

**Uttar Pradesh University of Medical
Sciences, Saifai, Etawah**

SYLLABUS

CRT 2024

(Multiple Post Recruitment)

Computer Based Examination

(Advt. No. 38/UPUMS/Recruitment Cell/2024-25)

NOTE:

1. **Syllabus is only Indicative**
2. **The questions can assess any aspect of knowledge, aptitude, attitude, sub and practical skills, which is expected from a trained person to work efficiently at the advertised post.**

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Syllabus

General Instructions

1. The Computer Based Test (CBT)-2024 will be of 02 hours duration & will be of 300 marks.
2. It will contain 100 multiple choice questions (MCQs)
3. **Examination Scheme:**
 - a. **For the post of:** Senior Administrative Assistant, Stenographer and Jr. Medical Record Officer.

Part A	General Aptitude (Common for all the Posts)	General English	10 Questions
		General Knowledge	10 Questions
		Reasoning	10 Questions
		Mathematical Aptitude	10 Questions
Part B	Core Subject	Subject related to the post and level of the qualifications required	60 Questions

- b. **For the post of:** Pharmacist Grade-2, Junior Physiotherapist and Occupational Therapist.

Part A	General Aptitude (Common for all the Posts)	General English	05 Questions
		General Knowledge	05 Questions
		Reasoning	05 Questions
		Mathematical Aptitude	05 Questions
Part B	Core Subject	Subject related to the post and level of the qualifications required	80 Questions

4. **There will be no negative marking**

Part- A

Indicative Syllabus: General Aptitude

(Common for all the Posts)

- 1. General English:** Candidates ability to understand correct English, his basic comprehension and writing ability would be tested, Questions in this section will be designed to test the candidates understanding and knowledge of English language and will be based on spot the error, fill in the blanks, synonyms, antonyms, spelling/detecting mis-spelt words, idioms and phrases. One word substitution, improvement of sentences, active/passive voice of verbs, conversion into direct/indirect narration, shuffling of sentence parts, shuffling of sentences in a passage, comprehension passage and any other English Language questions at the Level of Matriculation /Higher Secondary.
- 2. General Knowledge:** Questions in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Questions will also be designed to test knowledge of current events and of such matters of everyday observations and experience in the scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighboring countries especially pertaining history, culture geography, economic scene general policy & scientific research.
- 3. Reasoning:** It would include questions of both verbal and nonverbal type. This component may include questions on analogies, similarities and differences, spatial orientation, problem solving, Analysis, judgement, decision making, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non verbal series, coding and decoding, statement conclusion, etc the topics are, symbolic/ number analogy, figural analogy semantic classification, symbolic/Number Classification, Figural Classification, semantic series, number series, Figural series, problem solving, word building, coding & decoding, Numerical operations, symbolic operations Trends, space orientation, space Visualization, Venn diagrams, Drawing inferences, Punched hole/pattern-folding & unfolding. Figural pattern- Folding and completion, indexing. Address matching, Date & city matching, Classification of center codes/roll numbers, small & capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thing, Emotional Intelligence, Social Intelligence, Other sub topics, if any.
- 4. Mathematics Aptitude:** The questions will be designed to test the ability of appropriate use of numbers and number sense of the candidate. The scope of the test will be computation of whole numbers, decimals, fractions and relationship between numbers percentage, Ration & Proportion, Square roots, Averages, Interest, Profit & Loss, Discount, Partnership, Elementary Surds, Graphs of Linear Equation, Triangle and its various kinds of centers, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of a circle common tangents to two or more circles, Triangle, Quadrilaterals, Regular polygons, Circle, Right Prism, Right circular cone, Right circular cylinder, Sphere, Hemispheres, Rectangular Parallel piped, Regular right pyramid with triangular or square base, Trigonometric ration, Degree and radian Measures, Standard Identities, Complementary Angles, Heights and Distances, Histogram, Frequency, polygon, Bar diagram & pie chart.

