



अखिला भारतीय आयुर्विज्ञान संस्थान ऋषिकेश (उत्तराखण्ड)

ALL INDIA INSTITUTE OF MEDICAL SCIENCES RISHIKESH (UTTARAKHAND)

(An autonomous organization under the Ministry of Health & Family Welfare, Govt. of India)

परीक्षा विभाग (Examination Section)

#AIIMSRISH/Exam/23/ 1178

Date: 30 Sept. 2023

### Examination Notice

Subject:- **Scheme of Examination and Indicative Syllabus for CBT Recruitment Exams for the posts of Senior Programmer (Analyst), Biomedical Engineer, Maternity and Child Welfare Officer, Psychiatric Social Worker, Personal Assistant, Private Secretary, Medico Social Service Officer Gr-I, Physiotherapist, Occupational Therapist, Technician Prosthetics or Orthotics, Junior Reception Officer, Junior Hindi translator, CSSD Technician, Assistant Security Officer, Sanitary Inspector Gr-II, Data Entry Operator Gr-A, Social Worker, Yoga Instructor, Warden (Hostel Warden) and Mechanic (E&M)-reg.**

All the candidates who have applied or are applying for the posts of *Programmer (Analyst), Biomedical Engineer, Maternity and Child Welfare Officer, Psychiatric Social Worker, Personal Assistant, Private Secretary, Medico Social Service Officer Gr-I, Physiotherapist, Occupational Therapist, Technician Prosthetics or Orthotics, Junior Reception Officer, Junior Hindi translator, CSSD Technician, Assistant Security Officer, Sanitary Inspector Gr-II, Data Entry Operator Gr-A, Social Worker, Yoga Instructor, Warden (Hostel Warden) and Mechanic (E&M)* against the **re-open notices dated 13<sup>th</sup> September-2023** and **re-open notices dated 25<sup>th</sup> July-2023** of AIIMS Rishikesh; are hereby informed that:-

- The scheme & pattern of the recruitment examination for the said posts will be as follows: -

S.N.	Activity/ Description	Details
1	Date of Examination	TBD
2	Date of uploading admit cards	TBD
3	Venue of Exams.	TBD
4	Time duration of Examination	03 Hours (180 Minutes)
5	Type of Examination	Computer Based Test (CBT)
6	Number of Question Papers	Single (01) QP for each post
7	Scheme of Examination	<ul style="list-style-type: none"><li>• CBT multiple choice questions with four answer options and one of these four options will be the correct answer.</li><li>• There will be only one question paper for each post. The question paper will consist of <b>200</b> questions (MCQs) and the maximum marks will be 200.</li><li>• Each question will carry <b>01 (One) Marks</b> for every correct answer.</li><li>• There will be <b>0.25 negative marks</b> for each wrong answered question.</li></ul>
8	Minimum Qualifying marks	The qualifying marks in the Recruitment Examination will be <b>50%</b> for UR category candidates, <b>45%</b> for <b>OBC</b> category candidates and <b>40%</b> for <b>SC &amp; ST</b> category candidates.
9	Resolution of Tie Case	In cases where more than one candidate secures equal marks, tie will be resolved: (i) First by using date of birth with older candidates placed higher. (ii) If not resolved by (i) or in cases with same marks and same date of birth: number wrong answers/negative marks will be used wherein those with less wrong answers/negative marks will be placed higher.

- Candidates are advised to visit the website of AIIMS Rishikesh regularly for all updates/corrigendum/Addendum regarding the examination/recruitment process for the above posts. They are also advised to regularly check their registered email for information sent by AIIMS regarding the examination.
- For any query or suggestion, candidates may send email to ***helpdesk\_exam@aiimsrishikesh.edu.in***
- Post-wise indicative syllabus for the examination is given herewith in **Annexure-A**

**Examination Section  
AIIMS Rishikesh**



**आरिखल भारतीय आयुर्विज्ञान संस्थान ऋषिकेश (उत्तराखण्ड)**  
**ALL INDIA INSTITUTE OF MEDICAL SCIENCES RISHIKESH (UTTARAKHAND)**

(An autonomous organization under the Ministry of Health & Family Welfare, Govt. of India)

**परीक्षा विभाग (Examination Section)**

**Indicative Syllabus for CBT Recruitment Examination**

Post Name:-	<b>Senior Programmer (Analyst)</b>
<b>Pattern of examination:</b>	
<ul style="list-style-type: none"> <li>• CBT Multiple Choice Questions with four answer options.</li> <li>• Total <b>200</b> questions.</li> <li>• <b>01</b> mark for each correctly answered question</li> <li>• <b>Negative 0.25</b> marks for each wrong answered question.</li> </ul>	
<b>Proposed Scheme of Examination</b>	
A. <b>General Intelligence &amp; Reasoning</b>	<b>15</b>
B. <b>General Awareness</b>	<b>15</b>
C. <b>Quantitative Aptitude</b>	<b>15</b>
D. <b>English Language and Comprehension</b>	<b>15</b>
E. <b>Subject knowledge for the post of Senior Programmer (Analyst)</b>	<b>140</b>
<b><u>Indicative Syllabus</u></b>	
<p><b>A. General Intelligence &amp; Reasoning:</b> It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding &amp; decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding &amp; unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date &amp; city matching, Classification of centre codes/roll numbers, Small&amp; Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.</p> <p><b>B. General Awareness:</b> Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy &amp; scientific Research.</p> <p><b>C. Quantitative Aptitude:</b> The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra &amp; Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram &amp; Pie Chart.</p> <p><b>D. English Language and Comprehension:</b> Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.</p> <p style="text-align: center;"><i>The questions in Part A, B, &amp; D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.</i></p> <p><b>E. Subject knowledge for the post of Senior Programmer (Analyst):</b></p> <ul style="list-style-type: none"> <li>• <b>Discrete Mathematics, Probability and Statistics:</b> - Compound Statements, Truth Tables, The Algebra of Propositions, Logical Arguments, Sets, Operations on Sets, Binary Relations, Partial Orders, Mathematical Induction, The Principle of Inclusion-Exclusion, Probability theory: Sample spaces, Events and probability, Discrete probability: Union, Intersection and Compliment of events, Conditional probability, Baye's theorem. Linear correlation coefficient, Linear regression, Non Linear regression, Multiple correlation and Multiple regression, Theory of sampling and population.</li> <li>• <b>Digital Electronics, Computer Organization and Operating System:-</b> Digital Logic Systems and Microprocessors: Boolean expressions, K-maps, TTL and CMOS logic families, combinational logic design, synchronous sequential system design. Microprocessors: 8086 architectures, data transfer scheme and interfaces, Addressing modes. Computer Organization and Architecture: Von-Neumann architecture of computers. Registers and micro operations, control logic, processor addressing and bus organization. Processor input/output and DMA. Memory organization and cache coherence. Operating Systems: CPU scheduling, Deadlocks, Memory management, file systems, disk</li> </ul>	

scheduling. Process, threads and their synchronization. Real Time OS: clock synchronization and task scheduling. System initialization, booting and handling user accounts. Backup and restore, Bourne shell programming for Linux.

