



OFFICE OF THE I/C CONTROLLER OF EXAMINATION GOVERNMENT MEDICAL COLLEGE BARAMULLA

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Subject: Syllabus for various posts advertised vide No. 09 of 2023 Dated: 19-06-2023 and also Revised (Changed) syllabus for Clinical Staff for Casualty Bed.

Notice

In continuation and partial change to office notice vide no. GMC/BLA/Exam/2023/141-45 dated 10-08-2023, the syllabus for the posts, advertised vide aforementioned advertisement notice is hereby notified as per the details given in Annexure "A" to "D" to this notice.

S. No	Name of the Post	Annexure
1	Physiotherapist	A
2	Occupational Therapist	B
3	Dietician	C
4	Clinical Staff for Casualty Bed	D

Note: The syllabus for the post of Clinical Staff for Casualty Bed is revised (changed) as Annexure 'D' to this notice.


I/C Controller Examination
Govt. Medical College Baramulla.

No. GMC/BLA/Exam/2023/210-12

Dated: 26 -09-2023

Copy to:

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SYLLABUS FOR MCQ TEST
OF PHYSIOTHERAPIST

Time= 100 Minutes
Total Marks=100

ANATOMY AND PHYSIOLOGY

General Anatomy

1. Introduction various terminologies used, anatomical position etc.
2. Regions of Body, cavities and Systems outline.
3. Connective tissue & its modification, tendons, membranes, Special connective tissue.
4. Bone structure, blood supply, growth, ossification, and classification.
5. Muscle, Nerve, blood vessels & lymphatics - structure, types & distribution
6. Joints - classification, structures of joints, movements, range, limiting factors, stability, blood supply nerve supply, dislocations and applied anatomy.

Thorax (in brief):

1. Thoracic cage
2. Lungs and respiratory tree
3. Heart and great vessels.

Upper extremity:

1. Bones & Joints.
2. Muscles - origin, insertion, actions, nerve supply & blood supply.
3. Major nerves - course, branches and implications of nerve injuries.
4. Development of limb bones, muscles and anomalies.

Lower Extremity:

1. Bones & joints
2. Muscles - origin, insertion, actions, nerve supply & blood supply
3. Major nerves - course, branches and implications of nerve injuries

Spine:

1. Vertebral column - Structure & Development, Structure & Joints of vertebra

Abdomen and pelvis:

2. Abdominal cavity - divisions
3. Muscles of Abdominal wall, pelvic floor
4. Digestive system (Liver & pancreas, Alimentary canal).

Head and neck :

1. Central nervous system - disposition, parts and functions
2. Cerebrum (Brief Description)
3. Cerebellum (Brief Description)
4. Spinal cord-anatomy, blood supply, nerve pathways, applied significance
5. Pyramidal, extra pyramidal system
6. Ventricles of brain, CSF circulation (Brief Description).
7. Development of nervous system & defects (Brief Description)
8. Nerve plexuses.
9. Cranial nerves - special emphasis on V, VII, X, XI, XII (course, distribution and palsies)
10. Sympathetic nervous system, its parts and components (Brief Description),
11. Parasympathetic nervous system (Brief Description).

- **Endocrine - system - Pituitary, Thyroid, parathyroid (Brief Description)**
- **Special senses (Brief Description): Nerve receptors, Eye, Ear, Labyrinth**
- **Embryology (Brief Description): - General embryology, placenta.**

Annexure 'A'

General Physiology (brief description only)

1. Structure of cell.
2. Functional morphology of cell
3. Intercellular communication
4. Homeostasis

Cardiovascular System (descriptive)

1. Anatomical, biophysical consideration of arterial, arteriolar & capillary venous level, Lymphatic circulation
2. Hemodynamics.
3. Origin and spread of cardiac excitation
4. Basic idea of Electrocardiogram
5. Cardiac cycle, Cardiac output, its regulation

Respiratory System (descriptive)

1. Physiological anatomy of lungs, mechanics of respiration
2. Pulmonary circulation, Gas exchange in lungs
3. Oxygen & Carbon dioxides transport
4. Other function of respiratory system
5. Neural & chemical control of breathing

Cardio respiratory adjustments in health & disease (descriptive)

1. Hypoxia, hypercapnia, hypomania, oxygen treatment
2. Asthma, emphysema, artificial respiration

Blood (brief description only)

1. W.B.C., R.B.C. Platelets formation & functions
2. Plasma, Blood Groups

Digestive System & excretory System (In brief)

Nerve (descriptive)

1. Nerve _ General Concept
2. Nerve cell - structure
3. Genesis of resting membrane potential & Action potential
4. Their ionic basis, All or None phenomenon
5. Ionic basis of nerve conduction
6. Classification & types of nerve fibre

Muscle (descriptive)

1. Skeletal & cardiac muscle
2. Morphology, properties
3. Electric & Mechanical responses & their basis
4. Concept of isometric & isotonic muscle contraction
5. Pace maker tissues & their potential in cardiac muscle
6. Metabolism

Synaptic & Junction Transmission (brief description only)

1. Functional anatomy of synapses
2. Electrical events in postsynaptic neurons
3. Inhibition and facilitation at synapses
4. Chemical transmission of synaptic activity

Annexure 'A'

5. Principal neurotransmitter system
6. Neuromuscular junction, structure & events occurring during excitation

Function of Nervous system (descriptive)

