

## Indicative Syllabus for Group A, B and C Positions

### 1. SYLLABUS FOR THE POST OF MEDICO SOCIAL WORKER

#### **A. General Intelligence and Reasoning (20 Marks) :**

It would include questions of both verbal and non-verbal type. The test will include questions on analogies, similarities and differences, space visualization, problem solving, analysis, judgement, decision making, visual memory, discriminating observation, relationship concepts, arithmetical reasoning, verbal and figure classification, arithmetical number series, non-verbal series etc. The test will also include questions designed to test the candidate's abilities to deal with abstract ideas and symbols and their relationship, arithmetical computation and other analytical functions.

#### **B. English Language (20 Marks) :**

Spot the Error, Fill in the Blanks, Synonyms/Homonyms, Antonyms, Spellings/ Detecting Misspelt words, Idioms & 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, Cloze Passage, Comprehension Passage.

#### **C. Subject Knowledge (50 Marks) :**

**Framework: Social Welfare-** The concept of Social Welfare Social Welfare: Concept, need and objectives Philosophy of Social Welfare and Social work Social welfare in historical perspective Changing concepts and practices of social welfare in relation to social, economic and industrial development Changing political philosophy and its impact on social welfare Social Welfare and related terms:

- (1) Social Development
- (2) Social Planning and social administration
- (3) Social reform
- (4) Social Security
- (5) Social Policy
- (6) Social Action
- (7) Social justice
- (8) Social and welfare services
- (9) Social legislation

(10) Human Rights Professional Social work an Introduction The concept of professional social work-alignment of scientific and humanitarian motives for promoting social welfare.

Framework: Social Welfare- The basic principles and values of professional social work and their relationship to the values of Indian Society Evolution of professional social work in UK, USA, Evolution of Professional Social work in India. Social work as a profession Nature and characteristics of a profession.

The basic values and Principles of professional social work Professional status of Social work in India Code of ethics for social workers

Methods of Social Work Primary Methods of Social work Secondary methods of Social work Integrated approach of social work Interface between Professional and voluntary social work

#### **Psychology and Mental Health: Fundamentals –**

Mental Health & Psychology, Psychology: Definitions and Fields, Mental Health: Meaning, Definitions, Characteristics

#### **Developmental Sociology:**

Characteristics Normal & Abnormal Behaviour: Meaning, Characteristics

**Human Development:** Heredity and Environment Meaning, Definition and scope of Mental Hygiene Characteristics and Importance of Mental Hygiene Aims of Mental Hygiene

**Principles of Mental Hygiene Programme of Mental Hygiene Developmental Stages**

Developmental Stages I: Prenatal, Infancy

Developmental Stages II: Babyhood, Childhood

Developmental Stages III: Puberty, Adolescence, Adulthood.

Developmental Stages III: Middle age, Old age. Personality

Development

**Psycho-Sexual development theory:**

1. Sigmund Freud

2. Psycho Social development theory: Erick Erickson

3. Defence Mechanism

4. Perspectives of Psychopathology Unit Social Psychology Nature and scope of social psychology Attitude: nature and measurement of attitude prejudice and discrimination Communication: concept, methods, skills in communication, major obstacles Mass communication, public opinion, propaganda, fashion, social facilitation crowd behaviour.

**Normal & Abnormal Behaviour:** Meaning, Characteristics

**Human Development :** Heredity and Environment Meaning, Definition and scope of Mental Hygiene Characteristics and Importance of Mental Hygiene Aims of Mental Hygiene Principles of

**Mental Hygiene Programme of Mental Hygiene Developmental Stages**

Developmental Stages I : Prenatal, Infancy Developmental

Stages II : Babyhood, Childhood

Developmental Stages III : Puberty, Adolescence, Adulthood. Developmental

Stages III : Middle age, Old age.

**Personality Development**

1. Psycho-Sexual development theory: Sigmund Freud

2. Psychosocial development theory: Erick Erickson

3. Defence Mechanism

4. Perspectives of Psychopathology Unit Social Psychology Nature and scope of social psychology Attitude: nature and measurement of attitude prejudice and discrimination Communication: concept, methods, skills in communication, major obstacles Mass communication, public opinion, propaganda, fashion, social facilitation crowd behaviour.

**Sociology: Theoretical Perspective-**

Conceptual & Theoretical Perspectives to Understand Society

1. Society: Nature, Approaches, Functions, Theories of Society (Evolutionary, Cyclical, Conflict and Systems theories).

2. Social Group: Concept & Characteristics of Primary Group, Secondary Group, Reference Group.

3. Social Institutions: Family, Marriage, Kinship, Property (Present trends).

4. Culture: Concept of Culture, Traditions, Customs, Values and Norms Social System and Social Process of Contemporary Society

5. Social System & Sub system: Structure & Function, Classification of System.

6. Social Structures: Status & Role.

Social Process: Meaning and kinds of Social Interaction, Socialization, Cooperation, Conflict, Assimilation, Social control.

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## **2. SYLLABUS FOR THE POST OF OFFICE ASSISTANT (N.S.)**

### **A. General Intelligence & Reasoning (10 Marks):**

It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, 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 centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

### **B. General Awareness (5 Marks):**

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 every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.

### **C. Quantitative Aptitude (10 Marks):**

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 relationships between numbers, Percentage. Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra & Elementary surds, Graphs of Linear Equations, Triangle and its various kinds of centres, 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 Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart

### **D. English Language (5 Marks):**

Spot the Error, Fill in the Blanks, Synonyms/Homonyms, Antonyms, Spellings/ Detecting Misspelt words, Idioms & 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, Cloze Passage, Comprehension Passage.

### **E. Basic concepts of Management & Computers (10 Marks):**

Principles of Management, Organisation behaviour, MS Office, MS Windows, Fundamentals of Computers, Internet etc.

**F. Central Govt. Service Rules (50 Marks):**

Central Government Rules: Questions relating to CCS (Leave) Rule, CCS (Conduct) Rules, GFR, FR/SR, General Service Condition, Office Procedures, Types of correspondence, General Knowledge about IPC/CRPC, CPC/CAT/High Court, RTI Act, 2005, Establishment, Reservation, Roster, LTC, Travelling Allowance etc.

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**3. SYLLABUS FOR THE POST OF TECHNICAL ASSISTANT / TECHNICIAN**

**A. General Intelligence & Reasoning (15 Marks):**

It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, 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 centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

**B. General Awareness (15 Marks):**

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 every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.

**C. Quantitative Aptitude (15 Marks):**

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 relationships between numbers, Percentage. Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra & Elementary surds, Graphs of Linear Equations, Triangle and its various kinds of centres, 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 Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart.

**D. English Language (15 Marks):**

Candidates' understanding of the Basics of English Language, its vocabulary, grammar, sentence structure, synonyms, antonyms and its correct usage, etc. his/her writing ability would be tested.

**E. Subject Knowledge (40 Marks):**

**Biochemistry –**

- Cleaning and care of general laboratory glass ware and equipment. Types of pipettes, calibration of pipettes.
- Distilled water. Method of preparation and storage of distilled water. Type of water distillation plants.
- Preparation of solutions – units of weights and volume, Calculation of concentration and methods of expressing concentration of solution.
- Units of Measurement - S.I unit and CGS units. Normality, Molarity, Molality
- Calibration of volumetric apparatus
- Principle, working and maintenance of Analytical balance
- Quality control and quality assurance in a clinical biochemistry laboratory
- Laboratory organization, management and maintenance of records
- Principles of assay procedures, Normal range in blood, Serum, Plasma and Urine and reference values.
- pH – Definition, Henderson Hasselbach equation, Pka value, pH indicator, Methods of measurement of pH, pH paper, pH meter, Principle, working, maintenance and calibration of pH meter
- Volumetric analysis- Normal and molar solutions, Standard solutions, Preparation of reagents, Storage of chemicals
- Working principles Types and applications of Electrophoresis – Paper, Agarose Gel, Cellulose Acetate and PAGE.
- Working principles, types and applications of Chromatography - Paper Chromatography, TLC, Ion Exchange, Affinity Gel, Filtration, Gas Chromatography and HPLC.
- Working principles, types and application of centrifugation
- Working Principles and application of photometry, and atomic absorption, Spectrophotometry and colorimetry.
- Definition, basic concepts of classification mechanism of action and properties of enzymes, factors influencing enzyme action
- Basic and elementary concepts of chemistry and properties of carbohydrates as applicable to the human body. (Classification, Digestion and Absorption, Metabolism, Disorders of metabolism)
- Overview of metabolism of carbohydrates – Methods for determining glucose, ketones, lactate, pyruvate reducing sugars and mucopolysaccharides and their clinical significance. Biochemistry, types, criteria parameters in diagnosis and prognosis of Diabetes mellitus.
- Basic and elementary concepts of chemistry and properties of lipids as applicable to the human body. (Classification, Digestion and Absorption, Metabolism, Disorders of metabolism)
- Overview of lipid. Importance of lipids in the body in body basic metabolic aspects and analytical importance. Disorders of lipid metabolism. Lipoproteins patterns in disease – analytical methods and procedures applicable to detecting and monitoring such disorders.
- Basic and elementary concepts of chemistry and properties of proteins & amino acids as applicable to the human body. (Classification, Digestion and Absorption, Metabolism, Disorders of metabolism)
- Overview of metabolism of amino acids and proteins – current methodologies for their determination and identification in biological specimens – disease associated with alternation in or deficiencies of amino acids and proteins.
- Basic and elementary concepts of chemistry and properties of nucleic Acids as applicable to the

human body.

