lesions of the lung: Bronchiectasis, Lung abscess, Bronchopneumonia & Aspergillosis.

5. Outline briefly the clinical features and management of carcinoma lung.

6. Outline the extent, use and complications of the following surgical incisions: Anterolateral thoracotomy, Posterolateral thoracotomy and Median sternotomy.

7. Describe the post operative management of patients with: Segementectomy, Lobectomy, Bilobectomy, Pneumonectomy, Pleuropneumonectomy & Tracheostomy.

8. Outline briefly the principles of various ventilators and their use.

9. Describe in detail the preoperative assessment and managment of a patient posted for thoracotomy.

10. Describe in detail the following post operative procedures: management of endotracheal / endonasal tubes, tracheal suction, weaning the patient from the ventilator extubation technique & post extubation care.

11. Describe the principles of Cardio-pulmonary resuscitation: Cardiac massage, artifical respiration, defribrillators and their use.

D. MISCELLANEOUS

1. Briefly outline the management of a patient after a myocardial infarct.

2. Briefly outline the management of a patient with chronic obstructive airway disease.

EVALUATION

Community Medicine

Examination at the end of : IV Semester

Instruction hours : 55

COURSE DESCRIPTION

This course will enable students to understand the effects of the environment and the community dynamics on the health of the individual.

COURSE OBJECTIVES

The objective of this course is that after 55 hours of lectures, demonstrations, practicals and clinics, the student will be able to demonstrate an understanding of the influence of social and environmental factors on the health of the individual and society.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral and practical internal evaluation) the following objectives of the course.

A. Outline the natural history of diseases and the influence of social, economic and cultural aspects of health and diseases.

B. Outline the various measures of prevention and methods of intervention-especially for diseases with disability.

C. Outline the national care delivery system and the public health administration system and the central and state level.

D. Outline selected national health programmes

E. Define occupational health and list methods of prevention of occupational diseaeses and hazards.

F. Outline the Employees State Insurance scheme and its various benefits

G. Describe the social security measures for protection from occupational hazards, accidents, diseases, and the workman's compensation act.

H. Outline the objectives and strategies of the national Family Welfare Programme.

I. Define conmmunity based and institution based rehabilitation. Describe the advantage and disadvantages of institution and community based rehabilitation.

J. Describe the following communicable diseases with reference to reservoir, mode of transmission, route of entry and levels of prevention. a. Poliomyelitis, b. Meningitis, c. Encephalitis, d. Tuberculosis, e. Filariasis, f. Leprosy, g. Tetanus & h Measles.

K. Describe the Epidemiology of Rheumatic heart disease, cancer, Chronic degenerative disease and cerebrovascular accidents.

L. Outline the influence of nutritional factors such as protein Energy Malnutrion, Anaemia, Vitamin deficiency and minerals on disability.

M. List the principles of health education, methods of communication and role of health education in rehabilitation services.

N. Define the role of community leaders and health professionals in health education.

O. Outline the role of International health agencies in rehabilitation of the disabled.

EVALUATION

Rehabilitation Medicine

Examination at the end of : V Semester

Instruction hours : 55

COURSE DESCRIPTION

Following the basic sciences and clinical science courses this course will enable the students to understand their role in the management of disability within the rehabilitation team.

COURSE OBJECTIVES

The objectives of this course is that after 55 hours of lectures & demonstrations, in addition to clinics, the student will be able to demonstrate an understanding of :

A The concept of team approach in rehabilitation will be discussed and implemented, through practical demonstrations, with contributions from all members of the team

B. Observation and identification of diagnostic features in physical condition will be practiced through clinical demonstration.

C. Medical and surgical aspects of disabling conditions will be explained in relation to rehabilitation.

D. Indentification of residual potential in patients with partial or total disability (temporary or permanent).

E. Formulation of appropriate goals (long & short term) in treatment & rehabilitation will be discussed.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical internal evaluation) the following objectives of the course.

COURSE OUTLINE

A. INTRODUCTION

Define the term rehabilitation. Explain its aims and principles.

B. THERAPEUTIC TECHNIQUES

Explain the theory and mechanisms of therapeutic techniques, and relevant precautions, for the lollowing :

1. Joint mobilisation
2. Reducing spasm
3. Assisting weak muscles
4. Increasing endurance
5. Muscle re-education following muscle transfer surgery
6. Strengthening muscles
7. Increasing co-ordination
8. Improving balance
9. Gait training

C. COMMUNICATION PROBLEMS

Identify communication problems, classify these and outline principles of treatment / training.

D BEHAVIOURAL PROBLEMS

Identify behavioural problems in the disabled and outline the principles of managment.

E. PAIN

Describe the theories of pain and discuss therapeutic management of pain using various modalities. Describe the common myo-facial pain syndromes and outiine their management.

F. EVALUATION OF PHYSICAL DYSFUNCTION

Demonstrate methods of evaluation for physical dysfunction & management of disabilities with particuiar reference to : Spinal cord injury (paraplegia and tetraplegia), Poliomyelitis, Brain

injury, (including stroke and cerebral palsy) Arthritic conditions, Muscular Dystrophy, Hansen's diseases, Peripheral nerve lesions, Fracture disease & Chronic cardio - respiratory dysfunction,

G. ORTHOTIC DEVICES

Explain the principles involved in prescribing orthotic devices for different parts of the body. Outline the purpose of each type and list major indications & contraindications and demonstrate methods of training in their use.

H. PROSTHETIC DEVICES

Describe types of artificial limbs and thier functions.

Demonstrate methods of training in their use.