Senior Administrative Assistant

Part- A: General Aptitude (Page No 4) - 40 Questions (120 Marks)

Part-B: Core Subject - 60 Questions (180 Marks)

1. Fundamental Rules (FRs) and Supplementary Rules (SRs)
2. TA Rules; LTC Rules; Leave Rules; Medical Attendance Rule
3. CCS (Conduct) Rules, 1964; CCS (CCA) Rules 1965
4. General Financial Rules (GFRs)- 2017
5. Office Procedures.
6. Institutional Administration
7. RTI Act 2005; CCS (Pension) Rules; New Pension Scheme
8. Leadership, Teamwork and Conflict Resolution/Management
9. Any other matter of National Importance/Constitutional Laws/Case Laws etc.
10. Computer literacy: Characteristics of computers, computer organization including RAM, ROM, File system, Input devices, Software understanding, Relationship between hardware and software, Operating system, MS office, Information technology and society Indian IT act, Digital signatures, Application of information technology in Government , E-office management etc.

Stenographer

Part- A: General Aptitude (Page No 4) - 40 Questions (120 Marks)

Part-B: Core Subject - 60 Questions (180 Marks)

1. Professional Communication
2. Modern office Practices & Procedures
3. Computer literacy: Characteristics of computers, computer organization including RAM, ROM, File system, Input devices, Software understanding, E-office management etc.
4. Computer Typing Theory
5. Elementary Book Keeping and Accountancy
6. Short Hand (English & Hindi)
7. Computer Communication Concept
8. Secretarial Practices and Office automation
9. Office and Business correspondence
10. Computer Accountancy
11. Elements of company law and banking services
12. Personality development and behavior
13. Environmental education ad disaster management
14. Vocational Hindi and correspondence

Jr. Medical Record Officer

Part- A: General Aptitude (Page No 4) - 40 Questions (120 Marks)

Part-B: Core Subject - 60 Questions (180 Marks)

1. Hospital and Patient-care Appraisal: History and Evolution of Hospitals, New trends in Hospitals. Definition of Hospital- Objectives of Hospital. - Parameters of Good Medical Care/Patterns of Patient Care. - Functions of Hospital. Role of a Hospital in Health is Delivery Systems (HCDS), Classification of Hospitals. Hospitals Organization and its analysis – Chart of Organization. – Board and committees – Duties and responsibilities thereof. Departmental Administration – Delegation– Decentralization Patient Care Appraisal (PCA) – History of Medical Audit – Tools and Techniques – Various Phases of Medical Audit
2. Departments and Service Units: Clinical Departments, Diagnostic and therapeutic services (including clinical Laboratories, Radiology, Physical Medicine and Rehabilitation and Pharmacy services), Nursing Department, Dietary Department, Outpatient Department (vi) Accident and emergency services Department (vii) Medical Social Service Department (viii) General and Medical stores (ix) Blood Bank (x) Medical Library services. 1. Service units in a hospital Laundry, Housekeeping, CSSD. Miscellaneous Services: Engineering, Mortuary and Transport services.
3. Basic Anatomy:
 - a) General Introduction– Definition of Anatomy & Physiology. – Types of Anatomy (including systemic) – Definition of topographic term/term used to describe the body. – Description of Various regions of the body.
 - b) Cells and tissues of body and general histology.
 - c) Anatomical description of the following: - Skin and breast – Ontology – Joints – Ligaments – Fasciae and Bursae – Musculoskeletal system – Cardiovascular system – Respiratory system – Lymphatic system – Blood and blood forming organs – congenital system – Endocrine system – Organs of special senses (ear, eye, etc.) – Digestive system – Embryology
4. Basic Physiology:
 - a) Introductory Lectures or specialization of tissues. Homeostasis and its

importance in mammals. Blood and lymphatic system Cardiovascular system Excretory system, skin and temperature regulation Respiratory system Digestive system and metabolism Endocrinology Reproductive system Nervous system Special senses Muscles

5. Basic Pathology and Microbiology: Definitions and Classification of diseases, Inflammatory diseases – viral and fungal, Inflammatory diseases –Parasitic, - Degenerative diseases – Fatty degeneration, Amyloid etc. – Tumors – Definition, etiology & classification, -Disturbances in blood flow, - pigment disorders, Hereditary diseases, C.V.S. Blood vessels, -V.S. Heart, Respiratory system, - G.I. tract, Liver Lymphatic system, - Genitourinary system, Skeletal system, - Blood, Central Nervous system, - Endocrine system Clinical Pathology – Normal composition of blood; diseases of RBCs., WBCs., Plate less. – Coagulation factors and disorders – Blood groups and cross – matching, - Blood transfusion, - Urine composition: variation in common diseases, - CSF and body fluids, - Gastric & Duodenal contents, - Faseses – parasites, Introduction and historical background, Classification special, Characteristics of organisms bacteria's, - Asepsis, - Disinfection Antiseptics- Sanitation, Infection, Immunity, Allergy study of pathogenic organisms, Non-pathology organisms, Virus and fungus, Parasitic diseases- their stance in India with lab Diagnosis.