- Basic concepts of principles of nutrition and nutrients macro and micro nutrients. Vitamins & Minerals. Vitamins- Fat soluble vitamins , Water soluble vitamins sources, Biochemical role, RDA, deficiency manifestations Minerals – Calcium, Phosphorous, Iron, Copper, Zinc, Magnesium, Manganese, Iodine.
- Analytical methods and recommendations for testing and assessing nutritional deficiency – Methods for assessing concentration of vitamins in biological samples.
- General requirements for laboratory assessment of trace elements including specimen collection, handling, selection of analytical methodology and establishing quality.
- Overview of Biochemical roles of major electrolytes and blood gases and their changes in pathological states – relationship between major electrolytes and acid base balance – application of physical and chemical principles to biological system – laboratory measurements of electrolytes and blood gases. Acid base balance disorders
- Overview of current concepts in endocrinology RIA, ELISA, chemiluminescence assay procedure for hormones – physiological effects produced by normal and abnormal levels of various hormones. Thyroid function test and Adrenal function test.
- Introduction to molecular Biology. Recombinant DNA technology, Role of recombinant DNA technology as diagnostic tool. Polymerase chain reaction.
- Overview of porphyrins, their precursors, primary and secondary disorders of porphyrin metabolism – diagnostic laboratory methodologies including appropriate specimen collection and preservation techniques related to porphyrins
- Laboratory tests and analytical methods used in identification and evaluation of hepatobiliary disorders, renal disorders and disorders of Stomach, pancreas and intestinal tract
- Overview of calcium and inorganic phosphate metabolism current laboratory analytical

### **Microbiology –**

- History of Medical Microbiology - Host-Microbe relationship.
- Safety Measures in clinical microbiology
- Cleaning, care and handling of glassware
- Care and maintenance of Equipment in Microbiology.
- Microscopy: Principle, types and uses of microscope
- Sterilization and Disinfection - Definition, Types, principles, mode of action and methods. Qualities of a good disinfectant. Assay for various disinfectants .
- Biomedical waste management in a lab
- General characteristics & classification of Microbes : Classification of microbes. Morphological classification of bacteria, Bacterial anatomy (Bacterial cell structures)
- Growth and nutrition of bacteria, Culture media and culture methods-aerobic and anaerobic
- Quality control and safety in microbiology.
- Handling and care of laboratory animals.
- Antimicrobial agents, Antimicrobial susceptibility tests.
- Stains used in bacteriology Principle, procedures, significance and interpretation - Simple staining, Gram stain, Ziehl –Neelsen staining, Albert’s stain, Capsule staining.
- Principle, procedures and interpretation of the biochemical tests for identification of different bacteria.
- Immunity – innate and acquired immunity, humoral and cell mediated.
- Antigen antibody reactions and their applications
- Complement
- Hypersensitivity
- Vaccines
- Gram positive & Gram negative cocci – Staphylococci, Streptococci, Enterococci, Pneumococci, Neisseria
- Gram positive bacilli – Corynebacterium, Mycobacterium, Actinomyces, Listeria, Bacillus, Clostridia
- Gram negative bacilli – Enterobacteriaceae, Pseudomonas, Vibrio, Aeromonas,

- Plesiomonas, Campylobacter, Bacteroides, Fusobacterium, Brucella, Haemophilus, Bordetella, Pasteurella, Francisella
- Spirochaetes, Chlamydia, Rickettsia, Mycoplasma, L forms
  - General properties of viruses – Structure, classification and replication.
  - Laboratory diagnosis of virus
  - DNA virus –Adenovirus, Papova virus, Herpes virus, Varicella zoster virus, Cytomegalo virus, Hepatitis B virus
  - RNA virus – Polio virus, Influenza virus, Para influenza virus, Mumps virus, Measles virus, Rubella virus, Respiratory syncytial virus, Rhinovirus, Rotavirus, Hepatitis virus, Arbo viruses prevalent in India (Dengue, West Nile, Japanese Encephalitis, KFD), HIV, Rabies virus, SARS virus.
  - Bacteriophage
  - Introduction to Parasitology –Common definitions, Types and Classification of parasites.
  - Collection transport and preservation of specimens for parasitological examination
  - Protozoa: Entamoeba Trichomonas, Trypanosomes, Leishmania, Giardia, Plasmodium, Isospora, Balantidium, and Toxoplasma.
  - Cestodes - Diphyllbothrium, Taenia, Echinococcus, Hymenolepis.
  - Trematodes - Schistosoma, Fasciola, Fasciolopsis, Clonorchis, Paragonimus
  - Intestinal Nematodes - Ascaris, Ancylostoma, Necator, Strongyloides, Trichinella Enterobius, Trichuris
  - Tissue Nematodes - Wucherei, Brugia, Loa loa, Onchocerca, Dracunculus
  - Collection and preservation of specimens for parasitological examination, preservation of specimens of parasitic eggs and embryos, Preserving Fluids, Transport of specimens.
  - Morphology and classification of fungus
  - Laboratory diagnosis of fungus- Culture media used in mycology, Direct microscopy in Medical mycology laboratory, Processing of clinical samples for diagnosis of fungal infections i.e. Skin, nail, hair, pus, sputum, CSF and other body fluids.
  - Superficial fungal infections
  - Subcutaneous fungal infections
  - Deep fungal infections
  - Opportunistic fungal infections
  - Techniques used for isolation and identification of medically important fungi
  - Methods for identification of yeasts and moulds
  - Preservation of fungal cultures

### **Pathology –**

- General-Haematology: Origin, development, morphology, maturation, function and fate of blood cells, nomenclature of blood cells.
- Various methods of blood collection, anticoagulants-mechanism and uses.
- Basic concepts of automation in haematology
- Counting chamber- hemocytometry. Enumeration of RBC including various counting chambers, diluting fluids for RBC count.
- Haemoglobinometry. Principles and methods of quantitating Hb. Concentration of blood including knowledge of errors and quality control in various method. Abnormal hemoglobin and its investigation.
- ESR: introduction, factors affecting ESR, principles and methods of determining ESR, increasing and decreasing conditions of ESR.
- WBC: introduction, development of WBC, diluting fluids. Absolute eosinophil count, errors in sampling, mixing, diluting and counting.
- Cell counting, advantages and disadvantages, uses and mechanism of cell counting, quality control in cell counts.
- Preparation of peripheral smear and bone marrow smear. Thin smear, thick smear. Buffy coat

- smear, wet preparation. Romanowsky stain. Preparation advantages and disadvantages.
- Principle and methods of staining of Blood smears and bone marrow smears. Supravital stain. Reticulocyte count. Heinz bodies.
- Description of morphology of normal and abnormal red cells. Blood differential WBC counting. Recognition of abnormal cell. Anaemia – definition etiology classification and laboratory diagnosis.
- Methods of identification and estimation of abnormal hemoglobin including spectroscopy. HB electrophoresis. Alkali denaturation Test. Sickle cell preparation.
- Various benign leucocyte reaction – Leukocytosis. Neutrophilia, Eosinophilia, Lymphocytosis. Infectious mononucleosis. leucopenias.
- Leukemias – definition, causes, classification, detection of leukemia. Total leucocyte count in leukemias. Multiple myeloma.
- Blood Coagulation and disorders of hemostasis. Classification of coagulation factors, Principles and methods of assessment of coagulation. BT, CT, Prothrombin time, partial thromboplastin time, thromboplastin regeneration time
- Thrombocytopenia, thrombocythemias, platelet function test, platelet count. Clot retraction test. Platelet factor III Test.
- LE cell – definition, morphology causative agents. Various methods of demonstrating LE cells. Blood parasites. Malaria, LD bodies, microfilaria and methods of demonstration.
- Preparation of donor and collection of blood. Solution and apparatus used. Storage of blood. Preparation and storage of plasma. Preparation of packed red cells.
- Principles involved in Blood grouping. ABO system and the methods used. Factors influencing the results of blood grouping, Rh system. Rh antigen. Principles and methods used.
- Cross matching. Compatibility test, direct and indirect Coomb's test – Principle involved and the methods used. Blood transfusion and its Hazards.
- Definition, sources and types histological specimens, kinds of histological presentations
- Labelling, fixation, properties of fixing fluids, classification and composition of fixing fluids.
- Advantages and disadvantages of secondary fixatives. Post chroming.**
- Tissue processing, dehydration and cleaning.
- Embedding. Water soluble substances, embedding in paraffin nitrocellulose
- Equipment for sectioning microtome, knife, honing and stropping. Types, care and use of microtome.
- Technique for sectioning – frozen section. Technique for sectioning – Paraffin embedded tissue. Errors in sectioning and remedies. Attaching blocks to carriers.
- Technique of processing bone for histological studies. Mounting and covering. Mounting media.
- Staining – theory, types of staining agent. Mordents and differentiation. H & E staining. Types of hematoxillin and its preparation. Eosin stock stain and other counter stain used.
- Demonstration of collagen, reticulin, elastin, fat, amyloid, glycogen, mucin, pigments and minerals (malarial, mercury, bile, lipofuscin, calcium, iron, copper).
- Principles of histochemistry and its application
- Demonstration of neuron, neuroglia, myelin and axon. Processing of eye ball for histology.
- Demonstration of fat, iron, amyloid, bile in large sections of tissue.
- Cytology – introduction, definition, types of cytological specimen, preparation of slide for microscopic studies, stains used.
- Museum technique. Preparation, setting up of and arrangement of museum.
- Preparation of cell blocks, mailing of slides.
- FNAC, definition, techniques involved in preparation of smear and staining. PAP smear.
- Calibration and Validation of Clinical Laboratory instruments

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#### **4. SYLLABUS FOR THE POST OF STOREKEEPER**

##### **A. General Intelligence and Reasoning (5 Marks):**

It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgment, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. the topics are, Semantic Analogy, 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 centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thing, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

##### **B. General Awareness (5 Marks):**

50% Questions from General Awareness: 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 every day observations as may be expected of any educated person. The test will also include questions relating to India especially pertaining History, Culture, Geography, Economic Scene, General Policy.

##### **C. Quantitative Aptitude (10 Marks):**

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 relationships between numbers, Percentage. Ration & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work.

##### **D. English Language (5 Marks):**

Spot the Error, Fill in the Blanks, Synonyms/Homonyms, Antonyms, Spellings/ Detecting Misspelt words, Idioms & 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, Cloze Passage, Comprehension Passage.

##### **E. Material Management (50 Marks):**

**Introduction to Materials Management:** Objectives and Advantages of Materials Management. Interfaces of Materials Management: Internal and external interfaces. Organization for Material Management. Supply Chain Management: Concept, objectives of supply – production and distribution system, Role and Management of flow of material in supply

chain management. Material Management Linkages: Linkages with other functional areas of Management i.e. Production, Accounting and Finance, Marketing, HRM, IT, TQM. A Brief discussion on the functions of each functional area of Management. Cost Involved in material management: Concept of costs and cost classification, specific costs associated with Material Management.