I. MOBILITY AIDS

Demonstrate knowledge of the Indications for different types of mobility aids, and their functions, eg. wheelchairs, walkers, crutches.

J. PRE-VOCATIONAL EVALUATION

Discuss methods and team involvement in pre-vocational evaluation and training.

K. ARCHITECTURAL BARRIERS

Describe architectural barriers and possible modifications, with reference to Rheumatoid arthritis, Cerebrovascular accident, Spinal cord injury, and other disabling conditions.

L. DISABILITY EVALUATION

Outline the principles of disability evaluation and discuss its use,

M. LEGAL ASPECTS

Outline legal aspects of disability in terms of compensation for disability and benefits available to the disabled.

N. SOCIAL IMPLICATIONS

Outline the social implications of disabiiity for the individual and for the community.

O. COMMUNITY BASED REHABILITATION MODULE

Describe a CBR module and compare this with an Institutional based rehabilitation system.

EVALUATION

Project
(Special Study)

Examination at the end of : VI Semester

Alloted hours : 200

COURSE DESCRIPTION

The special study is a major project undertaken by students. It is a subject in its own right and must be satisfactorily completed in order for the student to graduate. As an alternative to this, the student can present a record of cases.

The special study requires the student : to identify a problem area of relevance to the theory and / or practice of physiotharapy or occupational therapy : to carry out an investigation of one aspect of that problem area : and, to present a clear report on the process and results of the project.

Students are encouraged to identify problems of special interest to them that fall within the interest areas of physiotherapy or occupational therapy services, Students are encouraged to aim towords knowledge on the topic in the specified problem area.

COURSE OBJECTIVES

The objective of this course is that at the end of the special study will have :

1. Developed skills in critical thinking, research method (including review of literature, formulation of a problem for study, selection of a research strategy to investigate the problem,) implementation of that strategy), and the formal presentation of information related to the theory and / or practice of physiotherapy and occupational therapy.

2. Gained an interest in research, writing, and publishing material which contributes to the ongoing development of professional therapy both as a science and an art.

In addition, the student will be able to fulfil (as measured by written, oral & practical internal evaluation) the following objectives of the course.

1. Identify problems of relevance to the theory and/or practice of therapy in rehabilitation.

2, Uudertake injury into a specific problem area.

3. Formally document the stages of such a study, including description of the problem, the process of investigation, the findings and their implications for therapy education, practice and research

EVALUATION

50 marks will be awarded by internal assessment, which will include the guide

50 marks will be awarded by external examiner.

Basic Principles of Occupational Therapy
Therapeutic Aids

Examination at the end of : III Semester

Instruction hours : 780

A. BASIC PRINCIPLES

COURSE DESCRIPTION

This is an introductory course, briefly outlining the purpose and potential of occupational therapy. The students are exposed to clinical situations to illustrate the classroom teaching, but have no responsibility for patient treatment.

COURSE OBJECTIVES

The objective of this course is that after 28 hourse of lectures & demonstrations and 32 hours of practical exposure to clinical work, the student will be able to demonstrate a basic understanding of the scope and aims of occupational therapy, and a practical knowledge of atleast five activities used in treatment.

The student will be able to fulfil with 75% accuracy the following objectives of the course.

1. Describe the history and development of occupational therapy internationally. Describe the present development of O.T. in India, including organisation of All India Occupational Therapist's Association.

2. Define Occupational Therapy. Discuss the scope of O.T. in a major hospital.

3. Describe occupational therapy's contribution as part of the total rehabilitation team. Briefly outline the roles of the different team members.

4. Briefly explain objectives and media used in O.T. Outline the meaning of "occupation" in relation to treatment objectives for all ages

Define the characteristics of activities used as treatment media.

Plan analysis of activities - for physical, psychological and general aspects.

Outline treatment objectives for children - developmental, remedial (physical, mental and emotional), ADL. Include use of play, creative and congnitive activities.

Outline treatment objectives for physical conditions: remedial (physical & mental) ADL, prevocational, resettlement.

Outline briefly psychiatric treatment objectives:- Remedial (Emotional, social cognitive) ADL, prevocational and resettlement aspects.

Mention purpose of community based rehabilitation (CBR); use of activities related to the home situation and environment.

5. Briefly outline basic departmental organisation and administration in various hospitals / departments, including :-

—Methods of referral - written and verbal

—Consideration of space, personnel and budget required.

—Development of (CBR), and personnel involved.

6. Outline the ethics and etiquette relevant to O.T. as follows :-

—Professional conduct.

—Need for confidentiality in treatment of patients.

—Inter-staff, and therapist-patient relationships.

EVALUATION

2 tests - one half way through the course and one at the end.

Practical demonstration in clinical areas.

Clinical observation 5 days.

B. THERAPEUTIC ACTIVITIES

COURSE DESCRIPTION

A variety of practical activities are tauget in order to provide a wide selection of therapeutic media relevant to the need of individual patients. For each activity the following objectives apply.

COURSE OBJECTIVES

The objectives of this course is that after 720 hours of demonstrations and practicals the student will be able to demonstrate an understanding of materials, tools and methods required for the activities studied, and their application in occupational therapy.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written assignments & practical work) the following objectivies of the course :

A. Demonstrate the process involved.

B. Explain and demonstrate methods of handling the materials.

C. Plan and design simple, relevant projects in each activity learnt.

D Demonstrate ability to teach the activity to both individuals and groups. This will include both patients and fellow students.