6. Medical Terminology

- a. Basic Elements of Medical Terms (a) Roots (b) Prefixes (c) Suffixes (d) Colours (e) Numerals (f) Symbols (g) Abbreviation (iv) Terms pertaining to Body as a whole.
- b) Terms relate to Investigations, and operation, treatment of conditions, disorders of: - 1.Skin and Breast (integumentary system) 2. Musculoskeletal 3. Neurological and psychiatric 4. Cardio- vascular 5. Blood and blood forming organs 6. Respiratory 7. Digestive 8. Uro – genital 9. Gynecological 10. Maternal, Antenatal and Neonatal conditions 11. Endocrine and Metabolic 12. Sense organs of: (i) Vision (ii) Hearing 13. Systemic: (i) Infectious diseases. (ii) Immunological diseases. (iii) Diseases of the Connective Tissues. Geriatrics and Psycho geriatrics.
- c) Supplementary terms: Selected terms relating: 1. Oncology 2. Anesthesiology 3. Physical Medicine and Rehabilitation 4. Nuclear

Medicine 5. Plastic Surgery of Burns and Maxillofacial 6. Radio-Diagnosis 7. Radiotherapy

6. Biostatistics: Introduction to Statistics. (ii) Methods of collection of data. (iii) Measures of central tendency (simple average, G.M., H.M. Mode and Median). (iv) Measures of dispersion (Standard deviation, range, variance, average deviation) (v) Sampling; Definition, Methods of sampling (random, systematic, stratified, cluster). (iv) Correlation and regression: Significance, linear correlation, correlation coefficient, linear regression. (vii) Time series analysis – concept and its utility, component of time series. (viii) Test of significance. (ix) Graphical presentation of data. (x) Probability- concept and definition. (xi) Uses of statistics. -1. Sources of hospital statistics (In- Patient census, Out – Patient deptt, and Special Clinics). 2. Definitions (live, birth, foctal death, immaturity, cause of death, underlying cause of death inpatient bed etc) 3. Analysis of hospital services and discharges. 4. Indices (Bed occupancy, average length of stay, bed turn – over interval, death rate, birth rate etc.) 5. Vital statistics. 6. Uses and Limitations of hospital data. 7. Method of compilation of various Health Returns/ Statistical Returns.

7. Healthcare organization

1. Introduction to Principles of Management and Administration - scope and importance of management. –Principles of Management. – Functions of a Manger (POSDCORB-E). Management Techniques. –Material Management – Personal Administration. –Financial Administration.
2. Public Health Structure in India. – Directive Principles of -With relation to Public Health & medical Care. – Constitutional lists. – Various five years plans and priorities.3. Role of Voluntary Health Organisation.4.Basic facts of Health in India. 5. Current Objectives and strategies. –Population Dynamics. – Community Health Worker schemes.
- ii. National Health Programmes of Medicine and Homeopathy.8. Other programmes of relevance to
 - b) Health Sector. – Family Welfare. –Medical Termination of Pregnancy. – National Population Policy. – Maternity and Child Health.

8. Medical Record Science

- a. Introduction to Medical Record Science. II. - 1.Development, Analysis and

Uses of Medical Record.

- i. (i) Development of Medical Record Forms, basic and special. (ii) Order of Arrangements: (a) Ward
- ii. Medical Record Department. (c) Source oriented medical record. (d) Problem oriented medical record. (e) Integrated Medical Record. 3. Analysis of Medical record: (i) Quantitative. (ii) Qualitative.
- iii. Uses of Medical Records: (a) as a personal document. (b) as impersonal document.
- iv. Values of the Medical Record International classification of Diseases Classification of diseases as per I.C.D.