**Storekeeping:** Objectives and functions of storekeeping, location and layout of stores. Types of stores. Receipt of Materials: Receipt procedure, inspection and testing of materials, Rejection and Returns of materials. Forms used in receiving of materials like Material Received Note, Inspection Report and Rejection Report etc. Passing of Bills/invoices for payment. Issue of Materials: Issue procedure and documents used, store records like bin card and store ledger, pricing of material issues – different methods like FIFO, LIFO, Simple average, weighted average, standard price, Replacement / market price etc. Material losses: Meaning, accounting treatment and control of different type of material losses (waste, scrap, spoilage, defectives, obsolescence etc.). Store Handling Equipment: Advantages of using stores handling equipment, Types of handling equipment: manual and mechanical devices.

**Purchase Procedure:** Pre-purchase considerations, standard purchase procedure, post-purchase issues. Standard form used in purchasing like purchase requisition, tender / quotation documents, schedule of quotations, purchase order, follow-up order, cancellation of order, Bill of Materials etc. Special Purchase Systems – Forward Purchase, Tender purchase, Blanket order, zero stock, Rate contract etc. Price Forecasting: Price and Pricing impact, price negotiations and fixing. Purchasing under fluctuating prices, purchasing under uncertainty, Negotiations regarding quality, terms of contract, delivery, payment schedule, cash discount, quality considerations, etc. Public Buying: DGS&D Rate contract, GeM, GFR. Online Purchasing: Concept, advantages, procedure of online purchasing and current online purchase practices.

**Buyer-seller Relationship:** Importance of good buyer-seller relationship, Relation with supplier- policies and issues in relationship, Ethical issues in purchasing. Quality Control in Purchasing: Concept of Total Quality Management (TQM), Certification, Role of Material Management in TQM. Value Analysis and Value Engineering.

**Business Correspondence:** Letter Writing, presentation, Inviting quotations, Sending quotations, Placing orders, Inviting tenders, Sales letters, Inter-office Memo, Notices, Agenda.

**Inventories:** Meaning, types of inventories, definition as per relevant accounting standard, Need and benefit of holding inventories, objectives of inventory management.

**Financial Accounting:** Nature and scope, Limitations of Financial Accounting. Basic Concepts and Conventions, Accounting Standards: Meaning, Significance, Generally Accepted Accounting Principles (GAAP). Accounting Process: From recording of transactions to preparation of final accounts. Rectification of errors and Bank Reconciliation statement. Depreciation Accounting: Meaning of depreciation, causes, objects of providing depreciation, factors affecting depreciation, accounting treatment including provision for depreciation accounting. Methods of depreciation: straight line method and diminishing balance method.

**Work Study:** Importance of work study – Method Study and Work Measurement Method Study: Method and Method Study – Need for Method Study – Procedure of Method Study – Principles of Motion Economy.

**Work Measurement:** Techniques of Work Measurement including Estimating, Stopwatch Time Study, Predetermined Time Standards, Synthetic Estimates of Work Times, Activity Sampling. Computation of Standard Time – Elements – Types of Elements – Performance Rating – Allowances – Need for Allowances – Types of Allowances TPM: Meaning and objectives of TPM; Methodology of TPM, gains of TPM.

**Material Logistics:** Concept and Importance of Material Logistics. Logistic Tasks: Follow-up of Order, Transportation, Warehousing, Inventory Control, Information Monitoring. Logistic Planning: Major Aspects and Factors. Transportation: A Brief Study of different modes of transport used for movement of materials, their relative advantages, disadvantages and suitability Warehousing: Concept of Warehousing (Warehouse, Depositor and Warehouseman), Elements and Functions of Warehousing. Types of Warehousing, Advantages of a Public Warehouse, Costs Associated with Warehousing,

**Quality Management Concepts:** ISO Certification. Methods of Control: Product, Process, Risk, Evolution, Management Approaches, Quality Management Support System. R Chart, P Chart and X charts; Acceptance Sampling & OC Curve in production Control. Supply Chain Management: Supply management an organization spanning activity. How purchasing becomes supply management? Supply Management and the Bottom line. The four phases of supply management. (Generation of requirement, sourcing, pricing and post award activities). Supply management systems: B2B, Strategic Supply Management. Enabling Concepts in Supply: Buyer-supplier relationship: Developing and Managing collaboration and Alliance relationship. Cross-functional teams and supply-Management Activities. Challenges and problems with cross functional approach, ERP Systems, Negotiations and Bidding, Information sharing.

**The Indian Contract Act, 1872:** Contract – meaning, characteristics and kinds, Essentials of valid contract Discharge of contract – modes of discharge including breach and its remedies, Contingent contracts, Quasi contracts .

**The Indian Contract Act, 1872: Specific Contracts :** Contract of Indemnity and Guarantee, Contract of Bailment, Contract of Agency.

**The Sale of Goods Act, 1930:** Contract of sale, meaning and difference between sale and agreement to sell, Conditions and warranties, Transfer of ownership in goods including sale by non-owners, Performance of contract of sale, Unpaid seller – meaning and rights of an unpaid seller against the goods and the buyer.

**Partnership Law** The Partnership Act, 1932: Nature and Characteristics of Partnership, Registration of Firms, Types of Partners, Rights and Duties of Partners, Implied Authority of a Partner, Incoming and outgoing Partners, Mode of Dissolution of Partnership.

**The Limited Liability Partnership Act, 2008:** Salient Features of LLP, Difference between LLP and Partnership, LLP and Company, LLP Agreement, Partners and Designated Partners, Incorporation Document, Incorporation by Registration, Partners and their Relations, winding up.

**The Negotiable Instruments Act, 1881**

Meaning and Characteristics of Negotiable Instruments: Promissory Note, bill of exchange, Cheque, Holder and Holder in due Course, Privileges of Holder in Due Course, Negotiation: Types of Endorsements, Crossing of Cheque, Bouncing of Cheques

**Computers in Material Management:** Use of Computers in Material Planning, Purchase, Store, Issue and Inventory Control. Integrated Information System for Material Management. Evaluation of Material Management Function: Meaning and Procedure. Evaluation Tools and Techniques.

**Computers in Material Management:** Use of Computers in Material Planning, Purchase, Store, Issue and Inventory Control. Integrated Information System for Material Management. Evaluation of Material Management Function: Meaning and Procedure. Evaluation Tools and Techniques.

## **F. Basic Knowledge of GeM (10 Marks)**

**G. Statistics (5 Marks):**

- Collection of Data
  - Measures of Central Tendency
  - Measures of Dispersion
  - Correlation & Regression
  - Index Numbers
  - Use of Statistical Tool
  - Bar Graph, Line Charts, Pie-Charts, Venn Diagram
  - Percentile Rank and Quartile Rank
  - Data Interpretation
  - Central Tendency, Dispersion, deviation, variance
  - Skewness & Kurtosis
- 

**5. SYLLABUS FOR THE POST OF WARDEN (HOSTEL WARDEN)**

**A. General Intelligence & Reasoning (10 Marks):**

It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, 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 centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

**B. General Awareness (5 Marks):**

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 every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.

**C. Quantitative Aptitude (10 Marks):**

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 relationships between numbers, Percentage. Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra & Elementary surds, Graphs of Linear Equations, Triangle and its various

kinds of centres, 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 Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart

**D. English Language (5 Marks):**

Spot the Error, Fill in the Blanks, Synonyms/Homonyms, Antonyms, Spellings/ Detecting Mis-spelt words, Idioms & 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, Cloze Passage, Comprehension Passage.

**E. Basic concepts of Management & Computers (10 Marks):**

Principles of Management, Organisation behaviour, MS Office, MS Windows, Fundamentals of Computers, Internet etc.

**F. Knowledge of Housekeeping. Material Management. Public Relations and Estate Management (50 Marks)**

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**6. SYLLABUS FOR THE POST OF PERSONAL ASSISTANT TO PRINCIPAL**

**PART-I**

**A. General Intelligence & Reasoning (20 Marks):**

It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, 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 centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

**B. General Awareness (20 Marks):**

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 every day observations and

experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.

**C. Quantitative Aptitude (20 Marks):**

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 relationships between numbers, Percentage, Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra & Elementary surds, Graphs of Linear Equations, Triangle and its various kinds of centres, 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 Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart

**D. English Language (20 Marks):**

Spot the Error, Fill in the Blanks, Synonyms/Homonyms, Antonyms, Spellings/ Detecting Mis-spelt words, Idioms & 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, Cloze Passage, Comprehension Passage.

**E. Basic Concepts of Management & Computers (20 Marks):**

Principles of Management, Organisation behaviour, MS Office, MS Windows, Fundamentals of Computers, Internet etc.

**PART-II**

**Skill Test in Stenography:**

The Skill Test will be of qualifying nature. Candidates will have to qualify the test for English or Hindi at the prescribed speed on Computer as per the advertisement.

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## **7. SYLLABUS FOR THE POST OF LAB TECHNICIAN**

### **A. General Intelligence & Reasoning (15 Marks):**

It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, 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 centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

### **B. General Awareness (15 Marks):**

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 every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.

### **C. Quantitative Aptitude (15 Marks):**

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 relationships between numbers, Percentage, Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra & Elementary surds, Graphs of Linear Equations, Triangle and its various kinds of centres, 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 Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart.

### **D. English Language (15 Marks):**

Spot the Error, Fill in the Blanks, Synonyms/Homonyms, Antonyms, Spellings/ Detecting Mis-spelt words, Idioms & 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, Cloze Passage, Comprehension Passage.