E. Analyse processses involved for physical, mental and emotional aspects prevocational and vocational purposes.

F. Apply and adapt the activity appropriately for specific therapeutic, prevocational and vocational purposes.

COURSE OUTLINE

Atleast eight of the following activities, including carpentry and design, should be learnt. Marks will be included with inter-

nal assessments for the current O.T. examination. Oral and practical examination will be conducted in Therapeutic Activities in the III Semester O.T. examination.

1. CARPENTRY

A. Introduction to Carpentry - Students will be able to describe different types of wood, inculding care and storage. Selection of wood, cost and availability.

B. Technical drawing - Students will be able to make technical drawing of joints and projects made.

C. Carpentry tools - Students will be able to describe structure, functions, positions of use and precautions in using each tool, also to explain care and maintenance of tools.

D. Joints - Students will be able to identify and make 4 different types of joints,

E. Projects - Students will plan small individual or group projects, make diagrams, and identify the source and cost of materials. They will make the projects under supervision.

F. Appiication - Students will be able to explain therapeutic values and application for O.T. They will analyse atleast 3 processes and describe including methods of adaptations of tools.

File preparation - Students will compile information on above aspects. Fiies will be marked.

Practical Test will be conducted and projects marked,

2. DESIGN

A. Introduction to design - Students will be able to identify design in nature, textures, buildings, textiles, etc., to apply the colour wheel (primary and secondary colours, different shades and tones) for colour preparation.

B. Students will carry out and describe therapeutic value of the following :

1. Painting / designs (blow, spray, blotch, finger, oil. wax, thread, charcoal, etc.)
2. Montage and collage
3. Paper mat weaving and paper folding,
4. Paper cutting and streamers
5. Macrame - cord / knotting
6. Symography
7. Ball decoration and paper beads. Plate decorations and coconut shell designs.
8. Aluminium wire pictures. Wire decorations.
9. Embroidery (4 stitches)
10. Lettering and posters
11. Batik printing
12. Tye and Day fabric design
13. Block designing and printing, including adaptations
14. Finger puppets clay modelling and paper mache.
15. Hand puppets, and dramatic presentation as group work.

C. Each student will teach their class 1 or 2 activities of their own choice.

D. Therapeutic application and analysis of physical, and psychological aspects. Observation of application in O.T.; psychiatric & paediatric application in detail.

File preparation - compiling of methods samples for each activity. Children's activities to be compiled separtely with appropriate therapeutic values. Files will be marked.

3. WEAVING AND CHAIR CANING

Weaving

A. Indroduction : Students will outline history of weaving. They will explain different types of weaving and describe parts of looms - table loom, floor korai loom and 4 shaft pit loom.

B. Students will be able to carry out and describe the following :

1. Simple card weaving.

2. Setting up loom and weaving tabby or twill using table loom or floor loom.

3. Frame weaving - turkish knot, tabby and braid weaving.

4. Therapeutic application, activity analysis of above.

Chaircaning

Chaircaning

A. Students will be able to carry out and describe the following :-

1. Preparation of frame (for chair or stool).

2. Seven different steps in weaving the cane.

B. Application of therapeutic prevocational and vocational values.

File preparation - Illustrations of above processes and OT application will be marked.

4. LEATHER WORK

A. Outline - History.

1. Types of hides and skins used in leather work.

2. Manufacture leather, different characteristics in relation to methods employed.

3. Leather purchasing and calculation of cost.

B. Describe and use tools - basic tools, cutting tools, sewing tools, tools for special effcts.

Ontline purchase and care of tools.

Cary out techniques - cutting, thonging, stitching, punching, braiding, lining, fastenings (rivets, eyelets, press buttons, buckles, zips and velcro), decorating leather articles, use of paints, dyes and finishes.

C. Prepare 1 splint and 1 aid eg. opponens splint and palmar pocket aid.

D. Prepare 1 or 2 projects - eg. watch strap, purse, wallet, belt, pocket pouch, spectacle case etc., using as many techniques as possible.

E. Demonstrate practical knowledge of -

1. chappal making, with aids and adaptations.

2. costing, of projects and footwear.

F. Outline - storage availability, cost and care of materials.

G. Application : Activity analysis, therapeutic values and use to the therapist.

File preparation - On all the above. Practical test Marks will be given also for projects and files.

5 TAILORING

A. Demonstrate the use, methods of adjustment and care of a sewing machine. Quote current prices and types of machines avilable.

B. Carry out the following processes as practise samples, and on articles made :

1. Types of stitch and their uses.

2. Types of seams and their uses.

3. Types of opening and their uses.
4. Types of fastening and their uses.
5. Types of finishing and their uses.
6. Pattern making, measuring and cutting.

C. Complete the following simple articles :
1. Pillow case.
2. Shopping bag.
3 Apron.
4. Cushion cover.

D. Complete any three of the following:
1. Underwear (half pants),
2. Underskirt.
3. Child's dress-2 simple patterns.
4. Blouse.

E. Application :
1. Job analysis of a tailor.
2. Use of tailoring knowledge and ability to the therapist.
3. Vocational and therapeutic aspects for patients.
4 Possible adaptation to equipment.

File preparation - Marks will be given for articles and files.

6. BOOK BINDING

A. Outline the art of book binding.

Describe book binding equipment and how to use it.

Describe maintenance and care of binding tools and equipment.

B. Practical sessions :

1. Simple binding procedures, eg. chit pads and letter pads.

2. Section binding (including stitching).

3. Costing of projects made.

C. Application-therapeutic, prevocational and vocational values. File preparation on above methods and application. Marks will be given for files and projects.

7. HAND PRESS PRINTING

DEMONSTRATE

A. Different types of presses.

Different types (letters)

Availability of machine. parts etc ,

Cost of equipment tools and materials.