- **Data Structures and Programming in C:**– Data Structures: Linked List, Stack, Queue, Priority Queues, Hashing, Binary trees, Tree traversal, AVL trees, Graphs- shortest paths, minimum spanning trees; Sorting algorithms. Programming in C: Operators and expressions, Control statements, Storage types, Functions, Arrays, Strings, Structures, Pointers and dynamic memory management, File Handling.
- **Object Oriented Programming through C++/Java/Net/PHP/Python:** – Data Abstraction, Encapsulation, classes, constructors and destructors, Classes, and dynamic memory allocation, Inheritance, Polymorphism, generic classes, exception handling and File processing. Java applets, Java features, Byte codes, Internet classes, wrapper classes, multithreading support classes, vector, stack, interface observer, stream tokenizer, GUI classes, Java I/O, classes, The Applet class, applet architecture, applet display methods and repainting and other tools.
- **Computer networks and Programming:** – Computer networks and security: TCP/IP & OSI/ISO reference models, functions and protocols of different layers, characteristics of physical media, multiplexing, medium access protocols, introduction to 802.3, 802.4, 802.5, 802.11 LAN technology, IP protocol including routing and congestion control, TCP and UDP, DNS. Email protocols. Symmetric and asymmetric encryption including DES, AES, IDEA, RSA algorithms, key management in symmetric and asymmetric encryption, viruses and trusted systems, Kerberos. Network Programming: Sockets Programming: TCP Programming (TELNET, HTTP). UDP Sockets: TFTP, DNS. Secure Sockets (SSL), TLS, SSH, HTTPS, Remote Method Invocation (RMI). Simple Object Access Protocol (SOAP), UDDI, and Web Services.
- **Software Engineering:** – System modeling, system engineering process, life cycle models, design and implementation, validation, evolution, automated, process support - software requirements, SRS, feasibility studies - elicitation and analysis - validation - management - system models, context models, behavior models, data models, object models, object-oriented design, design evolution, real-time software design, critical systems specifications - critical system development, software testing.
- **Database Management System:** - Keys, E-R Model, Normalization – 1NF to 5NF; Aggregate functions, Nested Sub queries, Views, Joined Relations, Transaction- ACID properties; Concurrency Control, triggers, stored procedures.
- **Client Server Architectures and Web Programming:** – Two and three-tier client server architectures, web servers, HTML & XML, Style Sheets, client side scripting-java script and VB script; Server Side Scripting PHP, JSP and ASP.NET programming for creating dynamic web pages using database, forms and session; AJAX and SignalR.
- **Internet of things and its applications.**
  - System Security.
  - Big data analysis
  - Data Mining and Data Warehousing
  - Cryptography
  - Artificial Intelligence and machine learning

**Note:** - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

**Proposed Scheme of Examination****No. of Questions**A. **General Intelligence & Reasoning****15**B. **General Awareness****15**C. **Quantitative Aptitude****15**D. **English Language and Comprehension****15**E. **Subject knowledge of Bio Medical Engineering****140****Indicative Syllabus**

**A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.

**B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.

**C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.

**D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.

*The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*

**E. Subject knowledge of Biomedical Engineering:**

- **Engineering Mathematics:** Linear Algebra: Matrix algebra, systems of linear equations, Eigenvalues and Eigenvectors. Calculus: Mean value theorems, theorems of integral calculus, partial derivatives, maxima and minima, multiple integrals, Fourier series, vector identities, line, surface and volume integrals, Stokes, Gauss and Green's theorems. Differential equations: First order linear and nonlinear differential equations, higher order linear differential equations with constant coefficients, method of separation of variables, Cauchy's and Euler's equations, initial and boundary value problems, solution of partial differential equations. Analysis of complex variables: Analytic functions, Cauchy's integral theorem and integral formula, Taylor's and Laurent's series, residue theorem. Probability and Statistics: Sampling theorems, conditional probability, mean, median, mode and standard deviation, random variables, discrete and continuous distributions: normal, Poisson and binomial distributions. Tests of Significance, statistical power analysis, and sample size estimation. Linear Regression and correlation analysis; Numerical Methods: Matrix inversion, numerical solutions of nonlinear algebraic equations, iterative methods for solving differential equations, numerical integration.

- **Electrical Circuits:** Voltage and current sources - independent, dependent, ideal and practical; v-i relationships of resistor, inductor and capacitor; transient analysis of RLC circuits with de excitation; Kirchoffs laws, superposition, Thevenin, Norton, maximum power transfer and reciprocity theorems; Peak, average and rms values of ac quantities; apparent, active and reactive powers; phasor analysis, impedance and admittance; series and parallel resonance, realization of basic filters with R, L and C elements, Bode plot.

- **Signals and Systems:** Continuous and Discrete Signal and Systems - Periodic, aperiodic and impulse signals; Sampling theorem; Laplace and Fourier transforms; impulse response of systems; transfer function, frequency response of first and second order linear time invariant systems, convolution, correlation. Discrete time systems - impulse response, frequency response, DFT, Z - transform; basics of IIR and FIR filters.

- **Analog and Digital Electronics:** Basic characteristics and applications of diode, BJT and MOSFET; Characteristics and applications of operational amplifiers - difference amplifier, adder, subtractor, integrator, differentiator,

instrumentation amplifier, buffer, filters and waveform generators. Number systems, Boolean algebra; combinational logic circuits - arithmetic circuits, comparators, Schmitt trigger, encoder/decoder, MUX/DEMUX, multi-vibrators; Sequential circuits - latches and flip flops, state diagrams, shift registers and counters; Principles of ADC and DAC; Microprocessor- architecture, interfacing memory and input- output devices.

- **Measurements and Control Systems:** SI units, systematic and random errors in measurement, expression of uncertainty - accuracy and precision index, propagation of errors; PMMC, MI and dynamo meter type instruments; de potentiometer; bridges for measurement of R, L and C, Q-meter. Basics of control system- transfer function.
- **Sensors and Bioinstrumentation:** Sensors- resistive, capacitive, inductive, piezoelectric, Hall effect, electro chemical, optical; Sensor signal conditioning circuits; application of LASER in sensing and therapy. Origin of bio-potentials and their measurement techniques- ECG, EEG, EMG, ERG, EOG, GSR, PCG, Principles of measuring blood pressure, body temperature, volume and flow in arteries, veins and tissues, respiratory measurements and cardiac output measurement. Operating principle of medical equipment -sphygmomanometer, ventilator, cardiac pacemaker, defibrillator, pulse oximeter, hemodialyzer; Electrical Isolation (optical and electrical) and Safety of Biomedical Instruments.
- **Human Anatomy and Physiology:** Basics of cell, types of tissues and organ systems; Homeostasis; Basics of organ systems - musculoskeletal, respiratory, circulatory, excretory, endocrine, nervous, gastro-intestinal and reproductive.
- **Medical Imaging Systems:** Basic physics, Instrumentation and image formation techniques in medical imaging modalities such as X-Ray, Computed Tomography, Single Photon Emission Computed Tomography, Positron Emission Tomography, Magnetic Resonance Imaging, Ultrasound.
- **Biomechanics:** Kinematics of muscles and joints - free-body diagrams and equilibrium, forces and stresses in joints, biomechanical analysis of joints, Gait analysis; Hard Tissues - Definition of Stress and Strain, Deformation Mechanics, structure and mechanical properties of bone - cortical and cancellous bones; Soft Tissues - Structure, functions, material properties, viscoelastic properties, Maxwell & Voight models; Bio-fluid mechanics - Flow properties of blood in the intact human cardiovascular system.
- **Biomaterials:** Basic properties of biomaterials- Metallic, Ceramic, Polymeric and Composite; Fundamental characteristics of implants - biocompatibility, bioactivity, biodegradability; Basics of drug delivery; Basics of tissue engineering. Biomaterial characterization techniques - Rheology, Atomic Force Microscopy, Electron Microscopy, Transmission Electron Microscopy Fourier Transform Infrared Spectroscopy. Entrepreneurship Development. History of Technology and Science. Intellectual Property Rights. Industrial Sociology. Organisational and Industrial Psychology. Ethics, Philosophy, and Values. Energy Management. Industrial Sociology.
- Basic Knowledge regarding regulatory process of Medical Equipment.