Pharmacist Grade-2

Part- A: General Aptitude (Page No 4) - 20 Questions (60 Marks)

Part-B: Core Subject - 80 Questions (240 Marks)

A. Basics:

1. Introduction of different dosage forms.
2. Metrology-System of weights and measures.
3. Packaging of pharmaceuticals-Desirable features of a container and types of containers.
4. Size separation
5. Mixing and Homogenization
6. Clarification and Filtration
7. Extraction and Galenicals
8. Heat process
9. Distillation
10. Introduction to drying process
11. Sterilization
12. Aseptic techniques
13. Processing of Tablets
14. Processing of Capsules
15. Study of immunological products like sera, vaccines, toxoids & their preparations.

B. Pharmacognosy

1. Definition, history and scope of Pharmacognosy including indigenous system of medicine.
2. Various systems of classification of drugs and natural origin.
3. Adulteration and drug evaluation; significance of pharmacopoeia standards.
4. Brief outline of occurrence, distribution, outline of isolation, identification tests,

therapeutic effects and pharmaceutical application of alkaloids, terpenoids, glycosides, volatile oils, tannins and resins.

5. Occurrence, distribution, organoleptic evaluation, chemical constituents including tests wherever applicable and therapeutic efficacy of following categories of drugs.

- **Laxatives**- Aloes, Rhubarb, Castor oil, Ispaghula, Senna.
- **Cardiotonics**- Digitalis, Arjuna.
- **Carminatives & G.I. regulators**- Umbelliferous fruits, Coriander, Fennel, Ajowan, Cardamom, Ginger, Blackpepper, Asafoetida, Nutmeg, Cinnamon, Clove.
- **Astringents**- Catecheu.
- **Drugs acting on nervous system**- Hyoscyamus, Belladonna, Aconite, Ashwagandha, Ephedra, Opium, Cannabis, Nux -vomina.
- **Antihypertensive**- Rauwolfia.
- **Antitussives**- Vasaka, Tolu balsam, Tulsi.
- **Antirheumatics**- Guggal, Colchicum.
- **Antitumour Vinca**.
- **Antileprotics**- Chaulmoogra oil.
- Antidiabetics Pterocarpus, Gymnema sylvestro.
- Diuretics- Gokhru, Punarnava.
- Antidysenterics-Ipecacuanha.
- Antiseptics and disinfectants Benzoin, Myrrh, Neem, Curcuma.
- Antimalarials- Cinchona.
- Oxytocic- Ergot.
- Vitamins- Shark liver oil and Amla.
- Enzymes- Papaya, Diastase, Yeast.
- **Perfumes and flavoring agents**- peppermint oil, Lemon oil, Orange oil, lemon grass oil, sandalwood. Pharmaceutical aids-Honey, Arachis oil, starch, kaolin, pectin, olive oil. Lanolin, Beeswax, Acacia, Tragacanth, sodium Alginate, Agar, Guar gum,

Gelatin.

Miscellaneous- Liquorice, Garlic, picrorhiza, Dirscorea, Linseed, shatavari, shankhpushpi, pyrethrum, Tobacco. Collection and preparation of crude drugs for the market as exemplified by Ergot, opium, Rauwalfia, Digitalis, senna. Study of source, preparation and identification of fibers used in sutures and surgical dressings cotton, silk, wool and regenerated fibers. Gross anatomical studies al-senna, Datura, cinnamon, cinchona, fennal, clove, Ginger, Nuxvomica & ipecacuanha.

C. Biochemistry and Clinical Pathology

1. Introduction to biochemistry. Brief chemistry and role of proteins, polypeptides and amino acids, classification, Qualitative tests, Biological value, Deficiency diseases.
2. Carbohydrates
3. Lipids
4. Vitamins
5. Therapeutics

D. Human Anatomy and Physiology

1. Definition of various terms used in Anatomy. Structure of cell, function of its components with special reference to mitochondria and microsomes.
2. Elementary tissues.
3. Skeletal System
4. Cardiovascular System
5. Respiratory system
6. Urinary System
7. Muscular System
8. Central Nervous System
9. Sensory Organs
10. Digestive System
11. Endocrine System
12. Reproductive system