**E. Subject Knowledge (40 Marks):**

**Biochemistry –**

- Cleaning and care of general laboratory glass ware and equipment. Types of pipettes, calibration of pipettes.
- Distilled water. Method of preparation and storage of distilled water. Type of water distillation plants.
- Preparation of solutions – units of weights and volume, Calculation of concentration and methods of expressing concentration of solution.
- Units of Measurement - S.I unit and CGS units. Normality, Molarity, Molality
- Calibration of volumetric apparatus
- Principle, working and maintenance of Analytical balance
- Quality control and quality assurance in a clinical biochemistry laboratory
- Laboratory organization, management and maintenance of records
- Principles of assay procedures, Normal range in blood, Serum, Plasma and Urine and reference values.
- pH – Definition, Henderson Hasselbach equation, Pka value, pH indicator, Methods of measurement of pH, pH paper, pH meter, Principle, working, maintenance and calibration of pH meter
- Volumetric analysis- Normal and molar solutions, Standard solutions, Preparation of reagents, Storage of chemicals
- Working principles Types and applications of Electrophoresis – Paper, Agarose Gel, Cellulose Acetate and PAGE.
- Working principles, types and applications of Chromatography - Paper Chromatography, TLC, Ion Exchange, Affinity Gel, Filtration, Gas Chromatography and HPLC.
- Working principles, types and application of centrifugation
- Working Principles and application of photometry, and atomic absorption, Spectrophotometry and colorimetry.
- Definition, basic concepts of classification mechanism of action and properties of enzymes, factors influencing enzyme action
- Basic and elementary concepts of chemistry and properties of carbohydrates as applicable to the human body. (Classification, Digestion and Absorption, Metabolism, Disorders of metabolism)
- Overview of metabolism of carbohydrates – Methods for determining glucose, ketones, lactate, pyruvate reducing sugars and mucopolysaccharides and their clinical significance. Biochemistry, types, criteria parameters in diagnosis and prognosis of Diabetes mellitus.
- Basic and elementary concepts of chemistry and properties of lipids as applicable to the human body. (Classification, Digestion and Absorption, Metabolism, Disorders of metabolism)
- Overview of lipid. Importance of lipids in the body in body basic metabolic aspects and analytical importance. Disorders of lipid metabolism. Lipoproteins patterns in disease – analytical methods and procedures applicable to detecting and monitoring such disorders.
- Basic and elementary concepts of chemistry and properties of proteins & amino acids as applicable to the human body. (Classification, Digestion and Absorption, Metabolism, Disorders of metabolism)



- Overview of metabolism of amino acids and proteins – current methodologies for their determination and identification in biological specimens – disease associated with alteration in or deficiencies of amino acids and proteins.
- Basic and elementary concepts of chemistry and properties of nucleic Acids as applicable to the human body.
- Basic concepts of principles of nutrition and nutrients macro and micro nutrients. Vitamins & Minerals. Vitamins- Fat soluble vitamins , Water soluble vitamins sources, Biochemical role, RDA, deficiency manifestations Minerals – Calcium, Phosphorous, Iron, Copper, Zinc, Magnesium, Manganese, Iodine.
- Analytical methods and recommendations for testing and assessing nutritional deficiency – Methods for assessing concentration of vitamins in biological samples.
- General requirements for laboratory assessment of trace elements including specimen collection, handling, selection of analytical methodology and establishing quality.
- Overview of Biochemical roles of major electrolytes and blood gases and their changes in pathological states – relationship between major electrolytes and acid base balance – application of physical and chemical principles to biological system – laboratory measurements of electrolytes and blood gases. Acid base balance disorders
- Overview of current concepts in endocrinology RIA, ELISA, chemiluminescence assay procedure for hormones – physiological effects produced by normal and abnormal levels of various hormones. Thyroid function test and Adrenal function test.
- Introduction to molecular Biology. Recombinant DNA technology, Role of recombinant DNA technology as diagnostic tool. Polymerase chain reaction.
- Overview of porphyrins, their precursors, primary and secondary disorders of porphyrin metabolism – diagnostic laboratory methodologies including appropriate specimen collection and preservation techniques related to porphyrins
- Laboratory tests and analytical methods used in identification and evaluation of hepatobiliary disorders, renal disorders and disorders of Stomach, pancreas and intestinal tract
- Overview of calcium and inorganic phosphate metabolism current laboratory analytical

### **Microbiology –**

- History of Medical Microbiology - Host-Microbe relationship.
- Safety Measures in clinical microbiology
- Cleaning, care and handling of glassware
- Care and maintenance of Equipment in Microbiology.
- Microscopy: Principle, types and uses of microscope
- Sterilization and Disinfection - Definition, Types, principles, mode of action and methods. Qualities of a good disinfectant. Assay for various disinfectants .
- Biomedical waste management in a lab
- General characteristics & classification of Microbes : Classification of microbes. Morphological classification of bacteria, Bacterial anatomy (Bacterial cell structures)
- Growth and nutrition of bacteria, Culture media and culture methods-aerobic and anaerobic
- Quality control and safety in microbiology.
- Handling and care of laboratory animals.
- Antimicrobial agents, Antimicrobial susceptibility tests.
- Stains used in bacteriology Principle, procedures, significance and interpretation - Simple staining, Gram stain, Ziehl –Neelsen staining, Albert’s stain, Capsule staining.
- Principle, procedures and interpretation of the biochemical tests for identification of different

bacteria.

- Immunity – innate and acquired immunity, humoral and cell mediated.
- Antigen antibody reactions and their applications
- Complement
- Hypersensitivity
- Vaccines
- Gram positive & Gram negative cocci – Staphylococci, Streptococci, Enterococci, Pneumococci, Neisseria
- Gram positive bacilli – Corynebacterium, Mycobacterium, Actinomyces, Listeria, Bacillus, Clostridia
- Gram negative bacilli – Enterobacteriaceae, Pseudomonas, Vibrio, Aeromonas, Plesiomonas, Campylobacter, Bacteroides, Fusobacterium, Brucella, Haemophilus, Bordetella, Pasteurella, Francisella
- Spirochaetes, Chlamydia, Rickettsia, Mycoplasma, L forms
- General properties of viruses – Structure, classification and replication.
- Laboratory diagnosis of virus
- DNA virus –Adenovirus, Papova virus, Herpes virus, Varicella zoster virus, Cytomegalo virus, Hepatitis B virus
- RNA virus – Polio virus, Influenza virus, Para influenza virus, Mumps virus, Measles virus, Rubella virus, Respiratory syncytial virus, Rhinovirus, Rotavirus, Hepatitis virus, Arbo viruses prevalent in India (Dengue, West Nile, Japanese Encephalitis, KFD), HIV, Rabies virus, SARS virus.
- Bacteriophage
- Introduction to Parasitology –Common definitions, Types and Classification of parasites.
- Collection transport and preservation of specimens for parasitological examination
- Protozoa: Entamoeba Trichomonas, Trypanosomes, Leishmania, Giardia, Plasmodium, Isospora, Balantidium, and Toxoplasma.
- Cestodes - Diphylobothrium, Taenia, Echinococcus, Hymenolepis.
- Trematodes - Schistosoma, Fasciola, Fasciolopsis, Clonorchis, Paragonimus
- Intestinal Nematodes - Ascaris, Ancylostoma, Necator, Strongyloides, Trichinella Enterobius, Trichuris
- Tissue Nematodes - Wucherei, Brugia, Loa loa, Onchocerca, Dracunculus
- Collection and preservation of specimens for parasitological examination, preservation of specimens of parasitic eggs and embryos, Preserving Fluids, Transport of specimens.
- Morphology and classification of fungus
- Laboratory diagnosis of fungus- Culture media used in mycology, Direct microscopy in Medical mycology laboratory, Processing of clinical samples for diagnosis of fungal infections i.e. Skin, nail, hair, pus, sputum, CSF and other body fluids.
- Superficial fungal infections
- Subcutaneous fungal infections
- Deep fungal infections
- Opportunistic fungal infections
- Techniques used for isolation and identification of medically important fungi
- Methods for identification of yeasts and moulds
- Preservation of fungal cultures

## **Pathology –**

- General-Haematology: Origin, development, morphology, maturation, function and fate of blood cells, nomenclature of blood cells.
- Various methods of blood collection, anticoagulants-mechanism and uses.
- Basic concepts of automation in haematology
- Counting chamber- hemocytometry. Enumeration of RBC including various counting chambers, diluting fluids for RBC count.
- Haemoglobinometry. Principles and methods of quantitating Hb. Concentration of blood including knowledge of errors and quality control in various method. Abnormal hemoglobin and its investigation.
- ESR: introduction, factors affecting ESR, principles and methods of determining ESR, increasing and decreasing conditions of ESR.
- WBC: introduction, development of WBC, diluting fluids. Absolute eosinophil count, errors in sampling, mixing, diluting and counting.
- Cell counting, advantages and disadvantages, uses and mechanism of cell counting, quality control in cell counts.
- Preparation of peripheral smear and bone marrow smear. Thin smear, thick smear. Buffy coat smear, wet preparation. Romanowsky stain. Preparation advantages and disadvantages.
- Principle and methods of staining of Blood smears and bone marrow smears. Supravital stain. Reticulocyte count. Heinz bodies.
- Description of morphology of normal and abnormal red cells. Blood differential WBC counting. Recognition of abnormal cell. Anaemia – definition etiology classification and laboratory diagnosis.
- Methods of identification and estimation of abnormal hemoglobin including spectroscopy. HB electrophoresis. Alkali denaturation Test. Sickle cell preparation.
- Various benign leucocyte reaction – Leukocytosis. Neutrophilia, Eosinophilia, Lymphocytosis. Infectious mononucleosis. leucopenias.
- Leukemias – definition, causes, classification, detection of leukemia. Total leucocyte count in leukemias. Multiple myeloma.
- Blood Coagulation and disorders of hemostasis. Classification of coagulation factors, Principles and methods of assessment of coagulation. BT, CT, Prothrombin time, partial thromboplastin time, thromboplastin regeneration time
- Thrombocytopenia, thrombocythemias, platelet function test, platelet count. Clot retraction test. Platelet factor III Test.
- LE cell – definition, morphology causative agents. Various methods of demonstrating LE cells. Blood parasites. Malaria, LD bodies, microfilaria and methods of demonstration.
- Preparation of donor and collection of blood. Solution and apparatus used. Storage of blood. Preparation and storage of plasma. Preparation of packed red cells.
- Principles involved in Blood grouping. ABO system and the methods used. Factors influencing the results of blood grouping, Rh system. Rh antigen. Principles and methods used.
- Cross matching. Compatibility test, direct and indirect Coomb's test – Principle involved and the methods used. Blood transfusion and its Hazards.
- Definition, sources and types histological specimens, kinds of histological presentations
- Labelling, fixation, properties of fixing fluids, classification and composition of fixing fluids. Advantages and disadvantages of secondary fixatives. Post chroming.
- Tissue processing, dehydration and cleaning.
- Embedding. Water soluble substances, embedding in paraffin nitrocellulose
- Equipment for sectioning microtome, knife, honing and stropping. Types, care and use of

microtome.