**Note:** - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

Post Name:-

**Maternity and Child Welfare Officer**

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

**Proposed Scheme of Examination**

**No. of Questions**

A. **General Intelligence & Reasoning**

**15**

B. **General Awareness**

**15**

C. **Quantitative Aptitude**

**15**

D. **English Language and Comprehension**

**15**

E. **Subject knowledge for the post of Maternity and Child Welfare Officer**

**140**

**Indicative Syllabus**

**A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small & Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.

**B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.

**C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.

**D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.

*The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*

**E. Subject knowledge for the post of Maternity and Child Welfare Officer:**

**Basic Sciences:** - Describe the anatomical and biochemical structures so as to explain the physiological functions of human body and factors, which may disturb these, and mechanism of such disturbances. Describe various group of micro-organisms of clinical importance. Identify and take appropriate measures including disinfection and sterilization for the prevention of diseases in the hospital and community. Collect and handle specimens for various diagnostic tests. Enumerate weights and measures and demonstrate skill in calculation of dosage and preparation of solutions. Read and interpret prescriptions and care for drugs according to the regulations. Describe various group of drugs acting on different systems of the body. Recognize the toxic symptoms related to common drugs and poisons.

**Nutrition and Dietetics:-** Describe various nutrients and their importance in the maintenance of health. Plan diets suitable to socio-economic status for different age groups and physiological conditions. Detect nutritional deficiencies and explain their prevention and management. Plan therapeutic diets for various disease conditions.

**Psychology, Mental Health and Psychiatric Nursing:-** Describe normal and deviations in behaviour among various age groups and their cause. Explain the principle of psychology and its application in health and diseases. Interpret behaviour of self and others. Recognize deviations from normal behaviour and provide guidance and counselling. Explain the dynamics of patient's behaviour and its application in providing nursing care. Demonstrate skill in communication and maintain interpersonal relations. Describe various therapies utilized in psychiatry and the various roles of nurses in psychiatric nursing.

**Fundamentals of Nursing:** Describe nursing as a profession, its scope, etiquettes & ethics. Provide first aid treatments. To provide congenial and safe environment to the patient. Carry out basic nursing procedures for the care of the patients with an understanding of the scientific principles involved. Make accurate observations and records. Administer prescribed medications and carry out treatments. Maintain records of patients and nursing care.

**Community Health Nursing and Family Welfare programs:** Describe personal, environmental, social and cultural factors contributing to health of individual, family and community. Explain methods of control of spread of diseases. Identify the needs for health education and impart and evaluate the effect of the same to patients, families and community. Prepare and use appropriate audio-visual aids for imparting health education. Recognize symptoms of social disorganization and social pathology. To demonstrate skills in medico-social work. Explain the principles of health care to mothers and children

and the services available for them in urban and rural communities. Identify deviations from normal amongst mother and children and take necessary action in clinics, health centres and homes. Educate the community about need and methods of family planning. Demonstrate skill in community diagnosis and in delivery of community nursing services in accordance with the national health care system.

**Medical and Surgical Nursing:** Explain the causes, patho-physiology, symptoms, treatment and prophylactic measures in common medical and surgical conditions affecting various systems of the body. Provide patient centered nursing care to patients with common medical and surgical conditions affecting various systems of the body. Prepare operation theatre for surgery and assist in operative procedures. Identify common equipment used in operation theatre. Explain the anaesthesia used, with their effects and dangers, and care for an anesthetized patient until such time as he recovers from the effect of anaesthesia. Recognize and provide first aid in case of common emergencies using the resuscitation equipment including intubation. Care for critically ill patients who required support for maintaining vital functions. Care for critically ill patients who required support for maintaining vital functions. Provide first aid in case of disaster, emergency and accidents and demonstrate skill in transporting the casualties. Organize casualty/emergency services.

**Paediatric Nursing:** - Describe growth and development, nutritional and psychological needs of children at different age group. Explain basic principles involved in paediatric nursing. Provide nursing management to neonates and children with medical and surgical disorders. Recognize emergencies in neonates and children and take appropriate first aid measures. Manage normal newborn and low birth weight baby. Describe various aspects of preventive paediatric nursing and be able to practice them while rendering nursing care in a hospital or community.

**Obstetrical Nursing:** - Explain anatomy and physiology of pregnancy, child-birth and puerperium. Provide antenatal care to mothers. Conduct normal delivery independently in a hospital and community and recognize abnormalities and make timely referral to doctor. Perform episiotomy and suture a first and second-degree tear. Guide and supervise multipurpose workers to carry on domiciliary services to mothers and children. Describe the management of common obstetrical emergencies needing immediate treatment. Describe the management of common obstetrical emergencies needing immediate treatment. Provide family welfare advice.

**Principles of Administration and Supervision, Education and Trends in Nursing:** - Explain the principles of administration and its application to health administration at different at different levels. Describe the organizational pattern for nursing components of hospital and public health service. Maintain effective human relations to improve efficiency of the staff. Describe the principles of supervision and develop skill in supervisory techniques. Explain the trends in nursing and nursing education in India and abroad. Appreciate the emergence of nursing as a profession and the rights, responsibilities and adjustment in professional life. Use different methods of teaching applicable to nursing.

**Note:** - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.



Post Name:-

**Psychiatric Social Worker**

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

**Proposed Scheme of Examination**

**No. of Questions**

A. **General Intelligence & Reasoning**

**15**

B. **General Awareness**

**15**

C. **Quantitative Aptitude**

**15**

D. **English Language and Comprehension**

**15**

E. **Related subject knowledge for the post of Psychiatric Social Worker.**

**140**

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
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- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Subject knowledge for the post of Psychiatric Social Worker: Social Work:-** Social Work: Definition meaning, purpose, goals and objectives – principles and assumptions of social work - basic and auxiliary methods of social work– tools, techniques, skills and abilities of a professional social worker – NASW Code of Ethics and Standards of Practice
- **Working With Individuals (Social Casework):-** Social Case work: definition, nature, objectives, relevance and scope of philosophy, principles and components of social case work Social Casework Process: Exploration, Engagement, Assessment and Planning, Implementation, goal attainment, Termination and Evaluation Models of social casework practice: psychodynamic model, Behavioural model, Psychosocial model, General System model, Humanistic Existential model, Problem Saving model, Solution Focused model, Crisis Intervention model – Skills and techniques in social case work.
  - **Working With Groups (Social Group Work):-** Group: Meaning, type, characteristic–stages of group development–goal setting, group norms, problem solving, decision making, conflict resolution Sub groups: meaning and types– tools for assessing group interaction: Social gram and Sociometrist Group dynamics: definition communication and interaction patter– interpersonal attraction and cohesion – Leadership: concept, theories- types of leadership and contexts-role and qualities of a leader. Social Group Work: Definition objectives, scope, purpose – principles of Group Work Social Group Work process– Intake, Study, goal setting, intervention- evaluation- programme as a tool, principles of programme planning, programme development process– social group work models– Group worker-role, functions, skills and qualities. Group process: Meaning, type (associative and dissociative group process)–bond, acceptance, isolation, rejection, conflict and control.
  - **Sociology for Social Work: -** Family– Nature, composition, characteristics, types, changing role of family, issues: separation, divorce, remarriage – Family life cycle: Independence, coupling (marriage), parenting, babyhood through adolescence, launching adult children, retirement, family and couple therapy, Society: type and characteristics - tribal, rural, urban, industrial and post-industrial- Culture: Definition, nature, type – (material & non-material). Socialization: importance and agencies of socialization. Social control: types, process of social change – characteristic features of industrialization, modernization, globalization and secularization, social stratification – caste, class, gender and power. Social problems: Poverty, unemployment, migration alcoholism and substance abuse, domestic violence, dowry, crime and delinquency.