E. Health Education and Community Pharmacy

1. Concept of Health
2. Nutrition and health
3. First aid
4. Environment and health;
5. Fundamental principles of microbiology
6. Communicable diseases
7. Intestinal infection
8. Arthropod borne infections
9. Surface infection-Rabies, Trachoma, Tetanus, Leprosy.
10. Sexually transmitted diseases
11. Non-communicable diseases
12. Epidemiology

F. Pharmaceutics (Dispensing Pharmacy)

1. Prescriptions
2. Posology
3. Dispensed Medications
4. Powders
5. Liquid oral Dosage forms:
 - a. Monophasic
 - b. Biphasic Liquid Dosage Forms
6. Semi-Solid Dosage Forms:
 - a. Ointments
 - b. Pastes.
 - c. Bellies
 - d. Dental and cosmetic preparations
7. Sterile Dosage forms:

a. Parenteral dosage forms

b. Ophthalmic products

G. Pharmaceutical Chemistry

1. Introduction to the nomenclature of organic chemical systems with particular reference to hetero-cyclic system containing up to 3 rings.
2. The chemistry of following pharmaceutical organic compounds covering their nomenclature, chemical structure, uses and the important physical and chemical properties (chemical structure of only those compounds marked with asterisk . The storage conditions and the different type of pharmaceutical formulations of these drugs and their popular brand names.
3. Antiseptics and Disinfectants
4. Sulphonamides
5. Antileprotic Drugs
6. Anti-tubercular Drugs
7. Antibiotics
8. Anti-Protozoal, Anti-Helminth.
9. Antifungal agents
10. Antimalarial Drugs
11. Tranquilizers-
12. Hypnotics-
13. Antidepressant Drugs
14. Analeptics
15. Autonomic Nervous System
16. Adrenergic Drugs
17. Diuretic Drugs
18. Cardiovascular Drugs
19. Hypoglycemic Agents
20. Local Anesthetics

21. Analgesics and Anti-pyretics
22. Non-steroidal anti-inflammatory agents
23. Thyroxine and Antithyroids
24. Diagnostic Agents
25. Anticonvulsants, cardiac glycosides, Antiarrhythmic, Antihypertensive & Vitamins.
26. Steroidal Drugs
27. Anti-Neoplastic Drugs

H. Pharmacology & Toxicology

1. Introduction to Pharmacology, Scope of Pharmacology
2. Routes of administration of drugs
3. General anesthetics
4. Anti-inflammatory drugs
5. Sedatives and Hypnotics, psychopharmacological agents, anticonvulsants, analeptics. Centrally acting muscle relaxants and anti-parkinsonism agents. Local anesthetics.
6. Drugs acting on autonomic nervous system. Neuron blockers and ganglion blockers. Neuromuscular blockers, used in myasthenia gravis.
7. Drugs acting on eye
8. Drugs acting on respiratory system
9. Autacoids
10. Cardio vascular drugs Cardiotonics, Antiarrhythmic agents, Anti-anginal agents, Antihypertensive agents, peripheral Vasodilators and drugs used in atherosclerosis. Drugs acting on the blood and blood forming organs. Haematinics, coagulants and anticoagulants, Homeostatic, Blood substitutes and plasma expanders.
11. Drugs affecting renal function Diuretics and anti-diuretics.
12. Hormones and hormone antagonists
13. Hypoglycemic agents, Anti--thyroid drugs, sex hormones and oral

contraceptives, corticosteroids.

14. Drugs acting on digestive system carminatives, digest ants, Bitters, Antacids and drugs used in peptic ulcer, purgatives and laxatives, Anti-diarrheals, Emetics, Anti-emetics, Antispasmodics. Prescription (Parts), Parts of Prescription.

I. Pharmaceutical Jurisprudence

1. Origin and nature of pharmaceutical legislation in India
2. Principles and significance of professional Ethics.
3. Pharmacy Act, 1948-
4. The Drugs and Cosmetics Act, 1940
5. Narcotic Drugs and psychotropic substances Act, 1985
6. Medicinal and Toilet preparations (excise Duties) Act, 1955 (as amended to date). Medical Termination of Pregnancy Act, 1971.