1. Sense organ, receptors, electrical & chemical events in receptors
2. Ionic basis of excitation
3. Sensory pathways for touch, temperature, pain, proprioception, others
4. Control of tone & posture: integration at spinal, brain stem, cerebellar, basal ganglion levels, along with their functions & clinical aspects

Endocrinology (brief description only)

Male & female reproductive system (brief description only)

Autonomic nervous system (brief description only)

- a. Learning & memory, neocortex, limbic functions, sexual behavior, fear & rage, motivation - brief idea

Special senses (brief description only)

BIOMECHANICS

1. Definition of mechanics and Biomechanics
2. Force - Definition, diagrammatic representation, classification of forces, concurrent, coplanar and co-linear forces, composition and resolution of forces, angle of pulls of muscle. Momentum-principles and practical application Friction
3. Gravity : Definition, line of gravity, Centre of gravity. Equilibrium :
4. Supporting base, types, and stability of equilibrium. Energy work and power : Energy (potential and kinetic) work and power.
5. Levers : Definition, function, classification and application of levers in physiotherapy & order of levers with example of lever in human body.
6. Pulleys ; system of pulleys, types and application. Elasticity : - Definition, stress, strain, HOOKE'S Law.
7. Aims and scope of various biomechanical modalities : Shoulder wheel, shoulder ladder, shoulder pulleys, pronator/supinator instrument, static cycle, rowing machine, ankle exerciser, balancing board, springs, weights, etc.
8. Hydrostatics and Hydrodynamics: Specific gravity, Hydrostatic pressure, Archimedes, principle, Properties of water, and other liquids, Buoyancy-law of floatation, factors determining up-thrust, effect of buoyancy on movements performed in water. Equilibrium of a floating body, Bernoulli's theorem.
9. Soft tissue manipulation : History, definition, types and their rationale, general effects, local effects of individual manipulation (physiological effects) and uses, contra-indications and techniques of application.

EXERCISE THERAPY

Starting positions:

1. Description and muscle work
2. Importance of fundamental and derived types.
3. Effects and uses of individual positions.

Movements:

Annexure 'A'

1. Anatomical definition and description
2. Movements and exercise as therapeutic modality and their effects
3. Physiological reaction of exercise

Passive movements:

1. Definition
2. Relaxed, forced and stretching type.
3. Indications, contraindications, advantages and Techniques of various passive movements.

Muscle Stretching:

1. Special emphasis on stretching of : Pectoral major, biceps brachii, triceps brachii, long flexors of fingers, Rectus Femoris, Ilio-tibial band, gastrocnemius-soleus, hamstrings, hip abductors, ilio-psas. Sternocleidomastoid.

Active movements:

1. Free, assisted and resisted
2. Indication, contraindications, advantages and techniques of various types of active exercises.
3. Home programs of strengthening of various muscle group including progressive resisted exercises.
4. Special emphasis on : Shoulder abductors & flexors, Triceps brachii, Hip abductors & flexors, quadriceps femoris, Abdominal and back extensors.

Manual Muscle Testing:

1. Concept, introduction, significance and limitations.
2. Grade systems
3. Techniques of Muscle testing
4. Emphasis on skills to grade upper, lower limb, neck and trunk muscles including trick movements.

Goniometry:

1. Measurement of various joints range in normal and disease condition.
2. Different techniques of goniometry.
3. Limb length measurements.

Joint Mobility:

1. Joint range, stiffness, range and limitations
2. Accessory movements - glides, traction and approximation
3. Mobilization of peripheral joints in detail.

Re-education of muscles :

1. Concept, technique, spatial and temporal summation.
2. Various reduction techniques and facilitating methods.
3. Progressive strengthening of various muscle groups in Grade- I-Grade IV.
4. Muscle strengthening technique- PNF

Crutch Walking :

1. Description of crutch - components, classification
2. Good crutch, measurements
3. Crutch use - Preparation, Training, counseling.
4. Crutch gaits - types, & significance.
5. Crutch complications, Palsy, dependency etc.

Annexure 'A'

Normal Posture:

1. Posture - definition & description, static and dynamic.
2. Posture - alignments of various joints, centre of gravity, planes & muscular moments
3. Analysis of posture.

Normal Gait:

1. Normal gait - definition & description, centre of gravity
2. Normal gait - alignments of various joints, centre of gravity, planes & muscle acting mechanisms, pattern, characteristics.
3. Normal gait cycle, time & distance parameters, & determinants of Gait.

Co-ordinations :

1. Balance - static and Dynamic
2. Reeducation of balance and coordination: PNF and Frenkel's exercise.

Traction : Rationale, Technique, indication & contra- indications.

ELECTROTHERAPY

Low Frequency Currents:

1. Nerve Muscle Physiology: brief outline
2. Faradic current.
 - a. Indications, contraindications, Techniques, parameters, Group muscle stimulation.
 - b. Faradic footbath, Faradism under pressure and muscle re- education.
 - c. Dosimetry
3. Galvanic current.
 - a. Indications, contraindication, precautions and therapeutic effects of stimulation
 - b. Techniques, parameters, Dosimetry
4. Electro-Diagnosis :
 - a. S. D. Curve, Reaction of degeneration, chronaxie & Rheobase
 - b. Outline of EMG & Nerve conduction velocity
5. Iontophoresis :
 - a. Definition and principles & factors
 - b. indications, effects, techniques, contraindications, precautions and Potential harmful effects.
6. TENS therapy :
 - a. Principle of therapy, Parameters and therapeutic uses.
 - b. Theories of pain and pain control.
 - c. Indications and contra-indications, Dosimetry.

Infrared Therapy.