- **Patient As A Person & Relevance Of Multidisciplinary:** - Person-in Environment– patient as a person: emotional, social and and lifestyle factors involved in an illness – hospitalization and its impact on patient and family systems – environmental modification – stigma and discrimination. Multidisciplinary Team: team members and role of team members, role of social worker & essential aspects of team work.
- **Developmental Psychology:** - Growth and Development – the major psychological and social theories of development (Erik Erikson- Piaget-Kohlberg-Sigmund Freud) – the biophysical psychological and social-cultural changes happening during life span– parental, early childhood, late childhood, puberty, adolescence, young adulthood, middle adulthood and old age.
- **Psychiatric Social Work:-** Mental Health– concepts, normality, abnormality – determinants of mental health, major mental/Psychiatric disorders, DSM & ICD classification, psychiatric assessment - psychiatric interviewing psychiatric Social work: Meaning and importance, historical development of psychiatric social work - functions and roles of psychiatric social worker.
- **Psychiatric Illness And Management:-** Prevalence, ethology, clinical manifestation, course and management of psychiatric disorders:
 

• Organic mental disorders including Delirium	Personality Disorders
• Dementia including Alzheimer's	Sexual Disorders
• Mood Disorders	Developmental Disorders
• Anxiety Disorders	Conduct and ADHD
• Stress- related adjustment disorders	Sleep Disorders
• Somatoform disorders	Substance-abuse related disorders
- **Social Legislations Social Welfare:-** Mental Health Care Act 2017 (Admission and discharges under the Act: MHRB- Mental Health Review Board), Clarification System in Psychiatry-ICD 11, DSM5, National Tele-Mental Health Programme, Dowry Prohibition Act 1984, Rights of Persons with Disability Act (RPWD Act), Domestic Violence (Prohibition) Act 2005, Juvenile Justice (Care & Protection) Act 2015, POCSO Act 2012, Right to Education Act 2009, National Mental Health Programme, DMHP, Central Social Welfare Board (CSWB), State Social Welfare Board (SSWB), UNCRPD, National Human Rights Commission – Medico-legal Issues, Disability assessment and evaluation, National Trust Act, Rehabilitation council of India Act
- **Psychosocial Perspectives on Mental Health** - Introduction to Psychology, Principles of Learning, Developmental Factors, Motivation and Emotion, Psychoanalysis, Psychological Methods of Management, Psychodiagnostics, Social Psychology, Social Pathology, Sociogenesis of Mental Disorders, Recent Trends in Psychosocial Perspectives
- **Psychiatric Social Work Research** - Scientific Method of Social Research in Psychiatric Social Work, Basic Elements of Psychiatric Social Work Research, Designs of Research, Sampling Techniques, Group Research Designs, Methods and Tools of Data Collection, Construction of Rating Scales and Attitude scales. Reliability and validity. Review of Research Methodology in dissertations and Research Projects related to Psychiatric Social Work.
- **Statistics** - Basic Statistics, Correlation and Regression, Basic Principles in test of Hypothesis and tests based on Chi-square, Student 't' and 'f' Statistics, Analysis of Variance one-way and two-way and Basic Concepts of Analysis of Covariance. Principles of Experimental Designs including basic randomized Designs – Completely Randomized Design, Randomized Block Design and Latin Square Design, Non Parametric Statistics – Principles and Commonly used methods, Wilcoxon Signed rank test, Mann-Whitney test, Median test, Rank Correlation. Basic concepts of Multivariate Analysis including applications.
- **Psychiatric Social Work Intervention** – Individual, family, Community
- **Psychosocial Rehabilitation** - Theory and concept of psychosocial rehabilitation, Approaches to psychiatric rehabilitation, Different settings in psychosocial rehabilitation. Psychosocial Rehabilitation Services: Individual counselling, Group therapy, Family Interventions, and Community Resource Mobilization. Psychiatric Disability: Definition and Classification of Psychiatric Disability, impact and need of psychiatric disability, Instruments for assessing psychiatric disability. Certification of psychiatric disability and welfare measures: Procedures for getting psychiatric disability certificate, welfare measures for persons with psychiatric disability, issues related to psychiatric disability and welfare measures.

**Note:** - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

Post Name:-

**Personal Assistant****Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

**Proposed Scheme of Examination****No. of Questions**

- |  |           |
|--|-----------|
| A. <b>General Intelligence &amp; Reasoning</b> | <b>40</b> |
| B. <b>General Awareness</b>                    | <b>40</b> |
| C. <b>Quantitative Aptitude</b>                | <b>40</b> |
| D. <b>English Language and Comprehension</b>   | <b>40</b> |
| E. <b>Basic Computer Knowledge/Application</b> | <b>40</b> |

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Basic Computer Knowledge/Application: -**
- A brief knowledge and use of Computer Processing ability in MS-Office like Word Processing, Excel, PowerPoint, etc.
  - Operating Systems: Microsoft Windows OS, Google's Android OS, Apple macOS, Linux OS, and Apple iOS.
  - Basics of Internet, Email etc.
  - Professional Software/Hardware System relevant to the Post.
  - Any other Computer/IT related questions.

**Note:** - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

Proposed Scheme of Examination	No. of Questions
A. <b>General Intelligence &amp; Reasoning</b>	<b>40</b>
B. <b>General Awareness</b>	<b>40</b>
C. <b>Quantitative Aptitude</b>	<b>40</b>
D. <b>English Language and Comprehension</b>	<b>40</b>
E. <b>Basic Computer Knowledge/Application</b>	<b>40</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Basic Computer Knowledge/Application: -**
- A brief knowledge and use of Computer Processing ability in MS-Office like Word Processing, Excel, PowerPoint, etc.
  - Operating Systems: Microsoft Windows OS, Google's Android OS, Apple macOS, Linux OS, and Apple iOS.
  - Basics of Internet, Email etc.
  - Professional Software/Hardware System relevant to the Post.
  - Any other Computer/IT related questions.

**Note:** - *It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.*

Post Name:-

**Medico Social Service Officer Gr-I**

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

**Proposed Scheme of Examination**

**No. of Questions**

A. <b>General Intelligence &amp; Reasoning</b>	<b>15</b>
B. <b>General Awareness</b>	<b>15</b>
C. <b>Quantitative Aptitude</b>	<b>15</b>
D. <b>English Language and Comprehension</b>	<b>15</b>
E. <b>Related subject knowledge for the post of Medico Social Worker.</b>	<b>140</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Subject knowledge related to Medico Social Service: -**
- Nature and development of social work.
  - Sociological concepts and contemporary concerns Urban community development Human rights and social work practice, social policy.
  - Human behaviour and social environment, state, political economy and governance, social work with communities, social work with individuals, social work with group research in social work: quantitative approaches.
  - Social action and social movements, social work with the elderly, environment and social work, social work with families and children, occupational social work.
  - Research in social work, qualitative approaches.
  - Administration of welfare and development services, organizational behaviour and employee development, social defense and correctional services, rural community development.
  - Social justice and empowerment, social development, management of development organizations Social work with persons with disabilities, aspects of applied social work in hospitals etc. Human rights and social work practice Social work practice in mental health settings.
  - Social work and disaster management, conflict mitigation and peace building, gender and development.
  - Counselling theory and practice.
  - HIV/AIDS and social work practice health care social work practice.