- Technique for sectioning – frozen section. Technique for sectioning – Paraffin embedded tissue. Errors in sectioning and remedies. Attaching blocks to carriers.
- Technique of processing bone for histological studies. Mounting and covering. Mounting media.
- Staining – theory, types of staining agent. Mordents and differentiation. H & E staining. Types of hematoxylin and its preparation. Eosin stock stain and other counter stain used.
- Demonstration of collagen, reticulin, elastin, fat, amyloid, glycogen, mucin, pigments and minerals (malarial, mercury, bile, lipofuscin, calcium, iron, copper).
- Principles of histochemistry and its application
- Demonstration of neuron, neuroglia, myelin and axon. Processing of eye ball for histology.
- Demonstration of fat, iron, amyloid, bile in large sections of tissue.
- Cytology – introduction, definition, types of cytological specimen, preparation of slide for microscopic studies, stains used.
- Museum technique. Preparation, setting up of and arrangement of museum.
- Preparation of cell blocks, mailing of slides.
- FNAC, definition, techniques involved in preparation of smear and staining. PAP smear.
- Calibration and Validation of Clinical Laboratory instruments

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## **8. SYLLABUS FOR THE POST OF STENOGRAPHER**

### **PART-I**

#### **A. General Intelligence & Reasoning (20 Marks):**

It would include questions of both verbal and non-verbal type. The test will include questions on analogies, similarities and differences, space visualization, problem solving, analysis, judgement, decision making, visual memory, discriminating observation, relationship concepts, arithmetical reasoning, verbal and figure classification, arithmetical number series, non-verbal series etc. The test will also include questions designed to test the candidate's abilities to deal with abstract ideas and symbols and their relationship, arithmetical computation and other analytical functions.

#### **B. General Awareness (20 Marks):**

Questions will be designed to test the ability of 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 observation and experience in their scientific aspects as may be expected of an educated person. The test will also include questions relating to India and its Neighbouring countries especially pertaining to Sports, History, Culture, Geography, Economic scene, General Polity including Indian Constitution, and Scientific Research etc. These questions will be such that they do not require a special study of any discipline.

#### **C. English Language (50 Marks):**

Spot the Error, Fill in the Blanks, Synonyms/Homonyms, Antonyms, Spellings/ Detecting Misspelt words, Idioms & 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, Cloze Passage, Comprehension Passage.

## **PART-II**

### **Skill Test in Stenography:**

The Skill Test will be of qualifying nature. The candidates will have to appear for the stenography test. The candidates will be given one dictation for 10 minutes in English/Hindi at the speed of 80 w.p.m. for the post of Stenographer.

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## **9. SYLLABUS FOR THE POST OF CASHIER**

### **A. General Intelligence & Reasoning (10 Marks):**

It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, 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 centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

### **B. General Awareness (5 Marks):**

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 every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.

### **C. Quantitative Aptitude (5 Marks):**

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 relationships between numbers, Percentage. Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra & Elementary surds, Graphs of Linear Equations, Triangle and its various kinds of centres, 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 Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian

Measures, Standard Identities, Complementary angles, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart.

**D. English Language & Comprehension(10 Marks):**

Candidates' ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.

**E. Basic Computers (10 Marks)::**

- a) General Computer Processing ability in MS-Office like Word Processing, Excel, PowerPoint etc. & Operating Systems.
- b) Professional Software/Hardware System relevant to the post.
- c) Any other Computer/IT related questions.

**F. Fundamental Principles and Basic Concepts of Accounting (50 Marks):**

Financial Accounting - Nature and scope, Limitations of Financial Accounting, Basic Concepts and Conventions, Generally Accepted Principles. Basic Concepts of Accounting: Single and Double Entry System, Books of Original Entry, Bank Reconciliation, Journal, Ledgers, Trial Balance, Rectification of Errors, Manufacturing, Trading, Profit & Loss Appropriation Accounts, Balance Sheet, Distinction between Capital and Revenue Expenditure, Depreciation Accounting, Valuation of Inventories, Non-profit making organizations' Accounts, Receipts and Payments, Income & Expenditure Accounts, Bills of Exchange, Self-Balancing Ledgers.

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**10. SYLLABUS FOR THE POST OF LAB ATTENDANT GRADE II**

**A. General Intelligence & Reasoning (15 Marks):**

It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, 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 centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

**B. General Awareness (15 Marks):**

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 every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General

Policy & Scientific Research.

**C. Quantitative Aptitude (15 Marks):**

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 relationships between numbers, Percentage. Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra & Elementary surds, Graphs of Linear Equations, Triangle and its various kinds of centres, 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 Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart.

**D. English Language (15 Marks):**

Candidates' understanding of the Basics of English Language, its vocabulary, grammar, sentence structure, synonyms, antonyms and its correct usage, etc. his/her writing ability would be tested.

**E. Subject Knowledge (40 Marks):**

- a. Biomedical Waste Management
  - b. Infection Prevention and Control
  - c. Basic Medical Terms
  - d. Common Laboratory associated Hazards & Bio-safety measures.
  - e. Concept of Quality care in laboratory
  - f. Quality Improvement Tools
  - g. NABH Guidelines
  - h. Basic Biochemistry including Normal values
  - i. HIV, Hepatitis-B and Hepatitis-C, Pre and Post exposure guidelines.
  - j. Medical Ethics
  - k. Basic Anatomy and Physiology
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**11. SYLLABUS FOR THE POST OF LDC (Lower Division Clerk)**

**PART-I**

**A. General Intelligence and Reasoning (25 Marks):**

It would include questions of both verbal and non-verbal type. The test will include questions on Semantic Analogy, Symbolic operations, Symbolic/Number Analogy, Trends, Figural Analogy, Space Orientation, Semantic Classification, Venn Diagrams, Symbolic/Number Classification, Drawing inferences, Figural Classification, Punched hole/pattern-folding & unfolding, Semantic Series, Figural Pattern-folding and completion,

Number Series, Embedded figures, Figural Series, Critical Thinking, Problem Solving, Emotional Intelligence, Word Building, Social Intelligence, Coding and de-coding, Other sub-topics, if any Numerical operations.

**B. General Awareness (25 Marks):**

Questions are designed to test the candidate's general awareness of the environment around him and its application to society. Questions are also designed to test knowledge of current events and of such matters of everyday observation and experience in their scientific aspect as may be expected of an educated person. The test will also include questions relating to India and its neighbouring countries especially 10 pertaining to History, Culture, Geography, Economic Scene, General policy and scientific research.

**C. Quantitative Aptitude (25 Marks):**

Number Systems: Computation of Whole Number, Decimal & Fractions, Relationship between numbers

Fundamental arithmetical operations: Percentages, Ratio and Proportion, Square roots, Averages, Interest (Simple and Compound), Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time and work.

Algebra: Basic algebraic identities of School Algebra and Elementary surds (simple problems) and Graphs of Linear Equations.

Geometry: Familiarity with elementary geometric figures and facts: Triangle and its various kinds of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of a circle, common tangents to two or more circles.

Mensuration: Triangle, Quadrilaterals, Regular Polygons, Circle, Right Prism, Right Circular Cone, Right Circular Cylinder, Sphere, Hemispheres, Rectangular Parallelepiped, Regular Right Pyramid with triangular or square Base

Trigonometry: Trigonometry, Trigonometric ratios, Complementary angles, Height and distances (simple problems only) Standard Identities like  $\sin^2\theta + \cos^2\theta = 1$  etc.

Statistical Charts: Use of Tables and Graphs: Histogram, Frequency polygon, Bar- diagram, Pie- chart

**D. English Language (25 Marks):**

Spot the Error, Fill in the Blanks, Synonyms/Homonyms, Antonyms, Spellings/ Detecting Misspelt words, Idioms & 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, Cloze Passage, Comprehension Passage.

**PART-II**

Skill Test:

The Skill Test will be of qualifying nature. Candidates will have to qualify the test for English or Hindi at the prescribed speed on Computer as per the advertisement.

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**12. SYLLABUS FOR HOSPITAL ATTENDANT GRADE III**

**A. General Intelligence & Reasoning (15 Marks):**



It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, 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 centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

**B. General Awareness (15 Marks):**

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 every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.

**C. Quantitative Aptitude (15 Marks):**

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 relationships between numbers, Percentage. Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra & Elementary surds, Graphs of Linear Equations, Triangle and its various kinds of centres, 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 Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart.

**D. English Language (15 Marks):**

Candidates' understanding of the Basics of English Language, its vocabulary, grammar, sentence structure, synonyms, antonyms and its correct usage, etc. his/her writing ability would be tested.

**E. Subject Knowledge (40 Marks):**

1. Meeting the Basic Needs of a patient
  - (a) **Physical needs-**
    - Comfort, rest, sleep and exercise
    - Body mechanics- moving, lifting, transferring
    - Position and posture maintenance
    - Beds and Bed making – Principles of bed making, types and care of bed linen

- Safety devices, restraints and splints'
- (b) **Hygienic needs**
  - Personal and environmental hygiene
  - Attendants role in maintaining personal and environmental hygiene
- (c) **Elimination needs**
  - Problems- constipation and diarrhoea, retention and incontinence of urine
  - Offering bed-pan, urinal.
- 2. First Aid- Definition, Aim and Importance, rules/general principles of First Aid, first aid in emergencies
- 3. Procedures and Techniques in First Aid
  - Preparation of first aid kit
  - Dressing, bandaging and splinting etc.
  - Transportation of the injured
  - CPR and Basic Life Support.

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### **13. SYLLABUS FOR THE POST OF TUTOR/CLINICAL INSTRUCTOR (NURSING)**

#### **A. General Intelligence & Reasoning (10 Marks):**

It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, 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 centre codes/roll numbers, Small & Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

#### **B. General Awareness (10 Marks):**

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 every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.

#### **C. Quantitative Aptitude (15 Marks):**

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 relationships between numbers, Percentage. Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra & Elementary surds, Graphs of Linear Equations, Triangle and its various kinds of centres, 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 Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart

**D. English Language (15 Marks):**

Spot the Error, Fill in the Blanks, Synonyms/Homonyms, Antonyms, Spellings/ Detecting Mis-spelt words, Idioms & 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, Cloze Passage, Comprehension Passage.