B. Hard press printing process. Use of tools, equipment and materials.

C. Planning of items to be printed,

Demonstrate composing.

Compose item to be printed.

Demonstrate preparation of matter in chase, to make up the forms.

D. Printing :

Demonstrate preparation of press and ink : and printing using Adana hand press.

Clean the press, rollers and types.

E. Visit to a commercial printing press for observation.

F. Plan therapeutic application for: Psychiatric conditions, including group implications. Vocational possibilities.

File preparation Marks will be given for files.

8. METAL WORK

A. Identify types of metal strip and sheet, and measure their guage.

B. Handle materials and use basic tools and adapted equipment.

C. Demonstrate care, maintenance and storage of tools.

D Carry out simple sheet metal work, including paper pattern making. Make a simple project - eg. drinking or writing aid.

E Make a simple wrought iron project - eg. candle holder, letter rack.

F. Make a brush on wire twisting machine.

G. Demonstrate therapeutic application - use of adapted handles, grading for strength, bilateral co-ordination etc. also use of metal work to the therapist.

File preparation - on above, including costing of projects. Projects and files will be marked.

9. HAND SPLINTING

A. Describe goals of splinting. Explain classification of hand splints+their application to treatment.

Identify splint types and materials used.

B. Demonstrate and apply the principles of hand splinting and the processes for preparing splints.

Practical work:

1. Pattern and measurement making.

2. Four splints to be made by each student - 2 in O.T. and 2 in ALC.

3. Low temperature moulded splinting-demonstration in O.T.

4. Alkathene splinting - abservation in ALC - use of POP in positive and negative moulds.

5. POP hand splinting of atleast two types, including serial splinting. Observation in Orthopaedics or Hand Physiotherapy section.

C. Demonstrate fitting of hand splints on patients, one static, one dynamic.

D. Carry out a hand splint check out.

Assignments on relevant chapters in books on hand splinting.

File preparation. Splints and files will be marked.

10. TYPEWRITING

A. 1. Outline use of the activity - in administration (by O.T.) treatment of patients and vocational use.

2. Identify different types of typewriter: Portable, Office type, Policy type.

3. Demonstrate general operating mechanism of the machine. Parts of the machine, its functions, care and maintenance.

4. Demonstrate position of the typist, height of table and chair.

5. Demonstrate touch typing technique.

B. Achieve with moderate accuracy and teach, exercises for :

1. Fingering and simple words.

2. Simple sentences.

3. Complex sentences.

4. Use of punctuation marks etc.

Evaluate typing work for speed and accuracy.

C. Demonstrate lay out for: Official and personal letters, applications etc.

D. Demonstrate adapted methods:

One hand typing.

One finger typing and use of aids - describe the method and comparative time taken.

E. Identify faults in typewriter, and organize repairs.

F. Carry out activity analysis and therapeutic application of typing.

File preparation. Files will be marked.

11. HOME SCIENCE

Students will be able to formulate practical ideas for:-

A. Adapting a house for different types of handicapped people, including appropriate working levels, toilet level accessibility, types of stoves, storage levels.

B. Planning the days work for a housewife with physical limitations, including energy saving techniques: and for a housewife with mental or emotional limitations.

C. Planning balanced diets in relation to socio-economic backgrounds.

D. Planning special diets, when relevant for their patients.

E. Starting a vegetable garden in the home.

F. Hygiene and safety measures in the home, in relation to different handicapping conditions, (physical, mental and emotional).

File preparation : This is an applied subject. Notes and diagrams on the above will be marked.

EVALUATION

1. As described at the end of each section.

2. Oral & practical examination in Therapeutic Activities.

3. 50% of O. T. examination in Semester. III; to include only those subjects covered at that stage, a minimum of five.

Clinical Psychology

Examination at the end of : IV Semester

Instruction Hours : 35

COURSE DESCRIPTION

This field of psychology covers the application of psychological principles in the etiology, pathology, assessment and management of abnormal conditions of all age groups. This course runs concurrently with Psychiatry for occupational therapy students. The basic foundation of general psychology would have been covered in I Semester.

COURSE OBJECTIVES

The objective of this course is that after 30 hours of lectures, demonstrations and clinics the student will be able to demonstrate an ability to apply their knowledge of psychology in clinical situations for assessing, understanding, and treating their patients. They will learn to understand themselves, their feelings, attitudes and behaviour.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical internal evaluation) the following objectives of the course :

A. To evaluate attention, concentration, sensation and perception, and mention related abnormalities.

B. To understand and explain behavioural aspects of learning and maturation, and appropriately use behavioural aspects.

Behaviour techniques in therapy

C. To evaluate memory, thinking & intelligence and mention related disorders.

D. To evaluate motivation, emotion and personality and assess their pathological manifestations.

E. With the concepts of conscious and unconscious mind to explain frustration and conflicts, and to study the role of mental mechanisms in normal and abnormal conditions.

COURSE OUTLINE

A. Definition of clinical Psychology. General and historical introduction.

Psychology in relation to medicine, Different schools.

Methods in Clinical Psychology : Case history method, Interview Techniques, Clinical observation, Situational tests, Questionnaires.

B. Concepts of normality and abnormality : Causes of abnormality, Criteria for abnormality. Borad classification of Current model of abnormal behaviour - Medical model, Psychodynamic model, Behaviouristic model & Humanistic model etc.

C. Functional units of mint id, ego and super ego - Their functions and interactions.

Role of mental mechanisms in normal and abnormal behaviour.

D. Disorders of attention and concentration : sensation & 7 perception, memory, thinking, emotion etc.

Measurements - possible demonstrations and practical work to be organised.