- a. Therapeutic effects and uses, Techniques of application.
- b. Theories of pain and pain control.
- c. Indications and contra-indications, Dosimetry.

Heating Modalities :

- a. Therapeutic effects and uses, Techniques and applications
- b. Indications, contraindications, precautions and Potential harmful effects of various heat modalities : Paraffin wax bath therapy, Hydro collar packs, Whirlpool and moist heat Heating pads, hot air chambers.

Cold-therapy:

- a. Indications, contraindications and therapeutic effects.
- b. Technique, precautions and Potential harmful effects of treatment, Dosimetry.

Annexure 'A'

Medium frequency currents:

- Definitions, effects, indications, techniques of application, contraindications. Interferential therapy:
- Physiological, therapeutic effects & dangers, Indications & contra indications.
- Technique and method of applications, Dosimetry.

High Frequency currents:

Short wave Diathermy: Continuous & Pulsed

- Indications, contraindications and therapeutic effects.
- Methods of application-capacitor and induction electrode, precautions and Potential harmful effects of treatment, Dosimetry.

Microwave Diathermy:

- Characteristics and therapeutic effects.
- Application techniques, indications, contraindications, precautions and potential harmful effects, Dosimetry.

Ultrasonic Therapy:

- Physiological and therapeutic effects & potential harmful effects.
- Indications, contraindication:-, methods of application and precautions, Dosimetry.

Laser

- Introduction, effects and potential harmful effects.
- Indication, contraindications, recautions, method of application, dosimetry.

Ultraviolet therapy:

- Physiological and therapeutic effects - photosensitization
 - Indications and contraindications and Potential harmful effects.
 - Methods of application, Sensitizes, Filters, Dosage, wavelength, penetration. Tolerance, Treatment /Application condition wise
- d. Comparison between UVR & IR Therapy.

Traction instruments:

Rationale, technique, indications, contraindications, precautions of electric traction equipments.

PSYCHOLOGY & SOCIOLOGY

PSYCHOLOGY

- Definition and Fields of application of psychology.
- Development and growth of behavior in infancy and childhood.
- Intelligence, theories of intelligence and Intelligence testing. Intelligence and occupation.
- Learning: theories, methods of learning, interest and motivation in learning.
- Sensation, perception-depth, form, brightness. (In brief)
- Social psychology, influence, individual or groups have on behavior of others, 1. Leaders hip, and group psychology.
- Behavior: normal and abnormal. Paradigms in psychopathology and therapy. Behavioral assessment.
- Emotional and behavioral disorders of childhood and adolescence - (In brief)
 - Disorders of under and over controlled behavior
 - Eating disorders
 - Maturation - with special r eference to learning.
- Communication : Types and development, Effective communication
- Counseling: Definition, Aims and principles
- Compliance: nature and factors of compliance, Non-compliance, Improving complainece including factors
- Psychological need of children and geriatric patients
- Menta l deficiency - (descriptive)
 - Mental retardation.
 - Learning disabilities

Annexure 'A'

- c. Autistic behavior.
- n. Anxiety Disorders - (brief outline) 1. Phobias, panic disorder, Generalized Anxiety disorder, Obsessive Compulsive Disorder, Post - traumatic stress disorder.

SOCIOLOGY

Introduction

- a. Definition and scope of Sociology
- b. Its relation with Anthropology, Psychology, Social Psychology and ethics.
- c. Methods of Sociology-case study, Social Survey, Questionnaire, interview and opinion poll methods.
- d. Importance of its study with special reference to health care professionals.

Culture and Health:

- a. Concept of culture.
- b. Cultures and Behavior.
- c. Cultural meaning of sickness.
- d. Culture and health disorders .

Social change:

- a. Meaning of social changes & Factors of social changes
- b. Human adaptation and social change.
- c. Social change and stress.
- d. Social and deviance.
- e. Social change and health Program.
- f. The role of social planning in the improvement of health and in rehabilitation.

Social problems in disabled:

- a. Consequences of the following social problems in relation to sickness and disability, remedies to prevent these problems .
- b. Population explosion.
- c. Poverty and unemployment.
- d. Beggary.
- e. Juvenile delinquency.
- f. Prostitution.
- g. Alcoholism.
- h. Problems of women in employment.

PHYSICAL THERAPY IN MEDICAL CONDITIONS

Physical Therapy in Neurological Conditions

- a. Examination of Neurological disorder and principles of treatment.
- b. Hemiplegia, paraplegia, cerebral palsy, Tabes dorsalis, cerebellar ataxia, extra pyramidal lesions.
- c. Disseminated sclerosis, muscular atrophy, amyotrophic lateral sclerosis, progressive muscular atrophy, syringomyelia, sub acute combined degeneration of cord.
- d. Peripheral Nerves lesions
- e. Neuritis and Neuralgia Brachial plexus and facial palsy.

Arthritis and Allied conditions:

- a. Osteoarthritis generalized , degenerative and traumatic, spondylosis and Osteoarthritis disorders
- b. Rheumatoid arthritis, stills disease, infective arthritis
- c. Spondylitis, Ankylosing spondylitis
- d. Non articular Rheumatism Fibrositis, Myalgia, Bursitis, Periathritis etc

Diseases of the Reproductive System:

Annexure 'A'

- a. Mechanism of Respiration
- b. Examination of chest of patient and principles of physiotherapy treatment.
- c. Bronchitis, Asthma, Lung Abscess, Bronchiectasis, Emphysema
- d. Pleurisy and Empyema, Pneumonia
- e. Bacterial Disease-Tuberculosis
- f. Tumors

Common conditions of Skin:

Alopecia, Psoriasis, alopecia, Leucodema, Leprosy etc.