**E. Subject Knowledge (50 Marks)**

**NURSING FOUNDATIONS**

- a). Health and Wellness: Definition of health, Concept of health, Concept of wellness and wellbeing Concept of health illness continuum, Models of health and illness, Variables influencing health and health beliefs and practices, Health promotion, wellness, and levels of, disease prevention, Risk factors influencing health.
- b). Nursing as a Profession: Nursing: Definition, concepts, philosophy, objectives, History of nursing in India, Characteristics, nature and scope of nursing practices, Qualities of a professional nurse, Professional responsibilities and roles of a nurse, Evidence Based Practice (EBP) in Nursing, Trends of nursing in India, Ethics and values in nursing.
- c). Hospital Admission and Discharge: Admission to the hospital: Unit and its preparation admission bed.  
Admission procedure, Special considerations, Medico legal issues in admission, Roles and responsibilities of the nurse in admission. Discharge from the hospital: Types of discharge: Planned discharge, LAMA/DAMA and abscond, referrals and transfers. Discharge planning. Discharge procedure. Special considerations. Medico legal issues in discharge, Roles and responsibilities of the nurse in discharge. Care of the unit after discharge.
- d). Communication and Nurse Patient Relationship: Communication and nursing practice; Basic elements of communication process, Forms of communication, Professional nursing relationship, Elements of professional, communication, Patient teaching: importance, purpose, process, role of nurse.
- e). Nursing Process and nursing care plan: Meaning, importance and steps in development.
- f). Documentation and Reporting: Documentation: Purpose of recording and reporting Communication within the health care team Types of records: ward records, medical/nursing records, Common record keeping forms, computerized documentation; Guideline for reporting: factual, basis, accuracy, completeness, correctness, organization, &

confidentiality :Methods of recording ;Reporting: Change of shift ,reports, Transfer reports, incident reports.

g). Vital Signs: Guidelines for taking vital signs.

- i. Body temperature: Physiology, regulation, factors, affecting body temperature. Assessment of body temperature: sites, equipment's and technique, special considerations, Temperature alterations (hyperthermia, hypothermia & Heatstroke): assessment & management, Hot and cold applications.
- ii. Pulse: Physiology and regulation, characteristics of the pulse, factors affecting pulse. Assessment of pulse: sites, location, equipment's and technique, special considerations. Alterations in pulse: Tachycardia and bradycardia.
- iii. Respiration: Physiology and regulation, mechanics of breathing, characteristics of the respiration, factors affecting respiration. Assessment of respiration: techniques, special consideration. Alteration in respiration: types, assessment & management.
- iv. Blood pressure: Physiology and regulation, characteristics of the blood pressure, factors affecting blood pressure Assessment of blood pressure sites equipment's and technique, special considerations Alterations in blood pressure: Hypertension and hypotension.

h). Health Assessment: Purposes of health assessment, Health history taking, Physical examination-Preparation  
& organization of physical examination, Methods & techniques of physical assessment. General assessment, Head to toe examination, after care of physical assessment.

i). Care of Equipment and Linen: Indent, maintenance and inventory; Disposable; Reusable; Rubber goods; Enamelware; Stainless steel articles; Glassware; Hospital furniture; Sharp instruments; Machinery.

j). Care in Special Condition: Unconscious patient; Patient with fluid imbalance; Patient with Dyspnea; physically handicapped; Perineal care of terminally ill-patient with urinary catheter.

k). Infection Control in Clinical Settings: Nature of Infection; Chain of infection transmission; Hospital acquired infection; Hand washing: Medical and surgical hand washing; Disinfection of equipment and unit.

l). Barrier Nursing: Standard Safety precaution (Universal Precaution); Different types of hand washing; Personal protecting equipment's types, uses, techniques of wearing and removing.

m).Biomedical waste management: Concept and importance; Segregation of hospital waste; Treatment, transportation and disposal of hospital waste.

n). Administration of drugs: Purposes of drugs; Routes of administration; Principles: Rights, special consideration, prescription, safety in administering drugs; Storage and maintenance of drugs and nurses responsibility ;Factors influencing drugs action; Terminologies and common abbreviation used in prescription of drugs.

- o). First Aid - Meaning of First Aid; Rules of First Aid. First Aid in emergency Situation such as:- Fire, Earthquakes, Famines; Fractures; Accidents; Poisoning; Drowning; Hemorrhage; Insects bites; Foreign bodies ;Transportation of the injured Bandaging and splinting ;Immediate and later role of nurses
- p). The dying Patient: Signs and symptoms of approaching death; Needs of the dying patient and relatives; Care of dying and last offices; Packing of dead bodies in non-communicable and communicable diseases
- q). Meeting Needs of Hospitalized Patient:
  - i. Patient safety: Environmental safety: temperature, humidity, noise, ventilation, light, odour, pests control; Fall, fire and accident safety; Safety devices: restraints, side rails, airways, trapez etc.
  - ii. Hygiene: Hygienic care: Hair care, Oral care, Bed bath, Back care, Hand-feet & nail care, Eye care, Care of ear and nose; Patient environment: Unit cleaning/ disinfection.
  - iii. Comfort: Types of beds and bed Making; Comfort devices; Pain management: Nature, types, factors influencing pain, coping, assessment and management of pain.
  - iv. Elimination needs: Problems in sickness: Constipation, diarrhea, retention and incontinence of urine; Nurses role in meeting eliminating needs.
  - v. Meeting nutritional needs: Importance of Nutrition; Factors effecting nutritional needs.
  - vi. Activity and Exercises: Importance of activity and Exercise in health and sickness, active and passive Exercise.

**MEDICAL SURGICAL NURSING (INCLUDING PATHOPHYSIOLOGY & PHARMACOLOGY)**

- a) Role and responsibilities of a nurse in Medical and Surgical Settings : Outpatient Units; In-Patient Units; Intensive Care Units; Home and Community setting
- b) Care of Surgical patient : Pre-operative; Intra operative; Post-operative; Nurses functions in operation theatre
- c) Anesthesia: Classification, anesthetic agents and role of a nurse in anesthesia.
- d) Disorders of the Respiratory System : Etiology, Clinical manifestation, diagnosis, treatment and medical, surgical, dietetics and Nursing Management with : Asthma, Pneumonia, Lung abscess, Pleurisy, Emphysema, Bronchiectasis, Pulmonary Tumours, Pleural Effusions, Pulmonary Tuberculosis, Acute Respiratory distress syndrome, Preventive and rehabilitative aspects.
- e) Cardiovascular System: Diseases of heart; Cardiac arrhythmias; Cardiac arrests; Heart Blocks; Pericarditis, Myocarditis, Endocarditis; Congestive heart failure; Hypertension; Angina Pectoris; Valvular Diseases, Basic life support, Advance cardiac life support.

- f) Vascular Diseases: Arteriosclerosis; Atherosclerosis; Varicose veins and aneurysms.
- g) Blood Disorder: Anaemia; Leukemia; Haemophilia; Hodgkins Diseases Blood Transfusion : Indications; Grouping and matching; R.H factors; Plasma precautions in administration ; Blood bank functioning and hospital transfusion committee. Bio-safety and waste management in relation to blood transfusion
- h) Gastro Intestinal System: Stomatitis, gingivitis and parotitis; Dental caries; Tumours; Gastritis; Peptic ulcer; Enteritis; Colitis; Appendicitis; Haemorrhoids; Hernia; Hepatitis; Cirrhosis of liver; Liver abscess;  
Cholecystitis; Hepatic coma; Pancreatitis; Carcinoma of liver and Pancreas; Tuberculosis
- i) Musculo-Skeletal System: Disorder and diseases of bones and joints : Sprains, Dislocation, Fractures, Arthritis, Osteomyelitis, Tumours, Tuberculosis, Deformities
- j) Genito Urinary System: Diseases of kidney, ureter, bladder and urethra; Congenital abnormalities; Acute and chronic nephritis; Nephrosis; Uraemia; Tumours; Tuberculosis; Obstruction; Pyelitis and Pyelonephritis; Cystitis; Disorder of Micturition; Urethritis; Cancer Penis; Inflammation of testes, Epididymis and Prostate glands; Prostatic hypertrophy; Malignancy. Dialysis, renal transplant, trauma of ureter, bladder, urethra.
- k) Nervous System: Diseases of Brain: Headache, Migraine; Epilepsy; Tumours; Chorea; Parkinsonism; Meningitis; Encephalitis; head and spinal cord Injuries; Cerebro-vascular accidents, haemorrhage, Embolism and thrombosis Diseases of Spinal Cord : Myelitis; Injuries; Tumours; Spinal cord compressions Diseases of Nerves : Neuritis and neuralgia; Myasthenia-gravis; Sciatica; Heat Stroke, heat Exhaustion; Cranial, Spinal Neuropathies
- l) Endocrine System, Metabolic disorders, deficiency diseases: Hyper and hypo Secretions of: Thyroid, Parathyroid, Pituitary, Adrenal gland; Cysts/Tumours; Metabolic Disorders: Diabetes Mellitus; Obesity; Gout; Deficiency Diseases: Common deficiency diseases; Prevalence in India; Early symptoms, prevention and treatment.
- m) Operation Theatre: General set up of operation theatre and team; Theatre technique: - hand washing, gowning and gloving; Preparation of theatre equipment and instruments in common use; Role of a nurse in care of patient in the theatre; Principle of recovery room's care.
- n) Intensive Care Nursing: Concept; Principles of Intensive Care Nursing; Role of a nurse in I.C.U; Common gadgets use in I.C.U/C.C.U-Cardiac Monitors, Birds, respirator, defibrillators, etc
- o) Diseases and Disorders of eye: Blindness-causes and prevention; Eye banking, Community services; Conjunctivitis; Glaucoma; Cataract; Retinal detachments; Eye prostheses and rehabilitation; Injury and hemorrhage
- p) Diseases of the ear: Wax; Foreign bodies; Furunculosis; Fungal infections; Otitis Media; Injuries and deafness; Mastoiditis; Menieres syndrome Disease of nose and throat : Rhinitis; Defected Septum; Sinusitis;  
Allergy; Adenoids; Laryngitis; Tonsillitis; Pharyngitis; Injury

- q) Communicable Diseases: Virus: Measles, influenza. Chickenpox, Smallpox, Mumps, infective hepatitis, poliomyelitis Bacteria : Diphtheria, Whooping cough, tetanus, leprosy, typhoid, dysentery, gastro-enteritis and cholera Zoonoses : Kala-azar, plague, relapsing fever and rabies; Mosquito : Malaria, filaria, dengue fever Sexually transmitted diseases : Gonorrhoea, Syphilis, Chancroid
- r) Nursing management of patient with Immunological problems: Review of Immune system; Immunodeficiency disorders -HIV and AIDS.
- s) Nursing Management Of Patients With oncological conditions: Structure & characteristics of normal & cancer cells; Prevention, screening, early detection, Common malignancies of various body systems warning signs of cancer; Modalities of treatment; Hospice care Stomal therapy.
- t) Nursing management of patient in disaster situations: Causes and types of disaster; Policies related to emergency / disaster management at international, national, state, institutional level.; Disaster Management.
- u) Nursing management of patient in emergency Nursing : Concept, priorities, principles & scope of emergency nursing Organization of emergency services: physical set up, staffing, equipment & supplies, protocols, Concepts of triage & role of triage nurse.