**Note: -** It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

Proposed Scheme of Examination	No. of Questions
A. <b>General Intelligence &amp; Reasoning</b>	<b>15</b>
B. <b>General Awareness</b>	<b>15</b>
C. <b>Quantitative Aptitude</b>	<b>15</b>
D. <b>English Language and Comprehension</b>	<b>15</b>
E. <b>Subject knowledge of Physiotherapy.</b>	<b>140</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Subject knowledge of Physiotherapy:** - Questions to assess the domain knowledge of the candidate in the relevant area specific to the job at the level of Bachelor's Degree in Physiotherapy academic syllabus along with Clinical Physiotherapy practices.
- Basics of Anatomy, Physiology, Biochemistry, Pathology and Microbiology
  - Basics of Psychology
  - Biomechanics and Kinesiology
  - Exercise Therapy
  - Manual Therapy
  - Physical Modalities
  - Basic Computer Application
  - Physiotherapy in Orthopaedics
  - Physiotherapy in Sports Injuries
  - Physiotherapy in Neurology (Adult & child)
  - Physiotherapy in Cardiorespiratory Diseases
  - Physiotherapy Ethics & Law
  - Physical Education

**Note:** - It may be noted that questions from other topics prescribed for the educational qualification of the post may appear in the question paper.

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

Proposed Scheme of Examination	No. of Questions
A. <b>General Intelligence &amp; Reasoning</b>	<b>15</b>
B. <b>General Awareness</b>	<b>15</b>
C. <b>Quantitative Aptitude</b>	<b>15</b>
D. <b>English Language and Comprehension</b>	<b>15</b>
E. <b>Subject knowledge of Occupational Therapy.</b>	<b>140</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Subject knowledge of Occupational Therapy:** - Questions to assess the domain knowledge of the candidate in the relevant area specific to the job at the level of Bachelor's Degree in Occupational Therapy academic syllabus along with Clinical Occupational Therapy practices.
- Basics of Anatomy, Physiology, Biochemistry, Pathology and Microbiology
  - Basics of Psychology and Sociology
  - Biomechanics and Kinesiology
  - Basics of Exercise Physiology & Nutrition
  - Physical, cognitive & Organisational Ergonomics
  - Basic Computer Application
  - Occupational Therapy in Orthopaedics & Rheumatological conditions
  - Occupational Therapy in Sports Injuries
  - Occupational Therapy in Neurology
  - Occupational Therapy in Paediatrics and Developmental Disabilities
  - Occupational Therapy in Mental Health
  - Occupational Therapy Ethics & Law
  - Physical Education

**Note:** - It may be noted that questions from other topics prescribed for the educational qualification of the post may appear in the question paper.

Post Name:-

**Technician Prosthetics or Orthotics****Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

**Proposed Scheme of Examination****No. of Questions**

A. <b>General Intelligence &amp; Reasoning</b>	<b>15</b>
B. <b>General Awareness</b>	<b>15</b>
C. <b>Quantitative Aptitude</b>	<b>15</b>
D. <b>English Language and Comprehension</b>	<b>15</b>
E. <b>Subject knowledge of the related subjects for the post of Technician Prosthetics or Orthotics.</b>	<b>140</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small & Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 of square base Trigonometric ratio, Degree and Radian Measures, Standard Identities Complementary angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Subject knowledge of the related subjects for the post of Technician Prosthetics or Orthotics:-**
- **General Anatomy:-** Histology. Embryology. Thorax: (a) Cardio- Vascular System, (b) Respiratory system, (c) Abdomen, (d) Musculo Skeletal Anatomy. Upper Extremity: (a) Osteology, (b) Soft parts, (c) Joints, (d) Arches of hand, skin of the palm and dorsum of hand. Lower Extremity: (a) Osteology, (b) Soft parts, (c) Joints. Trunk & Pelvis: (a) Osteology, (b) Soft tissue, (c) Pelvic girdle and muscles of the pelvic floor. Head and Neck Anatomy.
  - **General Physiology:-** General Physiology. Blood; Nerve Muscle Physiology. Cardiovascular System. Respiratory System. Nervous System. Kidney and micturition. Integumentary system. Endocrinology. Nutrition & Metabolism.
  - **General Biochemistry**
  - **General Microbiology**
  - **General Psychiatry**
  - **Material And Workshop Technology Material Science:-** Metal & Alloys. Wood. Leather. Fabric. Foams. Workshop Technology.
  - **Applied Mechanics And Strength Of Materials:-** General Mechanics. Simple stress & Strain- General. Design concept. Control systems. Ecogonomics with applied mechanics- General.
  - **Engineering Drawing:-** General Principles. Fundamentals. Design. General Sketching.
  - **Biomechanics-I:-** Basic Concepts in Biomechanics. Kinematics and Kinetics. Joint structure and Function. Human Movements. Joint Force Analysis. Human locomotion and Gait analysis.
  - **Prosthetic Science-I:-** Prosthetic Feet. Partial Foot. Syme's. Trans Tibial. Gait Deviations and Analysis. Prosthetics.
  - **Orthotic Science-I:-** General. Different types of Orthoses. Shoe Modification. AFO (Ankle foot orthosis). Club foot Orthosis.
  - **Pathology:-** General.
  - **Orthopaedics & Amputation Surgery:-** Orthopaedics. Traumatology. Inflammatory and Degenerative Conditions. Disease of Bones and Joints. Congenital Deformities. Acquired Deformities. Cervical and Lumbar Pathology. Regional



Conditions. Hip. Knee. Ankle & foot. Shoulder. Elbow and forearm. Wrist & Hand. Specific Disorders. Amputation Surgery. General. Orthopaedics.

- **Physical Medicine and Rehabilitation**:-(a) Psychology & Social work: Disability & Development. (b) Physiotherapy and Occupational Therapy Introduction to Physiotherapy, Normal Posture, Movements, Traction, Muscle Testing, Introduction to Occupational Therapy. (c) Physical Medicine and Rehabilitation: Community Based Rehabilitation, Specific disorders, Sports Injuries.
- **Fundamentals Of Electricity And Electronics**: - Electricity, Basic Concepts, Resistors, Transformers, Semi-Conductors, Amplifiers, Feed Back, Measurements, Myoelectrodes, Electrical Safety, Bio-Electricity.
- **Biomechanics-II**:- Through knee Biomechanics, Trans Femoral Prosthetics Biomechanics, Gait deviation, Above knee Orthotics Biomechanics.
- **Prosthetics Science-II**:- Knee Joints, Hip Joints, Through Knee Prosthesis, Trans Femoral Prosthesis, Endoskeleton/modular, Prosthetics.
- **Orthotics Science-II**:- Above knee Orthotics. Orthotics Components. Fabrication.
- **Computer Science**:- Computer Aided Design & Manufacturing (CAD & CAM)
- **P&O Workshop Management**:- Practical:
- **Mobility And Rehabilitation Aids**
- **Prosthetic Science-III**
- **Orthotic Science-III**
- **Research Methodology**: - Introduction to Biostatistics. Research methodology:
- **Prosthetic Science-IV**:- Prosthetics:
- **Orthotic Science –IV**:- Spinal Biomechanics. Spinal Orthoses. Cervical Orthoses. Thoraco Lumbo Sacral Orthoses. Orthotics.

**Note**:- It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

Post Name:-

Junior Hindi Translator

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

**Proposed Scheme of Examination****No. of Questions**

A. <b>General Intelligence &amp; Reasoning</b>	<b>20</b>
B. <b>General Awareness</b>	<b>20</b>
C. <b>Quantitative Aptitude</b>	<b>20</b>
D. <b>General Hindi</b>	<b>40</b>
E. <b>General English</b>	<b>40</b>
F. <b>Translation from Hindi to English and vice-versa</b>	<b>60</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small & Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.