E. Intelligence and mental subnormality.

Intelligence test - demonstrations.

Measurment of intelligence - children & adults.

Factors contributing to mental retardation.

Prevention - Remedy and care.

F. Personality disorders.

Evaluation of Personality - Projective techniques.

G. Learning and maturation with specific reference to behavioural aspects.

Behaviour techniques in therapy.

H. Counselling, Psychotherapy and Psychodrama.

Brief psychotherapy - Psychodrama.

Students al and abnormal conditions.

COURSE OUTLINE

A. Definition of Clinical Psychology. General and historical introduction.

Psychology in relation to medicine. Different schools.

Methods of clinical Psychology : Case history metbod, interview Techniques, Clinical observation, Situational tests, Questionnaires.

B. Concepts of normality and abnormality Causes of abnormality, Criteria for abnormality, Board classification of Current model of abnormal behaviour - Medical model, Psychodynamic model, Behaviouristic model & Humanistic model etc.

C. Functional units of mind id, ego and super ego - Their function and interactions.

Role of mental mechanisms in normal and abnormal behaviour.

D. Disorders of attention and concentration : sensation & perception, memory, thinking, emotion etc.

Measurements-possible demonstrations and practical work to be organised.

E. Intelligence and mental subnormality.

Intelligence test - demonstrations

Measurment of intelligence - children - adults.

Factors contributing to mental retardation.

Prevention - Remedy and care.

F. Personality disorders.

Evaluation of Personality - Projective techniques.

G. Learning and maturation with specific reference to behavioural aspects.

Behaviour techniques in therapy.

H. Counselling. Psychotherapy and Psychodrama,

Brief psychotherapy - Psychodrama

Students or to be posted in Psychiatry to attend the outpatient clinics for atleast a period of 2 to 4 weeks.

EVALUATION

REFERENCES

1. Abnormal Psychology and Modern Life - by C. Coleman.

2. Guide to mental test by Cattell.

BOOKS RECOMMENDED

Abnormal Pyschology by T. E. Shanmugam.

PSYCHIATRY

Examination at the end of : IV Semester

Instruction hours : 35

COURSE DESCRIPTION

In this course students will study abnormality of behaviour and mental functioning. It follows the study of Psychology and Clinical Psychology Course of mental illness, preventive measures, and all clinical syndromes are covered. All treatment thories, approaches and pharmacological aspects will be considered, with parcticular emphasis on current use.

This will be done through 18 hours of lectures and 12 hours of clinical experience in cases studies and discussion.

COURSE DESCRIPTION

The objective of this course is that after 30 hours of lectures, demonstrations and clinics the student will be able to demonstrate an understanding of mental illness, methods of assessment add approaches used in therapy.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written oral & practical internal evaluation) the objectives of the course :

1. Explain the causes and describe preventive measures for mental illness.

2. Describe possible symptoms in relation to clinical syndromes.

3. Discuss methods of treatment and explain the main treatment approaches.

4. Appreciate legal aspects of psychiatric illness and psychiatric management.

COURSE OUTLINE

A. 1. Introduction. A brief history of psychiatry, with special reference to India and to ancient Indian medicine and its relationship with psychiatry. History taking in psychiatry including mental examination and assessment.

2. Causes of mental disturbances :

a. Hereditary factors.

b. Embryonic development factors.

c. Birth injury.

d. Endocrine disease.

e. Systemic diseases / accidents.

f. Cerebral diseases.

g. Emotional factors.

h. Stressess related to cultural factors.

3. Preventive measures : in relation to consanguinous marriages, adequate ante - natal care, obsteric care, mother and child services, psychological services (eg. child guidance, counselling services).

B. Symptoms of mental illness :

1. Disturbances of consciousness.

2. Disturbances of reasoning and judgement.

3. Disturbances of memory.

4. Disturbances of thought and perception.

5. Disturbances of volition.

6. Disturbances of motor behaviour.

7. Disturbances of speech.

8. Disturbances of affect.

C. Methods of treatment :

1. Individual and group psychotherapy.
2. Physical methods.
3. Chemotherapy, E.C.T , Insulin therapy, sychosurgery.
4. Social and rehabilitation.
5. Family interaction, environmental manipulation.
6. O.T. : Art, creative activity, social, music and recreation therapy - outline only.

D. Criteria for classification and definition of psychiatric illness.

E. Description of the various clinical syndromes including etiology, clinical features, course, treatment and prognosis. To include ;

1. Psychoneuroses.
2. Functional Psychoses - schizophrenia,
   - affective illness.
3. Organic status - general features of :

Toxemia ; epilepsy ; anoxia ; metabolic disorders; cerebral vascular disorders ; infections, tumours ; degenerative conditions; dementias; head injury; drug induced psychosis; endocrine diseases and menopausal syndromes (acute delirious states and chronic organic psychotic states).

4. Substance abuse.
5. Personality disorders
6. Sexual dysfunctions and disturbances in sexual orientation.
7. Mental deficiency including treatment of accompanying physical symptoms.

8. Psychiatric disorders of childhood.
9. Psychiatric disorders of adolescence.
10. Psychiatric disorders of old age.
11. Psychosomatic syndromes.

F. Legal aspects related to psychiatric patients.

1. Civil responsib li.y.
2. Criminal responsibility.
3. Testamentary capacity.

G. Clinical teaching case studies and discussion.

EVALUATION

Occupational Therapy in Paediatrics

Examination at the end of : V Semester
Instruction hours : 50

COURSE DESCRIPTION

This course covers the application of the principles of occupational therapy to physical, mental and emotional disorders of childhood. It is the first of five courses in the application of Occupational Therapy.