### **MIDWIFERY AND GYNAECOLOGICAL NURSING**

- a) Introduction : Definition: Midwifery, obstetrical Nursing; Development of maternity services in India; Morbidity and mortality rates and their significance; Internal and External organs of reproduction; Female pelvis : Structure, diameters and type; Fertilisation and implantation of the ovum; Foetal development and foetal circulation.
- b) Normal Pregnancy: Physiological changes due to pregnancy; Signs, symptoms and diagnosis; Influence of hormones
- c) Pre-natal care: Objectives; History taking; Calculation of Expected date of delivery; Routine Examinations
- d) Care and advice regarding: diet in pregnancy; anti-natal Exercises
- e) Minor disorders of pregnancy and alleviations of discomfort f) Diseases associated with pregnancy: Cardio vascular; Urinary; Respiratory; Metabolic; Nutritional deficiencies; Sexually transmitted diseases
- g) Normal Delivery (Preparation): For mother and baby; Preparation of the patient and delivery room-hospital and home; Psychological preparation of mother and family.
- h) Normal labour : Definition, stage and duration; Causes of onset of labour; True and False labour
- i) First stage of labour : Signs of onset of labour; Physiological changes in first stage of labour; Management preparation of labour; Preparation of women in labour - Physical and Psychological; Equipments for normal delivery; Monitoring of maternal and foetal condition; Vagina I Examination

- j) Second Stage of labour : Signs of second stage; Mechanisms of labour; Monitoring of maternal and foetal conditions; Procedure for conduct of normal delivery; Prevention of Perineal tear; Episiotomy, suturing and care
- k) Third Stage of labor : Signs, Physiological changes; Immediate care of baby; Technique of placenta expulsion and examination of placenta; Monitoring of maternal and newborn baby  
Nursing Management of Baby and birth : Assessment; Apgar scoring, examination for defects (head to foot examination); Care of cord, eyes and skin; Maintenance of body temperature; Prevention of infection and injury.
- l) Nursing Management of mother during puerperium : Definition, objectives of care; Immediate postnatal care; Physiological changes during puerperium; Care of Episiotomy; Establishment of breast feeding; Postnatal Exercises; Postnatal Examination, follow up family welfare; Minor ailments and management
- m) Complications of pregnancy and its management : Bleeding in early pregnancy; Bleeding in late pregnancy; Pregnancy induced hypertension, Pre-Eclampsia, Eclampsia; Hydramnios, Oligohydramnios; Hydatidiform mole; Pelvic inflammatory disease; Intra uterine growth retardation, intra uterine death; Post maturity
- n) High risk pregnancy and its management : Anaemia, Jaundice, Viral infection; Urinary tract infections; Heart diseases, diabetes mellitus; Osteomalacia; Sexually Transmitted diseases; AIDS; Teenage Pregnancy; Elderly pregnancy; Multi Para & Multiple pregnancy; Un-Educated mother. Labour Complications: Malpresentations and malpositions; Occipito posterior position; Breach and shoulder; Face and Brow; Cord presentation and prolapse; Obstructed labour; Ruptured uterus; Post partum haemorrhage, atonic uterus, retained placenta and membranes
- o) Complications of puerperium and its management: Puerperal pyrexia, puerperal sepsis, Thrombophlebitis, Embolism, puerperal Psychosis
- p) Obstetrics operations: Manual removal of placenta; Version: Internal, External; Vacuum extraction; Caesarean section; Medical termination of pregnancy; Laparoscopic sterilization; Embryotomy
- q) Drugs used in Obstetrics
- r) Ethical and legal aspects related to midwifery and gynaecological Nursing.
- s) Fertility and Infertility : Definition, causes both in male and female investigation and management
- t) Diseases and disorders of female reproductive system including breasts : Infections; cyst, tumors and fibroids; Abortion; Ectopic pregnancy; Vaginal fistula; Erosion of cervix; Sexually transmission disease; Abnormalities of menstruation; Menopause; Mastitis; Breast abscess; Tumours; Malignancy

**CHILD HEALTH NURSING**



- a) Concept in Child health care and role of Paediatric nurse in child care.
- b) The healthy child : Growth and developments and factors affecting growth and development; Assessment of growth and development; Nurses responsibility to meet the nutritional needs; Childhood Accidents; Play – importance & therapeutic use; Review of immunization schedule;, child guidance clinics
- c) Care of Newborn: Appraisal of Newborn; Nursing care of a normal new born / essential new born care; Neonatal resuscitation; Kangaroo mother care, Nursing management of common neonatal disorder: low birth weight baby; Hyperbilirubinemia; Hypothermia hyperthermia; Metabolic disorder; Neonatal infections; Neonatal seizures; Respiratory distress syndrome; Organization of neonatal care unit.
- d) Recognition and Management of Congenital anomalies : Causes, Prevention management; Preparation of the parents; Parents counselling
- e) Breast Feeding : Importance and principles; Preparation of mother; Difficulties in breast feeding; Factors inhabiting and promoting lactation
- f) Introduction of Solids: Weaning; Developing healthy foods habits; Diet of healthy Child; Artificial feeding; Reason and maintenance of hygiene; Feeding technique; Common Problems;
- g) Pre and post-Operative care, Preparation of parents for surgery of the child
- h) Diseases of Children : Etiology, Signs and symptoms, medical and surgical management, nursing care, Complication, diet and drug therapy, prevention and treatment with diseases
- i. Gastro- intestinal System : Thrush; Gastro enteritis, acute and chronic diarrhoea; Vomiting; cleft lip and cleft palate; Oesophageal atresia; TEF; Pyloric stenosis; Hernia; Intussusception, megacolon; Appendicitis, imperforated anus; Jaundice; Worm infestation
- ii. Respiratory System: Foreign bodies; common cold and rhinitis; tonsils and adenoids; croup, influenza; bronchitis, pneumonia, asthma, emphysema, Diaphragmatic hernia
- iii. Genito-urinary System : Nephritis, nephrotic syndrome, nephrosis; Undescended testes; Wilm's tumor; Prevention of infection; Congenital disorders, Renal failure
- iv. Cardio Vascular system : Congenital defects; Rheumatic fever and Rheumatic heart diseases, Congestive heart failure
- v. Nervous System : Convulsions, epilepsy; Meningitis, Encephalitis; Epilepsy; Cerebral palsy; Mental retardation; Hydrocephalus; Spina bifida, meningocele; Mongolism
- vi. Eye and Ear : Conjunctivitis; Squint; Congenital cataract; Visual defects; Otorrhea; Otitis Media, Blindness, Deafness
- vii. Nutritional Disorder : Marasmus; Kwashiorkor; Anaemia; Vitamin Deficiencies
- viii. Communicable Diseases : Measles, Small pox and chicken pox; polio myelitis; mumps; Tetanus; Diphtheria and whooping cough; infective hepatitis, Scabies, Eczema, Pediculosis, ringworm, fungus, furunculosis
- ix. Hemotological disorder: Anemias, leukemia, thalassaemia, haemophilia
- x. Endocrine disorder: Diabetis insipidus; dwarfism; Orthopaedic disorder: Club feet; Fractures

- xi. Child health Emergencies: Burns; Drowning; Foreign Bodies; Poisoning
- xii. Psychological disorder and problems: Enuresis, pica, Speech defects, headache, Thumb Sucking, delinquency
- xiii. The Handicapped Child : Importance of early diagnosis; Care of physically and mentally handicapped child; Deprived child; Community facilities; Adaption laws; Foster and orphanages

### **MENTAL HEALTH NURSING**

- a). Introduction: Meaning of mental illness; Terms used in psychiatry; Etiology of mental illness and contributing factors; Legal aspects in the care of the mentally sick
- b). Community Responsibility: Attitudes towards mentally ill; Misconceptions towards mentally ill; Health and social service for the mental illness
- c). Diagnosis: Early recognition of deviations from the normal; Classification of mental disorders; Signs and symptoms of common mental illness
- d). Management: Physical therapy; drug therapy, shock therapy; Psychotherapy; hypnosis, psychoanalysis; behavior therapy, reactional and social therapy, occupational therapy
- e). Role of the Nurse: Over active patient; Destructive patient; Suicidal patient; Depression; Withdrawal and Mania; Prevention of accidents amongst mentally ill; Observation reporting and recording; Procedure for admission into and discharge from mental hospitals

### **COMMUNITY HEALTH NURSING**

- G.** Concept, Definition of Community Health, differences between institutional and community health nursing, qualities and functions of a community health nurse
- H.** Aspects of Community Health Nursing : Family Health services, maternal and child care and family planning services; School Health Services; Industrial Nursing; Geriatric Nursing; Tuberculosis Nursing; Nurses Role in National Health Programmes
- I.** Demography and Family Welfare: Demography Family Welfare : Its meaning, aims, objectives and importance; Policy; Family Planning methods; National Programme; Nurse's role in family Welfare programme
- J.** Health Team: Composition at community : Health Centre (CHC), Primary Health Centre (PHC), Sub-Centre (SC)
- K.** Roles of Nursing Personnel at Various levels : Male & Female Health Worker; Health Supervisor; Public Health Nurse; Public Health Nurse Supervisor
- L.** Vital Health Statistics : Concept; Uses; Sources; Important rates and indices; Vital Health records and their utility; Principles of reporting and recording;
- M.** Health Education and Communication skills: Concept, definition, aims & objectives of health education and scope; Methods of health education and Principles of Health education; Communication; Meaning and methods of Communication, verbal and non-verbal