*The questions in Part A and B will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*

**D. General Hindi.****E. General English.**

*Questions for above (D) and (E) sections should be designed to test the Candidate's understanding and knowledge of Hindi & English Languages and will be based on error recognition, fill in the blanks (using verbs, preposition, articles etc.), vocabulary, spellings, grammar, sentence structure, synonyms, antonyms, sentence completion, correct use of words, phrases and idioms, ability to write language correctly, precisely and effectively.*

**F. F-1:- Translation from English to Hindi****F-2:- Translation from Hindi to English**

**Note:-** *It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.*

Post Name:-

**CSSD Technician**

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

**Proposed Scheme of Examination**

**No. of Questions**

A. <b>General Intelligence &amp; Reasoning</b>	<b>15</b>
B. <b>General Awareness</b>	<b>15</b>
C. <b>Quantitative Aptitude</b>	<b>15</b>
D. <b>English Language and Comprehension</b>	<b>15</b>
E. <b>Subject knowledge of the related subjects for the post of CSSD Technician.</b>	<b>140</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Subject knowledge of the related subjects for the post of CSSD Technician: -**
- **Basic Anatomy: -** General Introduction: Definition of Anatomy & Physiology, Types of Anatomy (including systemic), Definition of topographic term/term used to describe the body, Description of Various regions of the body. Cells and tissues of body and general histology. Anatomical description of the following: Skin and breast, Ontology, Joints, Ligaments, Fasciae and Bursae, Musculoskeletal system, Cardiovascular system, Respiratory system, Lymphatic system, Blood and blood forming organs, congenital system, Endocrine system, Organs of special senses (ear, eye, etc.), Digestive system, Embryology.
  - **Basic Physiology: -** Introductory Lectures or specialization of tissues. Homeostasis and its importance in mammals. Blood and lymphatic system. Cardiovascular system. Excretory system, skin and temperature regulation. Respiratory system. Digestive system and metabolism. Endocrinology. Reproductive system. Nervous system. Special senses Muscles.
  - **Basic Pathology and Microbiology: -** Definitions and Classification of diseases. Inflammatory diseases– viral and fungal, Inflammatory diseases–Parasitic. Degenerative diseases- Fatty degeneration, Amyloid etc. Tumors– Definition, etiology& classification. Disturbances in blood flow. pigment disorders. Hereditary diseases. C.V.S. Blood vessels. V.S. Heart, Respiratory system. G.I. tract, Liver Lymphatic system. Genitourinary system, Skeletal system. Blood. Central Nervous system. Endocrine system. Clinical Pathology– Normal composition of blood; diseases of RBCs, WBCs, Platelets. Coagulation factors and disorders. Blood groups and cross–matching. Blood transfusion. Urine composition: variation in common diseases, CSF and body fluids. Gastris & Duodenal contents. Fasces– parasites, Introduction and historical background, Classification special, Characteristics of organisms Bacterias. Asepsis. Disinfection. Antiseptics-Sanitation, Infection, Immunity, Allergy study of pathogenic organisms, Non-pathology organisms, Virus and fungus, Parasitic diseases- their stance in India with lab Diagnosis.
  - **Operation Theatre Techniques: -** Operation theatre techniques. Surgical Procedures. Organize and set up trolleys for theatre. Tracking and recall of equipment and items. Surgical Instruments. Criteria for Purchase and Maintenance. Checking in and out of loan instruments. Decontamination Process. Scientific Principles. Recommended Practices.

- **Disinfection:** - Principles of Disinfection. Cleaning of equipment. Use of detergents. Sonic washers/Mechanical cleaning apparatus. Cleaning of catheters and tubings, cleaning glass ware, cleaning syringes and needles. Preparation and Supplies for Terminal Sterilization.
- **Packaging and assembly line:** - Precautions while handling instruments and line. Assembly and packing. Packaging selection and use. Materials used for wrapping and packing assembling pack contents. Types of packs prepared. Inclusion of trays and gallipots in packs. Method of wrapping and making use of indications to show that a pack of container has been through a sterilization process date stamping.
- **Sterilization methods:** - Different Methods of Sterilization. High Temperature Sterilization– Dry Heat. Moist heat sterilization. EO gas sterilization. H<sub>2</sub>O<sub>2</sub> gas plasma vapour sterilization. Endoscopes and their Sterilization. Sterilization Recommended Practices for Flash Sterilization.
- **Sterilization record keeping:-** Sterile storage. Call back system in case of detection of failure. HVAC system. Records & register maintenance.
- **Quality assurance:-** Quality assurance. Biological indication and quality control. Quality measurement methods and its standards.
- **Quality Standards:-** International Organization for Standardization (ISO) standards. Water Quality and its impact in CSSD Process. Biomedical waste disposal protocols.

**Note:-** *It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.*

Post Name:-

**Sanitary Inspector Gr-II**

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

Proposed Scheme of Examination	No. of Questions
A. <b>General Intelligence &amp; Reasoning</b>	<b>15</b>
B. <b>General Awareness</b>	<b>15</b>
C. <b>Quantitative Aptitude</b>	<b>15</b>
D. <b>English Language and Comprehension</b>	<b>15</b>
E. <b>Subject knowledge of the related subjects for the post of Sanitary Inspector Gr-II.</b>	<b>140</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage, Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.  
*The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Subject knowledge of the related subjects for the post of Sanitary Inspector Gr-II:-** Questions to be based on Health Sanitary Inspector course broadly covering the following topics:-
- **Water Sanitation:-** WHO's definition of environmental Sanitation. Safe and whole some water, Sources of water, Various uses of water and its need. Water borne diseases, conservation source of water, quality of water, public health aspect of very hard water, Steps of disinfection of well. Physical, chemical and biological standard for portable water sources and nature of pollution of water in large scale and small scale. Process of disinfections of water in large and small scale provisions for sanitary wells and tube wells, plumbing system and its maintenance.
  - **Air Sanitation:-** Concepts and importance of adequate ventilation. Types of ventilation. Natural ventilation. Mechanical ventilation. Indicators of air pollution. Process air purification and disinfection. Green house effect, types of ventilation, thermal comfort, air temperature humidity, radiation, evaporation and their measurements.
  - **Solid Waste Disposal:-** Source of generation, storage and collection. Sanitary method of disposal of solid waste. Classification of solid waste in the community. Polluting affect of different types of solid waste, system of collection of solid waste from the houses and street, sanitary transportation of solid waste, sanitary process of disposal of solid waste such as composting, sanitary land filling, incineration.
  - **Sewage Disposal:-** What is sewage? Why sewage purification is required? Sewer appurtenances, house drain. Street sewers or municipal sewers. Sewage forming land treatment. Sewage disposal by Biogas plant or gobar gas plant. Methods of disinfection of sewage. Sanitary practices of sewage farming treatment plant. Collection of sewage sample for chemical and bacteriological analysis and interpretation or reports. Inspection and maintenance of sewage treatment plants and disinfections of stabilized sewage.
  - **Liquid Waste Disposal/Night Soil Disposal:-** Hygienic method of disposal of liquid waste. Health hazard related to accumulation of liquid waste or in sanitary drainage system. Construction and maintenance of sanitary sewerage system. Use of different types of traps, pollution of water sources from sewerage and its disinfection.

• **Soil Sanitation:-** (1) Identification and use of insecticides, pesticides and disinfection. (2) Application of Techniques of sterilization and disinfection of various articles. (3) Identification of different parts of spraying equipment. (4) Operation and maintenance of spraying equipment. (5) Use of Larvicide's. (6) Use of rodenticides.