COURSE OBJECTIVES

The objectives of this course is that after 45 hours of lectures, demonstrations, practicals and clinics the student will (with 75% accuracy, as measured by written, oral & practical evaluation) be able to demonstrate an understanding of :

—Areas of abnormal and delayed development in children from birth to 5 years.

– Psychological reactions of children to hospitalization and to disability.

—Appropriate therapeutic approaches and techniques for the physical, mental and emotional disorders of childhood and related reactions.

—Treatment plans appropriate to a child's condition and stage of development.

COURSE CONTENTS

A. NORMAL DEVELOPMENT FROM BIRTH TO FIVE YEARS

1. Physical development.

2. Reflex development + Practicals.

3. Perceptual, mental, emotional and play development and testing.

+ Practicals (eg. perceptual testing).

B. PSYCHOLOGICAL ASPECTS

1. Psychological reactions to disability in childhood and O.T. role.

2. Psychological aspects of hospitalization, and O.T. role.

C. TREATMENT APPROACHES I (Children's activities)

1. Play therapy.

2. Creative activities.

D. TREATMENT APPROACHES II (Practicals)

1. Bobath NDT.

2. Rood's neuromuscular facilitation.

3. Ayre's Sensory Motor Integration.

4. Peto's - Conductive Education.

5. Special Education principles of education for perceptual and cognitive training.

E. O. T. APPLICATION (including review of each condition)

1. Cardiac conditions of childhood.

2. Cerebral palsy.

3. Sensory perceptual dysfunction.

4. Muscular dystrophy.

5. Erb's palsy.

6. Poliomyelitis.

7. Spina bifida and hydrocephalus.

8. Arthrogryphsis and other congenital orthopaedic disorders.

9. Stills disease.

10. Early intervention for congenital neurological disorders (High risk infants).

11. Nutritional disorders.

12. Mental retardation, including Down's syndrome.

13. Learning disability (MBD).

14. Autism.

15. Hyperactivity.

16. Behaviour disorders.

17. Visual / auditory loss.

18. Speech and communication disorders.

19. Paediatric splinting.

EVALUATION

Occupational Therapy In Neurology & Orthopaedics

Examination at the end of : VI Semester

Instruction Hours : 70

COURSE DESCRIPTION

This course follows the study of Neurology and Orthopaedics and involves the application of occuaptional therapy techniques to these conditions. Further study on aspects of rehabilitation and team involvement will be covered in O.T.V.

COURSE OBJECTIVES

The objective of this course is that after 66 hours of lectures, demonstrations, practicals and clinics the student will be able to demonstrate an understanding of evaluation and therapy techniques used in occupational therapy for neurological and orthopaedic conditions.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical evaluation) the following objectives of the course :

1. Practically apply basic principles of kinesiology and functional anatomy to the evaluation and treatment of orthopeadic and neurological conditions.

2. Demonstrate appropriate evaluation procedures for patients with conditions commonly referred from orthopaedics and neurology.

3. Analyse and apply therapeutic activities using biomechanical and neurodevelomental approches appropriately.

4. Discuss Psychological factors affecting selection of treatment media.

5. Outline the principles and goals in design, indications and fitting of hand splints, prostheses, calipers and walking sids.

COURSE OUTLINE

A Activity analysis and therapeutic activity for physical conditions, including :

1. Selection criteria and grarding methods.

2. Positioning and posture.

3. Muscle action and range of motion (Biomechanical approach).

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, Muscle strength, Muscle tone, Coordination, Control of movement, Sensation (cutaneous and cortical), Cortical functions, Hand functions (in detail), Gait, ADL (activities of daily living).

C. 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 tefm 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.

c. Leprosy deformities (including appropriate reconstructive surgery and muscle re-education)

d. Volkmam's ischaemic contracture.

e. Brachial plexus injury.

2. Amputations, emphasising upper limb treatment and prosthetic training.

3. Fractures, with emphasis on upper limb and complications.

4. Muscular dystrophy.

5. Motor neurone disease.

6. Multiple sclerosis.

7. Parkinson's disease.

8. Cerebellar ataxia.

9. Cerebrovascular Accidents.

10. Cerebral tumours.

11. Head injuries.

12. Guillain Barre Syndrome.

13. Spinal cord injuries.

14. Poliomyelitis.

15. Low back pain.

D. Hand splinting - classification and application of treatment. Materials used, and precautions to be observed. Practical splint making classes - see Therapeutic Activities outline (20 hrs).

EVALUATION

Occupational Therapy In Psychiatry

Examination at the end of : V Semester

Instruction Hours : 75

COURSE DESCRIPTION

This course follows the study of clinical psychology and psychiatry. It covers the practical application of occupational therapy in psychiatric treatment, including a variety of assessment and treatment approaches.

COURSE OBJECTIVES

The objectives of this course is that after 60 hours of lectures, demonstrations, practicals and clinics the student will be able to demonstrate an understanding of evaluation and therapy techniques used in occupational therapy for psychiatr c conditions.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical evaluation) the following objectives of the course :

A. Describe the history of psychiatric occupational therapy, and its development upto the present day.

B. Define O.T. in relation to psychiatry, and the role of an occupational therapist in the psychiatric team.

C. Describe the general characteristics of a potential client. Identify problems that make a person seek help. Compare types of referrals. Dsicuss the potential of psychiatric O. T. in the community.

D. Discuss the role of activities in psychiatric treatment, including trial of patient, therapist and activities context of environment.