Common Cardiac Disorders :

- a. Thrombosis, Embolism, Buerger's disease, Arteriosclerosis,
- b. Thrombophlebitis, Phlebitis, Gangrene, Congestive Cardiac failure,
- c. Hypertension, Rheumatic fever etc.

Deficiency Diseases:

Rickets, Osteomalacia etc.

Physical Therapy in Surgical Conditions

- i. Orthopaedic and fractures
- ii. Fractures and dislocations
- iii. Types of displacement
- iv. Classification
- v. Immediate, late signs and symptoms
- vi. Changes at fracture site and its surrounding tissues
- vii. Reasons for union, non-union, delayed union
- viii. Healing of fractures and factors influencing it
- ix. Common fractures of upper and lower extremity and their complications
- x. Methods of reduction and fixation.
- xi. Corrective surgery
- xii. Arthroplasty, Arthrodesis, Osteotomy, Tendon, Transplant, Soft Tissue release, Grafting.
- xiii. Physiotherapy treatment as applicable to above conditions.

Injuries

- i. Soft tissue injuries: synovitis, Capsulitis Volkmann's ischemic contracture etc
- ii. Crush injuries
- iii. Repair of injured tendon and nerves
- iv. Injuries of semilunar cartilage and cruciate ligaments knee: Physiotherapy treatment as applicable to above conditions.

Deformities:

- i. Congenital, torticollis, Cartilage and cruciate ligaments knee: Physiotherapy Treatment as applicable to above conditions
- ii. Acquired: Scoliosis, Kyphosis, Lordosis, coxa vara, Genu Valgum, Genu varum and procurvatum, Planus and other common deformities.
- iii. Other miscellaneous Orthopaedic conditions commonly treated by Physiotherapy.
- iv. Physical therapy treatment related to above conditions.

Amputations:

- i. Traumatic, elective, common sites of amputation in Upper & Lower extremities Advantages and disadvantages physiotherapy treatment as applicable to care of prosthetic training with emphasis on Lower extremity.
- ii. Wounds, local infections, ulcers Surgical procedures related to peripheral vascular disease.
- iii. Burns -Degree, Grafting of skin.
- iv. General abdominal surgery and obstetrics and Gynaecology.

Thoracic Surgery.

Annexure 'A'

- i. Thoracic incisions pre and post operative treatment and later rehabilitation of the patient.
- ii. Lobectomy, pneumonectomy, Thoracotomy, Thoracoplasty
- iii. Common complications with emphasis to atelectasis Pneumothorax, bronchopulmonary fistula, pre and post operative physiotherapy related to Cardio thoracic surgery

Ear Nose and throat conditions:

Neuro surgery otitis sinusitis vaso motor, Rhinorrhoea, tonsillitis physiotherapy it above conditions.

- i. Head Injury, intra crania! abscess, Intracranial Tumours- physiotherapy of these conditions
- ii. Surgery of spinal Cord and Cauda Equina, spina Bifida and its complications, infections of the spine, Epidural Abscess, Tuberculosis, pre and post operative physiotherapy laminectomy, treatment related to above conditions.
- iii. Surgery of peripheral Nerves , peripheral nerve injuries , pre and post operative physiotherapy treatment related to above conditions.

Pre and Post Operative Physiotherapy, related to Plastic Surgery:

- i. Tendon transplantation in Leprosy, Polio etc. Pre and Post operative Physiotherapy treatment related to above conditions.

Disability prevention and rehabilitation

- ii. Introduction
- iii. Definition concerned in the phase of disability process
- iv. Definitions concerned with cause of impairment, functional limitation and disability
- v. Rehabilitation and disability prevention
- vi. Present rehabilitation services
- vii. Reservation & Legislation for rehabilitation services for the disabled
- viii. Community and Rehabilitation
- ix. Rural rehabilitation incorporated with PHC's
- x. Principles of Orthotics & Prosthetics:
 - a. Lower Extremity orthotics/Upper extremity; orthosis
 - b. Spinal Orthotics
 - c. Upper extremity prosthetics
 - d. Lower Extremity Prosthetics

Principle of communication: Impairment

- i. Aphasia and its treatment
- ii. Dysarthria and its treatment

Code and Conduct

Ethics and Management:

- a. Principles in Management of Social Problems:
 - b. Social needs of the patient
 - c. Rehabilitation centre Environment

Principles in Management of Vocational Problems:

- a. Vocational Evaluation
- b. Vocational goals for the disabled

Definition Scope and importance of A. D. L.

Teaching A. D. L. in the following areas:

- a. Wheel Chair Activities
- b. Bed Activities
- c. Self Care Activities
- d. Toilet, Eating Dressing, Miscellaneous Hand Activities.

Principles of design materials used

A. D.L Form

A. D. L. Room

Annexure 'A'

Relationship of ADL to occupational Therapy and Physiotherapy National Health Programmes Bio-Medical Waste

MEDICINE & SURGERY

General Medicine including Respiratory Diseases

- a. Infections and Diseases
- b. Chemical and Physical agents carrying diseases
- c. Diseases of Metabolism.
- d. Deficiency Diseases
- e. Diseases of Endocrine Glands.
- f. Diseases of Digestive System.
- g. Diseases of Blood
- h. Diseases of Cardio-vascular system, Circulatory failure, Ischemic heart disease, Hypertension Pulmonary Heart Diseases, Congenital heart Disease, Peripheral vascular diseases, Embolism and Thrombosis, Collagen diseases.
- i. Diseases of the Respiratory System-the trachea, the bronchi, the lungs, the diaphragm, the pleura.