• **Medical Waste Disposal and Sanitation**

***Note:-** It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.*

Post Name:-

**Data Entry Operator, Gr-A**

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

Proposed Scheme of Examination	No. of Questions
A. <b>General Intelligence &amp; Reasoning</b>	<b>15</b>
B. <b>General Awareness</b>	<b>15</b>
C. <b>Quantitative Aptitude</b>	<b>15</b>
D. <b>English Language and Comprehension</b>	<b>15</b>
E. <b>Subject knowledge of the related subjects for the post of Data Entry Operator, Gr-A.</b>	<b>140</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Subject knowledge of the related subjects for the post of Data Entry Operator, Gr-A:-** Questions to be based on Data Entry Operator course, broadly covering the following topics:-
- Accidents, safety precautions, Electrical safety, types of fire extinguishers. Artificial Respiration. Data, Information, data types, physical & logical concepts of data. Environmental Hazards: Pollution through e – waste, Waste recovery facility.
  - Basic definition of computer, features and applications, hardware, software, firmware and liveware. Representation of information inside a computer. Generation of Computers – classification of computers according to purpose (general and special purpose), according to working (analog, digital and hybrid), according to processing capability (Super, mainframe, mini, micro, laptop and palmtop) Block diagram of a Computer system– Standard and common input/output devices. Processing– CPU, ALU, CU Memory, unit and different types Bit, byte, kilobyte, megabyte and Gigabyte. Semiconductor memories such as ROM, RAM, PROM, EPROM, EEPROM.
  - Working with MS DOS, Operating Hard disks and Latest removable storage devices. Demonstrating the partition of hard disk. Booting process. Booting computer in DOS and Windows environment Practicing DOS commands - formatting, copying, deleting, moving and renaming etc. Secondary storage devices – NTFS, Latest removable storage devices, hard disk and CDs/DVDs. Storage & retrieval of data- concepts of tracks, sectors, cylinders, boot record, disk partition and file allocation tables (FAT). Types of software – system software & application software, functions of operating system, interpreter, compiler and assembler. Operating system - familiarization with MS DOS, Windows and Linux. Booting the computer– booting, post, booting sequence, cold boot, warm boot, booting in DOS and Windows, booting files and their functions. Concept of LILO booting.
  - MS Windows – different versions, advantages and applications of windows. Starting windows and their operations. File management through Windows explorer. Using desktop, task bar, start button, title bar, menus and windows help. My computer & Recycle bin. Creating, deleting and renaming of files, folders & short cuts. Opening & closing of different windows. Using different windows at a time. Moving through windows and mouse, maximize/minimize windows, use of help feature, exit windows starting an application and closing application. File management through Windows Explorer-select files and directories, copy, move, delete files/directories. Expand compressed directories and files. Open and manage multiple director windows. View and sort files. Creating and renaming files/directories. Disk operation using file manager.

- Applications of essential accessories such as notepad, WordPad, paintbrush, images, calculator, calendar, media players and sounds. Multimedia. Setting, using and applications of control panel. Display properties, sound properties, different screen savers, and font management. Installation of programs. Setting hardware such as scanners printers modem and dialup network. Concepts of zipping and unzipping and applications. Using CD drives, different types and capacities of CDs CD writer. Computer virus – their causes and remedial measures. Anti-virus, virus scanning and deleting. Using essential accessories – starting and using notepad, WordPad, editing formatting text, saving text and printing text in notepad/WordPad. Working with image, paintbrush. Using calculators, calendar and character map, system tools, entertainment. Using windows media player and sound. Using multimedia and accessibility. Setting, using control panel, setting of date, time and sound. Setting display properties – wallpaper, screen savers & font management. Setting sound cords and graphic adopter cords. Installing and removing programs from start and program menu. Setting hardware such as printers, scanners, modem and dial up network. Zipping and unzipping files in windows. Installing CD Drive, driver software and other software through CD drives, working with CDs and copying data in CD writer. Registering the software. Installing Antivirus software. Scanning and deleting virus. Knowledge on Computer safety.
- Data processing. Data processing in various software, their features, versions and advantages. Introduction to the various applications in office. Introduction to Word features, Office button, toolbars. Creating, saving and formatting and printing documents using Word. Working with inserting objects, macro, mail merge, templates and other tools in Word. Page setup and Printing Documents using word. MS word commands and practicing – text selection. Opening document and creating document, saving and quitting documents. Cursor control, moving around in document, manipulating windows using tool bars. Printing documents, Editing text, auto text character formatting, page formatting. Closing and opening files. manipulating windows using tool bars. Printing documents, Editing text, auto text character formatting, page formatting. Closing and opening files. Table formation, Tabs, indents. Using Interface (Menu tool bars, help). Finding and replacing text. Spell checking, creating bold, italic and underlines, aligning text, auto numbering/bullets, colouring text, changing fonts and their sizes, paragraph setting, changing cases, spacing between words, lines and paragraphs. Creating master documents, data sources, merging documents, using mail merge feature for labels and envelopes. Graphics and using templates and wizards. Hyper linking, sending through internet Inserting drawings, auto shapes, text boxes, word art, pictures such as images and clip art, colouring, shading and 3D effects. Inserting graphs. Operating various types of printers – dot matrix, inkjet and laser printers.
- Introduction to Excel features and Data Types. Cell referencing. Use of functions of various categories, linking Sheets. Introduction to various functions in all categories of Excel. Concepts of Sorting, Filtering and Validating Data. Analyzing data using charts, data tables, pivot tables, goal seek and scenarios. Working with Macros.
- Introduction to the properties and editing of images. Introduction to Power Point and its advantages. Fine tuning the presentation and good presentation techniques. Creating Slide shows, Inserting objects. Animating Slide transitions and Objects. Worksheet basics Data entry in cells, entry of numbers, text and formulae. Moving data in worksheet, moving around in a worksheet, selecting data ranges. Using interface (Tool bars, Menus), editing basics, working with workbook Saving and quitting, cell referencing Formatting and calculations, using auto fill, working with formulae. Efficient data display with data formatting Creating borders colouring text, bold, italic and underlining, aligning text, finding and replacing data. Margin setting working with ranges, setting print area and printing. Creating multiple sheets in a worksheet, transferring data from one sheet to other sheet. Working with multiple sheets and files Working with graphs and charts Auto formatting, creating embedded chart using chart wizard, sizing and moving parts, updating charts, changing chart types. Creating separate chart sheet, adding titles, legends and gridlines, colouring charts, printing charts Functions of Excel Database management through Excel Finding records with data form, adding deleting records, Sorting & filtering records in a work sheet.
- Concept of Database/relational database management systems Records, fields, files, different types of fields Various types of database systems.
- PageMaker– introduction to various versions, concepts and applications Application of PageMaker.
- Concept of virus, how computer get affected, Antivirus tools, protection, Installation of Antivirus Software.
- Networking concepts Internet, intranet, LAN, WAN, ISDN, Broad brand concepts and applications.