E. Define and describe the following approaches in evaluation and treatment of psychiatric conditions :

1. Cognitive behaviour.

2. Behavioural.

3. Phychoanalytical.

4 Occupational behaviour.

5. Therapeutic use of self.

6. Projective techniques, and developmental approach.

7. Developmental groups and developmental approach.

8. Mosey's adaptive skills.

9. Sensory Integrative approach.

10. Problem oriented approach.

F. List and describe the various attitudes applied by the therapist in different conditions

G. Analyse activities with reference to phychiatry and phychodynamics of activities.

H. Describe in detail the assessment of a client, including specific methods used in the following :

1. Observation.

2. Interest checklist.

3. Interview.

4. Personality questionnaire.

5. ADL

6. Vocational and Pre-vocational.

I. Help students to identify their client's psychiatric problems in relation to the practical situations observed in O.T., eg. restlessness manifesting as decreased concentration and attention.

J Discuss O.T. assessment, treatment aims, plan and methods of treatment for the following conditions :

Psychoses : Schizophrenia.

Mania.

Depression.

Neurosis : Neurotic depression.

Anxiety.

Hysteria.

Obsessive compulsive neurosis.

Phobia states.

Alcoholism and drug addiction : Marital problems.

Psychopathic personality.

Personality disorders : Organic brain syndrome.

Mental Retardation.

Epilepsy.

k, Review psychiatric problems of childhood and apply O,T. principles and techniqes.

L. Outline the types of therapeutic groups, and discuss the value of group therapy in psychiatry.

Demontstrate practical ability to plan for the following :

1. Awareness group.
2. Sensory Integration Groups.
3. Alcoholic groups.
4. Task oriented groups.
5. Stress management groups, including relaxation techniques.
6. Anger management groups.
7. Assertive training groups.

Discuss the qualities of an effective group, including : optimum number, aims abjectives, grouping of patients, and leadership roles.

Explain different types of leadership; Active, supportive, authoritarian and democratic and list their use in therapy.

M. 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.

Outline the following psychiatric set ups, and the role of O.T. in each.

1. Therapeutic community.
2. Half Way Homes.
3. Geriatric units.
4. Sheltered workshops.
5. Day care centres.
6. Government mental hospitals and psychiatric institutions.
7. Family therapy units.
8. Psychiatric rehabilitation.

EVALUATION

Tests and discussion / revision.

Occupational Therapy In Rehabilitation

Examination at the end of : VI Semester

Instruction Hours : 60

COURSE DESCRIPTION

This course covers reshabilitation methods in detail and the application of O.T. to physical conditions not covered in O.T. in Neurology and orthopaedics, and including medical, surgical and chronic deforming conditions, visual and hearing deficits. It runs parallel to Rehabilitation Medicine, which is studied together with physiotherapy students. The exam covers both subjects.

COURSE OBJECTIVES

The objective of this course is that after 60 hours of lectures, demonstrations, practicals and clinics the student will be able to demonstrate an understanding of the OT role in medical and surgical conditions, and rehabilitation methods for people with residual disability.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical evaluation) the following objectives of the courses :

A. Explain the role of O.T. in rehabilitating the physically disabled. Describe in detail ADL and functional assessmegt, training and planning methods of mobility.

B. Discuss the removal of architectural barriers, and use of appropriate adaptive devices. Explain purposs and methdology in home situation evaluation.

C. Discuss the role of O T., including therapeutic media, in rehabilitation of the deaf and visually handicapped.

D. Explain in detail the O.T. objectives and principles and appropriate treatment media, for the following.

1. Arthritis.
2. Burns.
3. Cardiac rehabilitation.
4. Hansen's disease - early treatment, prevention of early deformity, treatment of neuritist reaction, rehabilitation measures for chronic disabilities.
5. Amputees, both upper and lower limb including rehabilitation measures.
6. Cancer with emphasis on terminal illness and post operative treatment.
7. Geriatric condition, including social implications.

E. Plan appropriate hand splints design. Prepare and fit four different hand splints, and explain their use.

F. Explain disability evaluation for physical conditions and mention the legal aspects relating to compensation and insurance.

G. Outline the role and vale of O.T. in Community based Rehabilitation (CBR) with emphasis on rehabilitation of disabled children. Identify occupational hazards in the community and discuss possible safety precautions.

H. Demonstrate the principles and practice of work / job analysis in relation to pre-vocational assessment and training. Identify situations for their use by occupational therapists.

I. Observe and interpret psychological reactions in patients with physical disabilities and their relatives, and plan therapeutic approaches and methods for treating such reactions. Understand the principles and use techniques of group dynamics in both psychiatric and physical treatment areas as agents of change in behaviour.

EVALUATION Seminar / tests.

Occupational Therapy Organization, Administration & Workstudy

Examination at the end of : VI Semester

Instruction Hours : 60

COURSE OBJECTIVES

The objective of this course is that after 50 hours of lectures, demonstrations, practicals and clinics the student will be able to demonstrate an understanding of the principles and methods of organization, administration and workstudy as appropriate to the O.T. delivery system and to patien treatment and training.

In addition, the student will be able to fulfil with 75% accuracy (as measured by written, oral & practical evaluation) the following objectives of the course.

ORGANIZATION AND ADMINISTRATION

A. Outline the purpose of the subject in relation to O.T. Define organization. Explain aspects of administration : in general and in relation to O.T. work situations. Outline principles of administration.

B. Describe methods of administration in an O.T. 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.

C. Demonstrate administration of the following.

1. Stote keeping - materials, inventory records, Purchase ordering, Petty cash accounting.

2. General maintenance of equipment, furniture, buildings, Costing of splints / aids / equipment / articles / made in O.T.