Communication; Art of listening; Barriers of communication Audio visual aids : Definition; Advantages and disadvantages; Preparation and uses of simple aids

### **ANATOMY & PHYSIOLOGY**

- a) Skeletal system Bones: Types, Structure, Functions; Joints: Classification, Structure and Functions
- b) Muscular System: Types, Structure, Functions; Position and action of Chief Muscles of the body
- c) Cardio-Vascular System Blood : Composition, Blood Group, Cross Matching Heart : Position, Structure, Conduction System, Functions and Cardiac Cycle; Circulation of Blood; Blood Pressure and Pulse; Lymphatic System
- d) Respiratory System: Structure and Functions of Respiratory Organs; Physiology of Respiration; Characteristics of normal Respiration and its deviations
- e) Digestive System: Structure and Functions of Organs; Digestion, absorption and metabolism.
- f) Excretory System: Structure and functions of Organs; Structure and functions of the Skin; Regulation of body Temperature
- g) Nervous System: Type, structure and functions of neuron; Central Nervous System: Structure and Functions.
- h) Endocrine System: Structure and functions of – pituitary, pancreas, thyroid, Parathyroid, Thymus and supra renal glands
- i) Sense Organs: Structure and functions of eye, ear, nose and tongue; Physiology of Vision, hearing and equilibrium.
- j) Reproductive System: Structure and functions of reproductive and accessory organs; Reproduction, Menstrual Cycle and Menopause; Reproductive Health; Structure and functions of male reproductive system.

### **MICROBIOLOGY**

- a) Scope and usefulness of knowledge of microbiology in Nursing
- b) Classification of Micro-organisms and factors influencing growth
- c) Sources of Infection
- d) Portals of Entry and Exit of microbes
- e) Transmission of infection
- f) Collection of Specimens & Principles to be kept in mind while collecting specimen

- g) Immunity: Meaning; Types of Immunity; Immunization Schedule (Currently Used)
- h) Control and destruction of micro-organisms: Different types of Sterilization; Disinfection; Bio-safety and waste management

### **NURSING RESEARCH & STATISTICS**

- a). Research and research process.
- b). Research problem/ question
- c). Review of literature
- d). Research approaches and designs
- e). Population, Sample and Sampling
- f). Data collection methods and tools:
- g). Analysis of data.
- h). Introduction to statistics Definition, use of statistics, scales of measurement. Frequency of distribution and graphical Presentation of data, Measures of central tendency: Mean, median, mode, Measures of Variability : Standard deviation Co-efficient of correlation Normal probability, Tests of significance : 't' test , chi square, Statistical packages and its application - SPSS

### **NURSING MANAGEMENT:**

- a) Introduction to management & Administration in nursing: Definition, nature & Philosophy of Management and Administration
- b) Management Process: Planning, Organization, Human resource management, Directing, Controlling, Budgeting, Material management.
- c) Management of nursing services in the Hospital and Community.
- d) Regulatory bodies; Indian Nursing Council (INC), State Nursing Council Acts; - constitution, functions.
- e) Current trends and issues in Nursing.
- f) Professional ethics Code of ethics; Indian Nursing Council, International Council for Nurses (ICN). Code of professional conduct; INC, ICN
- g) Legal aspects in Nursing: Legal terms related to practice; registration and licensing Laws related to nursing practice; Breach and penalties Malpractice and negligence
- h) Patient Rights.
- i) Professional Advancement: Continuing education, Career opportunities, Membership with professional organizations; National and International, Participation in research activities, Publications; Journals newspapers etc.

### **COMMUNICATION & EDUCATIONAL TECHNOLOGY**

- a) Communication Process
- b) Interpersonal relations: Definition, types, Phases of interpersonal relationship
- c) Human relation in context of nursing
- d) Guidance & counselling: Definition and purpose. Guidance & counselling, Basic principles of guidance & counselling Types/ areas of guidance approaches
- e) Methods of teaching.
- f) Information, Education & communication for health: Health behaviors, Health education,

Planning for health education, Health education with individual, group & communities, communicating health messages, Methods and media for communicating health message, Use of mass media.

### **COMPUTERS & NURSING INFORMATICS**

- a) Introduction: Concepts of Computer, Characteristics and generation of Computers, Basic Organization of Computer.
- b) Introduction to disk operating system.
- c) Uses of computers and applications
- d) Nursing Informatics: General purposes, Patient Record System, E- Nursing, Telemedicine, Telenursing., Electronic medical records, Management information and evaluation system (MIES).

### **14. SYLLABUS FOR THE POST OF Librarian Grade-II**

1. **General Intelligence & Reasoning Ability (10 MARKS):-**  
Puzzles and seating arrangement, Data sufficiency, Statement questions (Verbal reasoning), Inequality, Blood relations, Sequences and Series, Direction Test, Assertion and Reason, and Venn Diagrams
2. **General Awareness (10 MARKS):-**  
General knowledge and Current affairs with special emphasis on the field of education
3. **Quantitative Aptitude (10 Marks)**
4. **Basic Concepts of Management & Computers (10 Marks):-**  
Fundamentals of Computer System, Basics of Operating System, MS Office, Keyboard Shortcuts and their uses, Important Computer Terms and Abbreviations, Computer, Networks, Cyber Security, and the Internet.
5. **English language (10 marks)**
6. **General Hindi (10 MARKS)**  
संधि, समास, धीर्घ शब्द, प्राचीनी शब्द, सामान्य असुधिरा, और अधिक अपधित गद्यांश पर आधारित प्रश्ना...
7. **Subject knowledge (40 MARKS):-**  
Part I: Foundation of Library & Information Science.  
Part II: Knowledge Organization, Information Processing & Retrieval.  
Part III: Information Technology: Basic  
Part IV: Management of Libraries & Information Centres/Institutions  
Part V: Information Sources & Services  
Part VI: Library Users

### **15. SYLLABUS FOR THE POST OF STAFF NURSING OFFICER Grade-I**

1. **General Intelligence and Reasoning Ability (10 MARKS):-**  
Puzzles and seating arrangement, Data sufficiency, Statement questions (Verbal reasoning), Inequality, Blood relations, Sequences and Series, Direction Test, Assertion and Reason, and Venn Diagrams
2. **General Awareness (10 MARKS):-**  
General knowledge and Current affairs with special emphasis on the field of education.
3. **Quantitative Aptitude (10 Marks)**
4. **Basic Concepts of Management & Computers (10 Marks):-**  
Fundamentals of Computer System, Basics of Operating System, MS Office, Keyboard Shortcuts and their uses, Important Computer Terms and Abbreviations, Computer,

Networks, Cyber Security, and the Internet

**5. English language (10 marks)**

**6. Subject Knowledge (50 marks)**

Objective type of multiple choice questions to assess the domain knowledge of the candidate in the relevant area specific to the job at the level of B.Sc. (Hons.) Nursing academic syllabus along with Nursing practice.

1. Nursing Foundation
2. Anatomy & Physiology
3. Microbiology & Hospital Infection Control
4. Medical Surgical Nursing & Intensive-care Nursing
5. Mental Health – Psychiatric
6. Midwifery & Gynaecology
7. Paediatric Nursing
8. Community Health Nursing
9. Nursing Management

**16. SYLLABUS FOR THE POST OF LIBRARY ATTENDANT Grade-II**

**1. General Intelligence and Reasoning (15 Marks):**

It would include questions of both verbal and non-verbal type. The test will include questions on Semantic Analogy, Symbolic operations, Symbolic/Number Analogy, Trends, Figural Analogy, Space Orientation, Semantic Classification, Venn Diagrams, Symbolic/Number Classification, Drawing inferences, Figural Classification, Punched hole/pattern-folding & unfolding, Semantic Series, Figural Pattern-folding and completion, Number Series, Embedded figures, Figural Series, Critical Thinking, Problem Solving, Emotional Intelligence, Word Building, Social Intelligence, Coding and de-coding, Other sub-topics, if any Numerical operations.

**2. General Awareness (15 Marks):**

Questions are designed to test the candidate's general awareness of the environment around him and its application to society. Questions are also designed to test knowledge of current events and of such matters of everyday observation and experience in their scientific aspect as may be expected of an educated person. The test will also include questions relating to India and its neighbouring countries especially 10 pertaining to History, Culture, Geography, Economic Scene, General policy and scientific research.

**3. Quantitative Aptitude (15 Marks):**

Number Systems: Computation of Whole Number, Decimal & Fractions, Relationship between numbers

Fundamental arithmetical operations: Percentages, Ratio and Proportion, Square roots, Averages, Interest (Simple and Compound), Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time and work.

Algebra: Basic algebraic identities of School Algebra and Elementary surds (simple problems) and Graphs of Linear Equations.

Geometry: Familiarity with elementary geometric figures and facts: Triangle and its various kinds of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of a circle, common tangents to two or more circles.

Mensuration: Triangle, Quadrilaterals, Regular Polygons, Circle, Right Prism, Right Circular Cone, Right Circular Cylinder, Sphere, Hemispheres, Rectangular Parallelepiped, Regular Right Pyramid with triangular or square Base

Trigonometry: Trigonometry, Trigonometric ratios, Complementary angles, Height and distances (simple problems only) Standard Identities like  $\sin^2\theta + \cos^2\theta = 1$  etc.

Statistical Charts: Use of Tables and Graphs: Histogram, Frequency polygon, Bar- diagram, Pie- chart

**4. English Language (15 Marks):**

Spot the Error, Fill in the Blanks, Synonyms/Homonyms, Antonyms, Spellings/ Detecting Misspelt words, Idioms & 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, Cloze Passage, Comprehension Passage.

**5. Subject Knowledge (40 Marks):**

Foundation of Library & Information Science.

Part II: Knowledge Organization, Information Processing & Retrieval.

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