Psychiatry:

- a. Definition and introduction to Psychiatry in relation to OT & PT
- b. Concept of normal and abnormal
- c. Behavior disorders:- Causes & management
 - a. Psychoneurotic disorders
 - b. Psychotic disorders
 - c. Psychosomatic disorder

Techniques of Therapy

Psycho Therapy:

- i. Group Therapy
- ii. Psychodrama
- iii. Behaviour modification

Surgery

- a. General surgery and cardio-vascular and thoracic surgery.
- b. Surgical wounds, hemorrhage, shock, water and Electrolyte Balances, Burns.
- c. Surgery of head and neck, alimentary systems and genitor-urinary system x
- d. Neuro Surgery
- e. Cardio-Vascular and Thoracic surgery
- f. Gynecology and obstetrics: pelvic inflammatory conditions, complications during and following pregnancy prolapsed uterus.
- g. ENT

SYLLABUS FOR
THE MCQ TEST OF
OCCUPATIONAL
THERAPIST

Marks :-100
Time :- 100 Minutes

ANATOMY & PHYSIOLOGY

(Marks : 05)

ANATOMY

- ✓ **General Introduction**
- ✓ **Histology**
- ✓ **Osteology**
- **Systems of the Human body**
 - ✓ **Respiratory System**
 - ✓ **Digestive System**
 - ✓ **Surface Anatomy**
- **Neuroanatomy**
- **Muscular Skeletal System**
 - ✓ **Myology**
 - ✓ **Osteology & Arthrology**
 - ✓ **Radiological Anatomy**

PHYSIOLOGY

- **General Introduction**
 - ✓ **Cell Introduction**
 - ✓ **Skin**
 - ✓ **Blood and Lymph**
- **Physiology of the Systems of the body**
 - ✓ **Digestion**
 - ✓ **Respiration**
 - ✓ **General Metabolism**
 - ✓ **Neurophysiology**
 - ✓ **Muscle Physiology**
 - ✓ **Physiology of exercise and work**

PATHOLOGY, MICROBIOLOGY, PHARMACOLOGY AND BIOCHEMISTRY

(Marks : 05)

- **Pathology**
 - ✓ **Introduction**
 - ✓ **Bacterial , viral and Parasitic Infections**
 - ✓ **Haemorrhage, shock, embolism, thrombosis**
 - ✓ **Tumours**
 - ✓ **Blood**
- **Microbiology**
 - ✓ **Introduction and History of microbiology**
 - ✓ **Microorganisms**
 - ✓ **Disinfection and Antiseptics**
 - ✓ **Sterilization and asepsis**
 - ✓ **Non-specific immunity**
- **Pharmacology**
 - ✓ **General action of drugs**
 - ✓ **Methods of administration**

Annexure 'B'

- **Biochemistry**

- ✓ Biochemical characteristics of living matter
- ✓ Biochemistry morphology of cell
- ✓ Metabolism
- ✓ Hormones
- ✓

SOCIOLOGY

(Marks : 5)

- ✓ Introduction
- ✓ Sociology and Health
- ✓ Socialization
- ✓ Social Groups
- ✓ Family
- ✓ Community
- ✓ Culture
- ✓ Social Change
- ✓ Social Control
- ✓ Social problems of the disabled
- ✓ Social Security

GENERAL AND HEALTH PSYCHOLOGY

(Marks : 5)

- **General and Health Psychology**

- ✓ Definition of Psychology
- ✓ Heredity and environment
- ✓ Development and Growth behavior
- ✓ Intelligence
- ✓ Motivation
- ✓ Emotions
- ✓ Personality
- ✓ Learning
- ✓ Thinking

- **Health Psychology**

- ✓ Psychological reactions of a patient
- ✓ Stress
- ✓ Communications
- ✓ Emotional needs
- ✓ Geriatric Psychology
- ✓ Paediatric Psychology
- ✓ Behaviour Modification

ORTHOPAEDICS

(Marks : 10)

- ✓ Introduction to orthopaedics
- ✓ Principles of operative treatment
- ✓ Sprains and muscle strains
- ✓ Sports injuries
- ✓ Fractures & Dislocations
- ✓ Upperlimb fractures & Dislocations
- ✓ Lower Limb Fractures & Dislocations
- ✓ Spinal Fractures and Dislocations
- ✓ Recurrent Dislocations
- ✓ Amputations
- ✓ Bone & Joint infections
- ✓ Bone joint Tumours

Annexure 'B'

- ✓ **Chronic Arthritis**
- ✓ **Spinal Deformities**
- ✓ **Poliomyelitis**
- ✓ **Peripheral nerve injuries**
- ✓ **Hand injuries**
- ✓ **Leprosy**

BIOMECHANICS & KINESIOLOGY

(Marks : 05)

- ✓ **Mechanics**
- ✓ **Joint structure and function**
- ✓ **Muscle structure and functions**
- ✓ **Posture & gait**

FUNDAMENTAL OF OCCUPATIONAL THERAPY

(Marks : 15)