J. Drug Store and Business Management

1. Introduction-Trade, Industry and commerce, Functions and subdivision of commerce, Introduction to Elements for Economics and Management. Forms of Business Organizations. Channels of Distribution.
2. Drug House Management
3. Codification, handling of drug stores and other hospital supplies. Inventory Control objects and importance, modern techniques like ABC,VED analysis, the lead time, inventory carrying cost, safety stock, minimum and maximum stock levels, economic order quantity, scrap and surplus disposal.
4. Sales promotion, Market Research, Salesmanship, qualities of a salesman, Advertising and Window Display.
5. Recruitment, training, evaluation and compensation of the pharmacist.
6. Banking and Finance-Service and functions of bank, Finance planning and sources of finance.

K. Hospital and Clinical Pharmacy

1. Hospital-
2. Hospital Pharmacy

3. Drug Distribution system in Hospitals
4. Manufacturing: Economical considerations, estimation of demand.
5. Sterile manufacture
6. Non-sterile manufacture
7. Hospital Formulary system and their organization, functioning, composition.
8. Drug Information service and Drug Information Bulletin.
9. Surgical dressing like cotton, gauze, bandages and adhesive tapes including their pharmacopoeial tests for quality. Other hospital supply eg. I.V. sets, B.G. sets, Ryals tubes, Catheters, Syringes etc.
10. Application of computers in maintenance of records, inventory control, medication monitoring, drug information and data storage and retrieval in hospital retail pharmacy establishment.
11. Clinical Pharmacy:
 - a. Introduction to Clinical pharmacy practice- Definition, scope. Modern dispensing aspects- Pharmacists and patient counseling and advice for the use of common drugs, medication history.
 - b. Common daily terminology used in the practice of Medicine. Disease, manifestation and patho-physiology including salient symptoms to understand the disease like Tuberculosis, Hepatitis, Rheumatoid Arthritis, Cardio-vascular diseases, Epilepsy, Diabetes, Peptic Ulcer, Hypertension.
 - c. Physiological parameters with their significance.
 - d. Drug interactions
 - e. Adverse Drug Reaction
 - f. Drugs in Clinical Toxicity-
 - g. Drug dependences, drug abuse, addictive drugs and their treatment, complications. Bio-availability of drugs, including factors affecting it.

Junior Physiotherapist

Part- A: General Aptitude (Page No 4) - 20 Questions (60 Marks)

Part-B: Core Subject - 80 Questions (240 Marks)

1. Human Anatomy: Head and Neck / Chest /Abdomen / Upper and Lower Limbs / Genito Urinary System Gastrointestinal System / Endocrine system
2. Applied anatomy related to different systems
3. Musculoskeletal system – Connective tissue & its modification, tendons, membranes, special connective tissue. Bone structure, blood supply, growth, ossification, and classification.
4. Muscle classification, structure and functional aspect. Joints – classification, structures of joints, movements, range, limiting factors, stability, blood supply, nerve supply, dislocations and applied anatomy.
5. Human Physiology related to CNS / Respiratory System. Cardiovascular System / Neuromuscular function
6. Physiology of exercise
7. Physiology of Acclimatization
8. Fundamentals of Occupational Therapy
9. Rehabilitation
10. Occupational performance: Model Generalized & specific principles of therapeutic exercises
11. Therapeutic modalities
12. Principles & methods of testing range of motion & muscle strength. Testing methods of sensation, perception
13. Coordination and muscle tone: relation to physiotherapy
14. Human development and its Activities of daily living Occupational therapy as Diagnostic & prognostic procedure.
15. Steps involved in preparing the client for return to work / Prevocational evaluation/ Evaluation of work capacity
16. Evaluation of physical capacity/ Evaluation of functional capacity

17. Different types of tools & equipment's & their uses in Occupational Therapy
18. Definition & classification of splints with their brief description, general principles of splinting and materials used.