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 O. T. department annual reports. Calculate monthly and annual statistics. Make plans for future reguirements eq. 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 O.T. Discuss considerations relating to the following.

1. When using small hand tools.

2. General safety in the O.T. 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.

M. Plan teaching methods for assistants and O.T. 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, billing, petty cash records.

WORK STUDY

A. WORK

Define work. Explain the purpose and need to work and identify its relationship to culture. Describe the importance of work to a handicapped person. Distinguish categories of work. Outline the importance of work study to an occupational therapist.

B. JOB ANALYSIS

Explain the purpose of job analysis. Identify aspects to be analysed-using sample form. Gain experience in analysing different types of job. Carry out individual assignments.

C. PRODUCTIVITY

Define productivity. Mention factors which influence productivity and causes for decreases productivity.

D. WORK STUDY PRINCIPLES

Perform work measurement related to productivity Carry out methods of recording and analysing. Use process chart flow diagram accurately.

Prepare a string diagram.

Participate in problem solving-practical activity. eg. 1) coffee making using string diagram. 2) Serving of meals in a ward using flow diagram or process chart.

Teach different symbols used in a process chart.

E. WORKING CONDITIONS

Specify importance of good working conditions and their relationship to productivity. List different aspects of working conditions-lighting, ventilation, sanitory facilities, safety precautions etc.

F. MOTION ECONOMY OR ERGONOMICS

Specify the main objectivies of ergonomics, energy saving techniques, using free movements, gravity, pre-arrangement of work etc. Describe energy saving and joint protection techniques in O.T. related to relevant conditions eg. arthritis.

G. VISITS

1. Make visits of observation to local industries for observation of how to :

a. Carry out practical job analysis and recording.

b. Assess working condition.

c. Note the use of facilities like Workmen's Compensation, insurance benefits.

d. Observe distribution of work and line of responsibility.

e. Notice productivity: whether it is profit making or subsidized etc.

f. Identify advantages and disadvantages (limitations) of including sheltered workas a part of occupational therapy.

2. Visit sheltered workshops and other sheltered work situations for physically or mentally handicapped people, in order to:

a. Enumerate organizational aspects to consider when setting up a sheltered workshop for physically, emotionally or mentally handicapped people.

b. Identify advantages and disadvantages in setting up a production workshop. Specify an occupational therap'st's role in this activity.

3. Assignments on visits to be submitted.

EVALUATION

Clinical Practice

Not for University Examination

Instruction hours : 1220

COURSE OBJECTIVES

After 1220 hours of clinical experience the student will be able to demonstrate an understanding of the basic requirements of occupational therapy in each O.T. section.

FIRST CLINICAL POSTING

After the first clinical posting in each of eight O.T. sections, the student will be able to fulfil with 75% accuracy (as measured by report of the supervising O.T. staff) the following objectives of the course.

A Outline the role of O.T. in that area.

B. Describe the conditions of patients treated.

C. Identify the common physical/mental / emotional problems experienced by patients, and demonstrate relevant evaluation procedures for each.

D. Take part in treatment planning, contributing ideas to treatment programme.

E. Prepare activities (treatment media) for atleast treatment aims, including equipment adaptation.

F. Explain the contribution made by other members of the treatment team for each patient treated.

G. Plan the treatment programme for each am / pm, re patient's treatment timings etc., and carry it out in cooperation with staff (therapists, technicians, and attenders).

H. Write assessments and progress reports, on the patient's allocated to them, along with the supervising therapists.

I. Communicate in clinics / ward rounds / conferences with doctors incharge of patients, and with other team members.

EVALUATION

Files-Students to record descriptions of as many aspects as possible, relevant to above ojectives. To hand in this material each week of posting, to supervising therapist.

One a week each student to give a short presentation, for discussion session with staff and other students in the section. This may be on a patient's treatment, an aid or splint being used or planned, etc.

SECOND & THIRD CLINICAL POSTING

During the second & third clinical postings in the same placement (work area) :

Students will be responsible for at least 4 patients throughout the period, under the guidance of a therapist.

Student may also observe and take active interest in any other patient for whom they are not responsible, as long as time permits.

After these postings in any of eight O.T. sections. the student will be able to fulfil the following objectives.

A. Describe in detail the role of O.T. in that area.

B. Explain the prognosis of patients treated.

C. Explain the phsical / mental / emotional problems experienced by patients, and carry out relevant evaluation procedures for these.

D. Carry out treatment planning, contributing ideas to the treatment team.

E. Use appropriate treatment media for all conditions / patients rreated, adaptating equipment as progress is achieved.

F. Plan and co-operate with other members of the treatment team for achieving objectives of treatment.

G. Take responsibility for atleast one administrative or organizational duty in the treatment area, eg. care of equipment / materials.

H. Improve in ability to write concise, relevant evaluations and progress notes on patients treated, in consultation with therapist.

I. Present their patients to the treatment team at clinics, rounds, conferences erc. - clearly demonstrating progress made and present treatment objectives.

EVALUATION

Files - Students to record descriptions of any aspects of treatment not already observed and recorded, relevant to above objectives To hand in this material each week of posting, to supervising therapist, for discussion / correction.

Once in a posting each student to give a case presentation, for discussion with staff and other students. Clear and concise summary of the history, presenting symptoms and treatment objectives should be demonstrated.

Evaluation of the student's knowledge, skills and behaviour (as demonstrated in their clinical experience and assignments) will be made and discussed with the student by the supervising therapist after each posting. Marks will be included in the appropriate sesssional marks