- ✓ **General Objectives**
- ✓ **Specific objectives of the Course**
- ✓ **Various definition and functions of occupational therapy**
- ✓ **Therapeutic activities**
- ✓ **Occupational therapy as diagnostic and Prognostic Procedure**
- ✓ **Dosage in occupational therapy**
- ✓ **Importance of interest in occupational therapy**
- ✓ **Occupational Therapist**
- ✓ **Different types of evaluations and their importance**
- ✓ **Co-ordination**
- ✓ **Contracture & Deformities**
- ✓ **Fatigue**
- ✓ **Neurological disorders**

THERAPEUTIC ACTIVITY MODALITIES

(Marks : 5)

- ✓ **Classification of therapeutic activities**
- ✓ **Knowledge of different machines and equipments used in occupational therapy**
- ✓ **Handicrafts in relation to occupational therapy**
- ✓ **Definitions materials, equipments and Therapeutic values of the following activities modalities.**

GENERAL MEDICINE & GENERAL SURGERY

(Marks : 5)

GENERAL MEDICINE

- ✓ **Introduction**
- ✓ **Diseases of Respiratory System**
- ✓ **Diseases of Circulatory System**
- ✓ **Diseases of Digestive System**
- ✓ **Psychiatry**
- ✓ **Mental retardation**
- ✓ **Therapies**

GENERAL SURGERY

- ✓ **Introduction**
- ✓ **Shock**
- ✓ **Haemorrhage**
- ✓ **Blood Transfusion**

Annexure 'B'

- ✓ Anesthesia
- ✓ Wounds
- ✓ Wound Infections
- ✓ Tumours and Ulcers
- ✓ Burns
- ✓ Skin Grafting
- ✓ Hand Infections
- ✓ General Injuries
- ✓ Complications of surgery
- ✓ Thoracic and Cardiac Surgery
- ✓ Ophthalmology

PAEDIATRICS AND GERIATRICS

(Marks : 5)

- **Paediatrics**
 - ✓ Review normal foetal development & Child birth, including assessment of a neonate
 - ✓ Congenital & acquired Cardio-pulmonary disorders
 - ✓ Congenital & acquired neurological disorders
 - ✓ Hereditary disorders
- **Geriatrics**
 - ✓ Normal aging
 - ✓ The examination & assessment of a geriatric patient
 - ✓ Musculo skeletal disorders
 - ✓ Neurological disorders

FUNDAMENTALS OF OCCUPATIONAL THERAPY

(Marks : 10)

- ✓ Posture
- ✓ Dynamic & Realistic approach to occupational therapy
- ✓ Ward & Bed side Occupations
- ✓ Establishment of occupational therapy, Deptt in a Hospital inclusive of organizations and administration of Deptt.
- ✓ Wheel Chair
- ✓ Orthopedic appliances
- ✓ Contraction
- ✓ Mobility and Limitations
- ✓ Goniometry or Arthorometry
- ✓ Muscle weakness
- ✓ Motivation in occupational Therapy
- ✓ Assistive apparatus for U.E & L.E
- ✓ Occupational Therapy as a supportive measure in General Hospital
- ✓ Motivation in Occupational Therapy
- ✓ Occupational Therapy as a supportive measure in General Hospital
- ✓ Definition, Scope, Importance of A.D.L, Goals of self Help Devices, teaching A.D.L in the following areas
 - Wheel Chair activities
 - Bed Activities
 - Self Care Activities

Annexure 'B'

OCCUPATIONAL THERAPY IN ENVIRONMENT AND OCCUPATIONAL HEALTH

(Marks : 10)

- **Environment**

- ✓ Definition
- ✓ Cultural and religious thought of environment
- ✓ Increasing population
- ✓ Land, Water, Air and sound pollution
- ✓ Causes of Environment Pollution
- ✓ Contamination of environment and basic rights
- ✓ Environment Education and Preservation of forests, environment
- ✓ Family pollution & its prevention
- ✓ Curbing measures in Occupational Therapy in population

- **Occupational Health**

- ✓ Definition
- ✓ O.T measures in work and health
- ✓ Social context of occupational Health
- ✓ Epidemiology & Occupational Hygiene
- ✓ Occupational safety as applied to O.T
- ✓ Prevention of accidents and overt trauma
- ✓ Occupational ergonomics through work designs
- ✓ Ethics in occupational Health
- ✓ Hazardous work place exposures

NEUROLOGY

(Marks : 5)

- ✓ Degenerative disorders
- ✓ Infections
- ✓ Diseases of the Muscle
- ✓ Peripheral nerve disorders
- ✓ Epilepsy
- ✓ Myasthenia Gravis
- ✓ Motor neuron disease
- ✓ Cranial nerve

RESEARCH METHODOLOGY AND BIOSTATISTICS

(Marks : 5)

- ✓ Introduction
- ✓ Ethical issues in research, elements of informed consent
- ✓ Structure of a research proposal
- ✓ Research Question including literature review
- ✓ Measurement : Principles of measurement reliability and validity
- ✓ Experimental sampling and design
- ✓ Descriptive research
 - **Biostatistics**
- ✓ Descriptive statistics
- ✓ Comparison of means, t-tests
- ✓ Non-parametric statistics
- ✓ Correlation

OCCUPATIONAL THERAPY IN MEDICAL AND SURGICAL CONDITIONS (Marks : 5)

- ✓ Occupational Therapy in pediatrics
- ✓ Occupational Therapy in geriatrics

Annexure 'B'

- ✓ **Occupational Therapy in Hemiplegia**
- ✓ **Occupational Therapy in Myopathies & Muscular Disorders**
- ✓ **Occupational Therapy in Cerebral Palsy**
- ✓ **Occupational Therapy in Extra Pyramidal Disorders**
- ✓ **Occupational Therapy in communication Disorders**

SYLLABUS FOR THE MCQ TEST
OF DIETICIAN

Total Marks: 100
Time: 100 Minutes

1. Introduction to Nutrition.
2. The Digestive System.
3. Macronutrients.
4. Minerals.
5. Energy Metabolism.
6. Measuring Food Intakes.
7. Vitamins.
8. Meal Management.
9. Nutrition in Infancy.
10. Nutrition in Childhood.
11. Nutrition in Adolescence.
12. Geriatric Nutrition.
13. Therapeutic Nutrition.
14. Nutrition and Weight Management.
15. Nutritional management in Eating Disorders.
16. Nutrition Screening, Assessment and Planning.