Junior Occupational Therapist

Part- A: General Aptitude (Page No 4) - 20 Questions (60 Marks)

Part-B: Core Subject - 80 Questions (240 Marks)

A. Anatomy and Physiology:

1. Human Anatomy: Head and Neck / Chest /Abdomen / Upper and Lower Limbs / Genito Urinary System Gastrointestinal System / Endocrine system/ Applied anatomy related to different systems
2. Musculoskeletal system – Connective tissue & its modification, tendons, membranes, special connective tissue. Bone structure, blood supply, growth, ossification, and classification.
3. Muscle classification, structure and functional aspect. Joints – classification, structures of joints, movements, range, limiting factors, stability, blood supply, nerve supply, dislocations and applied anatomy. ➤ Human Physiology related to CNS / Respiratory System. Cardiovascular System / Neuromuscular function
4. Physiology of exercise
5. Physiology of Acclimatization
6. Fundamentals of Occupational Therapy
7. History & development of Occupational Therapy
8. Rehabilitation & specific principles of therapeutic exercises and Principles of Therapeutic modalities
9. Principles & methods of testing range of motion & muscle strength. Testing methods of sensation, perception, coordination and muscle tone.
10. Human development and its Activities of daily living Occupational therapy as Diagnostic & prognostic procedure.
11. Steps involved in preparing the client for return to work / Prevocational evaluation/ Evaluation of work capacity
12. Evaluation of physical capacity/ Evaluation of functional capacity
13. Different types of tools & equipments & their uses in Occupational Therapy
14. Define & classify splints with their brief description, state general principles of splinting, describe material used. Hand function & evaluation methods
15. Physiology of Exercise & Work in relation to different organ functions

B. Fundamentals of Occupational Therapy

1. History, Philosophy, Definition & Scope of O.T.
2. Theory of Occupation, Occupation as evolutionary Traits
 - a. Biological Dimension
 - b. Social Dimension
 - c. Psychological Dimension of Occupation
 - d. Application of Theory to Occupational Therapy
3. Principles & techniques of Therapeutic Exercises and its relation with the development of appropriate therapeutic activities –
 - a. Classification
 - b. Techniques-Strength building Exercise, Elasticity developing Exercise, Coordination Exercise. & activities
 - c. Specific & General Progression of Exercise. & activities
 - d. Progressive Resistive Exercise, Regressive Resistive Exercise, Breathing Exercise, Pelvic floor muscles Exercise & activities
 - e. Circuit Training
 - f. Prescription of Exercise & therapeutic activities
 - g. Principles & Application of Bio feedback in Occupational therapy
4. Yoga: Definition-History-Principles-Concepts, General effects of yoga posture on musculo skeletal system. Specific effects of individual yogic posture on musculo skeletal system. Yoga and Therapy - Rationale

C. Disability Prevention and Rehabilitation

1. Introduction
2. Definition concerned in the phases of disability process, explanation of its aims & principles, Scope of rehabilitation, (Impairment, Disability, Handicap)
3. Definition concerned with the causes of Impairment Functional limitation and Disability
4. Disability Prevention. Limitation & Rehabilitation.
5. Present Rehabilitation Services
6. Legislations for rehabilitation services for the Disabled, P.W.D.Act / Compensations and benefits available for disabled

7. Rehabilitation Team & its members, their role.
8. Contribution of Social Worker towards rehabilitation
9. Vocational evaluation & Goals for disabled, role of Vocational Counselor.
10. Principles of Communication & its problems: -
 - i. Speech Production
 - ii. Communication disorders secondary to Brain Damage.
 - iii. Aphasia & its treatment.
 - iv. Evaluating Language.
 - v. Disarthria & its treatment
 - vi. Non-Aphasic language disorders
11. Architectural barriers possible modifications in relation to different disabled conditions – namely Hemiplegia, Paraplegia, Amputees, Cerebral Palsy etc.
12. Community Health: Introduction to community Health, Definition of Community and Health, Health Determinants
 - i. Community and Rehabilitation – Definition, Concepts and Team, Community Health in relation to rural and urban health setup
 - ii. Community based rehabilitation Vs Institutional based rehabilitation – Merits and demerits
 - iii. Community Resources in rural and urban set up

D. Prosthesis and Orthosis

1. Definition and Basic Principles
2. Designing and Construction of Upper & Lower extremity Orthosis & Spinal Orthosis.
3. Upper Extremity prosthesis: Prescription, fitting and checking
4. Lower. Extremity prosthesis: Prescription, fitting and checking
5. Prescription and design of footwear- & its modification
6. Design and construction of adoptive devices
7. Classification of Aids & Appliances
8. Ambulatory Aids & Assistive Devices
9. Measurement and P.O.P. cast techniques.
10. Simple splint techniques
11. Low cost thermo-labile material for construction of Orthosis