REVISED SYLLABUS FOR THE MCQ TEST
OF CLINICAL STAFF FOR CASUALTY BED

Marks 100
Time 100 Minutes

ANATOMY AND PHYSIOLOGY

- Introduction to human body, its anatomy and physiology
- Cell structure and function
- Lymphatic system
- Skin structure and function
- Sensory organs
- Excretory System
- Circulatory system
- Endocrine system
- Digestive system
- Reproductive system
- Connective tissues

CLINICAL MICROBIOLOGY

- Introduction to Microbiology
- Morphology of bacteria
- Bacterial cell wall , spores, flagella and capsules
- Bacterial growth and nutrition of bacteria
- Classification of bacteria
- Microscopy:- Principle, Types and their uses
- Sterilization:-Physical, chemical and sterilization control
- Bio Safety cabinet, safety rules (universal precautions) in a microbiology laboratory
- Bacterial culture, Culture techniques and Various Culture Medias
- Staining techniques: - Routine as well as Special techniques
- Identification of Bacteria:- Step care Approach
- Antibiotic sensitivity Methods ,Principle and clinical importance
- Role of clinical Microbiology in the Diagnostic Field
- Merits and Demerits of Cultural techniques over Non cultural Diagnostic Techniques
- Definition of pathogenicity, pathogenesis and virulence
- Sources and Types of infection
- Systemic Bacteriology
- Nosocomial Infection:- source and Control of nosocomial infections
- Laboratory diagnosis of :- U.T.I(Urinary Tract Infection), R.T.I (Respiratory Tract Infection),Enteric Fever
- Mycobacterium Tuberculosis
Various automatic techniques for identification of MTB
- Collection and transportation of various clinical samples, for Culture – Urine, Stool, Sputum, Throat swabs, Pus and Pus swabs, Blood, Skin, Eye and Ear swabs and CSF.

Annexure 'D'

- Significant Bacteriuria
- General characteristics, morphology, classification, Life Cycle and Lab. Diagnosis of:
- Protozoa and Helminthes
- Principle and application of concentration techniques of stool for demonstration of ova and cysts
- General Characteristics, Classification and Structure of viruses.
- Viral Transport Media (VTM) its use
- Lab diagnosis of :
 - Hepatitis A, B & C.
 - H.I.V
 - H.S.V(Herpes Simplex Virus)
- Cultivation of viruses including cell line culture ,egg inoculation culture
- Tzanck smear
- Sellers stain
- Characteristics and classification of medically important fungi
- Fungal Culture media :
 - SDA (Sabouraud's dextrose agar) with Various Modifications
 - CMA (Corn meal agar)
 - BHI (Brain Heart Infusion)
 - BSA(Bird Seed Agar)
- Collection and procuring of sample for fungal infection in Skin, Nail and Hair
- KOH preparation, LCB (Lactophenol cotton blue), India ink
- Fungal Culture and identification of
 - Yeast, Dermatophytes, Penicillium, Rhizopus, Mucor, Aspergillus
- Laboratory Diagnosis of Cryptococcosis
- Laboratory Contaminants
- Introduction to Immunology
- Immune and complement system
- Cells involved in immune system
- Organs involved in immune system
- Auto immune Antibodies
- Immunization /Vaccination ,types of immunity and vaccination
- Antigen, Antibody and complement
- Antigen- Antibody Reactions
- Various Serological Tests:- Agglutination, Precipitation and Flocculation reactions
- Complement Fixation :- ELISA with various modifications
- Molecular Technology
 - PCR with various Modifications
 - LCR (Ligase chain reaction)

HEMATOLOGY

- Haemopoiesis :- Erythropoiesis, Leucopoiesis, Thrombopoiesis
- Collection and preservation of blood :- venous and capillary
- Romanowsky stains: Theory and preparation
- Haemoglobin :- Synthesis of haemoglobin, function and its degradation, Types of haemoglobin
- White cell count:- Total Leucocyte Count ,Morphology of White cells
- Various counting chambers
- Quality Assurance in haematology
- Automation in haematology
- Erythrocyte sedimentation rate (ESR) and packed cell volume (PCV)
- Red Cell Indices -- MCV, MCH, MCHC
- Supravital stain and reticulocyte counting
- Reticulocytes
- Anemias :- Definition and classification
- Laboratory diagnosis of: Iron deficiency anaemia , Megaloblastic anaemia , Haemolytic anaemia , sickle cell anaemia and Aplastic anaemia.
- Red cell fragility
- Haemostasis:- Theories of blood coagulation, Platelets and their role in haemostasis
- Bone marrow:- Composition and function of bone-marrow,Aspiration of bone-marrow and clinical Significance of bone-marrow examination.
- Leukemia:- Classification (FAB),Laboratory diagnosis of various leukemias.
- LE Cell phenomenon
- Semen Analysis
- Cell counts of various biological fluids

CLINICAL BIOCHEMISTRY

- Introduction to clinical biochemistry:- Importance of clinical biochemistry, SI Units and their use,
- Instruments:-Balance(Analytical, electrical/electronic), Centrifuge, Colorimeter, Spectrophotometer
- Ion selective electrodes,Glucometer,Distillation Plant/Deionizer apparatus and Volumetric apparatus and their calibration
- Blood fractions :- Serum, Plasma, protein precipitating reagents and Preparation of protein free filtrate (PFF)
- Collection and preservation of various clinical specimens for bio chemical analysis
- Acid Base Balance
- Carbohydrate Metabolism :Glycolysis,Glycogenlysis,Glyconeogenlysis,Glycogenesis and Glyconeogenesis
- Renal Function , Liver Function
- Metabolism of protein
- Electrolytes and trace elements
- Quality Assurance in Biochemistry as per National Standards

Annexure 'D'

- Enzymes
- Lipid Profile
- Blood Gases
- Urine Analysis :-Normal composition of urine Clinical importance of urine analysis, Qualitative analysis of proteins, sugar, bile salts, bile pigments, urobilinogen and blood.
- Glycosuria, albuminuria and Ketoneuria.
- Detection of Occult blood , Excess fat in stool and their clinical significance
- Biological fluids analysis :-peritoneal, pleural synovial & Cerebrospinal Fluid
- Electrophoresis
- Chromatography
- Automation in Clinical Biochemistry
- Thyroid function Analysis
- Introduction to Tumor markers :-Commonly used Tumor Markers (C.A. Markers)

HISTOPATHOLOGY AND CYTOLOGY

- Preparation of Tissues: Unfixed and Fixed Tissue preparations
- Reception of Specimen:-Reception, recording, labeling and preservation of histological specimen
- Fixatives:- Composition, types and Classification of various fixatives
- Properties of various fixatives their Merits and demerits
- Tissue Processing : including Reception, Labelling ,Fixation, Grossing ,section cutting and Staining.
- Automation in Histopathology
- Microtomy
- Theory of staining (Routine):-Principle and mechanism of routine stain (Haematoxylin and Eosin)
- Mountants :-Various types of mounting media (aqueous, resinous)
- Special stains :-Principle, significance and interpretation of different types of stains
- PAS (Periodic Acid Schiff's Reagent) ,Silver impregnation stain – Reticulin fibre ,Ziehl Neelson's – for AFB and Leprae ,Masson's trichrome stain ,Oil Red O – fat ,Gram's stain – Gram +ve and Gram –ve
- Decalcification:-Process of decalcification, Various types of decalcifying agents, Their mechanism and applications
- Handling of fresh histological tissues (Frozen Section):-Reception and processing of frozen tissue ,Frozen section cutting, Staining ,Mounting of frozen section
- Museum Techniques:- Introduction to museum with emphasis on importance of museum , Reception, fixation and processing of various museum specimens, Cataloguing of museum specimen
- Cell:-Definition and function, Structure, Multiplication (Mitosis and Meiosis)
- Exfoliative Cytology

Annexure 'D'

- Aspiration Cytology
- Cytological Staining:-Principle, Technique and interpretation of results
- Papanicalaou staining,May Grunwald & Giemsa staining,Haematoxylin and Eosin staining
- Cytological Fixatives
- Autopsy:-Introduction to autopsy technique (Care and maintenance of autopsy area, autopsy instruments, handling of dead bodies),Use of autopsy
- Malignant Cells:- Characteristics,Differences from normal cell
- Advancements in Cytology:- Automation in Cytology, Use of Cytospin

TRANSFUSION MEDICINE

- Historical introduction to Transfusion medicine (blood banking)
- Various blood group systems
- ABO Blood Group System:-Antigens and antibodies involved
- Various blood sub groups (A_1, A_2, A_1B, A_2B)
- The Rh Blood Group System:- Antigen and antibody involved
- Anticoagulants used in blood bank:-Types and composition of various anticoagulants
- Criteria for selection of Donor
- Blood Collection and storage
- Screening of blood donor and characteristics of ideal blood donor, Blood collection procedure , Transportation and storage
- Cross Matching :- Types of cross matching, Various methods and their procedures
- Coombs Test :- Direct coombs test and Indirect coombs test
- Various blood components (Packed cells, Fresh frozen plasma, Cryoprecipitate, PRP(Platelet rich plasma)
- Preparation, Preservation and Uses
- Blood Transfusion reactions

MEDICAL LABORATORY MANAGEMENT

- Introduction, Layout, Facility of clinical Laboratory :-Role of medical laboratory technology in total health care, principles of management, techniques of planning, physical facilities/equipment – layouts and design
- Quality Assurance :-Analytical control, Internal and external quality assurance in clinical laboratories, precision,accuracy, standard deviation as per national standards
- Safety Precautions:-Safety measures in clinical laboratories (microbiology, haematology, biochemistry, histopathology and cytology, transfusion medicine),

Annexure 'D'

- Disposal of Biomedical waste.
- First Aid in Clinical Laboratory:-Acid burn/Alkali burn,Accidental trauma,Gas/Toxic inhalation,Spillage
- Medical Ethics and Code of Conduct:-Ethics and code of conduct - legal aspects – confidentiality malpractice/ negligence; legal implications, law suits, consumer protection and insurance for professional health hazards
- Role of Computers in Laboratory
- Laboratory Accreditation – Introduction