**Note:-** It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.



**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

Proposed Scheme of Examination	No. of Questions
A. <b>General Intelligence &amp; Reasoning</b>	<b>20</b>
B. <b>General Awareness</b>	<b>20</b>
C. <b>Quantitative Aptitude</b>	<b>20</b>
D. <b>English Language and Comprehension</b>	<b>20</b>
E. <b>Basic Computer Knowledge/Application</b>	<b>20</b>
F. <b>Experience based domain knowledge in the specific relevant area of the job (Social Worker).</b>	<b>100</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Basic Computer Knowledge/Application:-**
- A brief knowledge and use of Computer Processing ability in MS-Office like Word Processing, Excel, PowerPoint, etc.
  - Operating Systems: Microsoft Windows OS, Google's Android OS, Apple macOS, Linux OS, and Apple iOS.
  - Basics of Internet, Email etc.
  - Professional Software/Hardware System relevant to the Post.
  - Any other Computer/IT related questions.
- F. Experience based domain knowledge in the specific relevant area of the job (Social Worker):-** Questions to assess the domain knowledge based on the experience of the candidate in the relevant area specific to the job
- **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. 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. 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 Sociology:-** 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: (i) Psycho-Sexual development theory: Sigmund Freud, (ii) Psycho- Social development theory: Erick Erickson, (iii) Defence Mechanism, (iv) 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: Polity & Economy:-** (i) State: Elements, Role and Functions, (ii) Democratic government & process, (iii) The nature of economic development, Classification of Developing Countries, (iv) Meaning of Globalization, Liberalization, Privatization. Social Stratification and Social Change in Contemporary Society: (i) Social Stratification: Caste, Caste & Democracy, Tribes, (ii) Social Change: Concept, Factors, Western theories, (iii) Theories of Social Change in India: Sanskritization, Westernization, Modernization, Secularization.
- **Problems of Contemporary Indian Society:-** (i) Social Problem: Concept, Factors, Theories. (ii) Poverty: Causes, Factors, Extent, Consequences, Theories, Measures, Impact on society. (iii) Population Explosion: Causes, Factors, Extent, Consequences, Measures, Impact on society. (iv) Unemployment: Causes, Factors, Extent, Consequences, Theories, Measures, Impact on society. (v) Environment pollution: Causes, Factors, Extent, Consequences, Theories, Measures, Impact on society. (vi) Malnutrition: Causes, Factors, Extent, Consequences, Theories, Measures, Impact on society. (vii) Positive and negative impact of Social Media (Internet, Face Book, Social Media, Television, Cinema, Mobile etc.)
- **Groups and Social works:-** Understanding Concepts of Group Work. Concept of Group and its importance in human life cycle, Types of Groups Concept. Social Group Work as a method of Social Work: (i) Theories and Models in Social Group Work (ii) Values and Distinctive Principles of Social Group Work (iii) Role of Group Worker (iv) Social Group Work in Different fields (v) Group Work in Institutional settings (vi) Understanding Individual in the Group Process and Group as a Totality. Social Group Work Process and Programmes: (i) Steps or Process of Group Formation (ii) Stages / Phases in Group Development (iii) Factors affecting Group Development and Role of Social Worker in different Stages of Group Development (iv) Concept and Importance of Programme in Group Work Practice (v) Programme Planning, Development and Implementation Process. Skills, Techniques, Recording and Evaluation in Social Group Work (i) Skills of Group Worker- For Group Development, Programme Planning, and Programme Implementation (ii) Recording in Group Work: Principles and Types of Recording, Techniques of Recording Observation, Sociogram. (iii) Evaluation in Group Work- Importance of Continuous evaluation in Group Work, Types and Methods of Evaluation. Group Process and Dynamics: (i) Social processes in group work (ii) Leadership and its development in group work process (iii) Communication in Group (iv) Group Dynamics: - Group Bond, Group- Conflict, Confrontation, Apathy and Group Control.

**Note:-** It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

Post Name:-

**Yoga Instructor**

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

**Proposed Scheme of Examination**

**No. of Questions**

A. <b>General Intelligence &amp; Reasoning</b>	<b>15</b>
B. <b>General Awareness</b>	<b>15</b>
C. <b>Quantitative Aptitude</b>	<b>15</b>
D. <b>English Language and Comprehension</b>	<b>15</b>
E. <b>Subject knowledge of the related subjects for the post of Yoga Instructor.</b>	<b>140</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Subject knowledge of the related subjects for the post of Yoga Instructor: -**
- Foundation of Yoga: Orientation to Patanjala Yoga sutra, Hatha Yoga Pradeepika, Gharanda Samhita, Shiva Yoga Deepika.
  - Basis relevant to Yoga Therapy: Basics of Sanskrit, Principles of Ayurveda, Principles of Naturopathy, Principal of Astrology.
  - Human Biology: Anatomy & Physiology Yogic Diet, Nutrition & related Biochemistry, Yoga & Psychology, research Methodology.
  - Basics of Integral Approach to Yoga Therapy: Sankhya and Yoga, Bhagvadgeeta, Upanishads, Link between man and the Master.
  - Yoga Therapy in Practice: A comprehensive study of the definition, pathophysiology, actiology, clinical features, assessment and yoga, therapy for ailments of the followings systems: -
 

i. Nervous System	ii. Endocrine.
iii. Respiratory.	iv. Cardio-vascular.
v. Digestive.	vi. Musculo Skeletal.
vii. Reproductive Systems.	viii. Neurosis.
ix. Pregnancy.	X. Eye Problem.

**Note:-** It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

Post Name:-

**Junior Reception Officer**

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

Proposed Scheme of Examination	No. of Questions
A. <b>General Intelligence &amp; Reasoning</b>	<b>25</b>
B. <b>General Awareness</b>	<b>25</b>
C. <b>Quantitative Aptitude</b>	<b>25</b>
D. <b>English Language and Comprehension</b>	<b>25</b>
E. <b>Basic Computer Knowledge.</b>	<b>40</b>
F. <b>Post specific domain knowledge in the specific relevant area of the job (Junior Reception Officer)</b>	<b>60</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.
- The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*
- E. Basic Computer Knowledge:**
- A brief knowledge and use of Computer Processing ability in MS-Office like Word Processing, Excel, PowerPoint, etc.
  - Operating Systems: Microsoft Windows OS, Google's Android OS, Apple macOS, Linux OS, and Apple iOS.
  - Basics of Internet, Email etc.
  - Professional Software/Hardware System relevant to the Post.
  - Any other Computer/IT related questions.
- F. Post specific domain knowledge in the specific relevant area of the job (Junior Reception Officer): -**
- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Methods of Communication</li> <li>• Mass Communications and Mass Media:</li> <li>• Public Relations Media</li> <li>• Media</li> <li>• Classification</li> <li>• News-Papers and Magazines</li> <li>• Radio Broadcasting</li> <li>• TV in India</li> </ul> | <ul style="list-style-type: none"> <li>• Film in India</li> <li>• Photographs</li> <li>• Exhibitions</li> <li>• Media Relations</li> <li>• Editorial Writings</li> <li>• Social Media</li> <li>• Public Relations Practice</li> <li>• Public Relations Specialization</li> </ul> |
|--|--|

**Note:-** It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

Post Name:-

**Assistant Security Officer**

**Pattern of examination:**

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

Proposed Scheme of Examination	No. of Questions
A. <b>General Intelligence &amp; Reasoning</b>	<b>50</b>
B. <b>General Awareness</b>	<b>50</b>
C. <b>Quantitative Aptitude</b>	<b>50</b>
D. <b>English Language and Comprehension</b>	<b>50</b>

**Indicative Syllabus**

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 of square base Trigonometric ratio, Degree and Radian Measures, Standard Identities Complementary angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.

*The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*

**Note:-** *It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.*

## Revised Scheme of Examination & Indicative Syllabus

Post Name:-

Warden (Hostel Warden)

### Pattern of examination:

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

### Proposed Scheme of Examination

**No. of Questions**

A. <b>General Intelligence &amp; Reasoning</b>	<b>25</b>
B. <b>General Awareness</b>	<b>25</b>
C. <b>Quantitative Aptitude</b>	<b>25</b>
D. <b>English Language and Comprehension</b>	<b>25</b>
E. <b>Post specific domain knowledge.</b>	<b>100</b>

### Indicative Syllabus (Revised)

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness:** Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question 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 related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.

*The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard level.*

### E. Post specific domain knowledge: -

- Office Procedures
- Hostel Management
- Compliance of Govt Rules for operation of Hostel and Canteen/Mess management.
- Management of medical facility
- Hostel Housekeeping operation.
- Hostel safety and security.
- Hostel caretaking operation.
- Hygiene and sanitation.
- Accounts & audit procedures for inventory control.
- Store management.
- Food safety and standards.
- Records keeping and retention the record rules.
- Event management.
- Material management.
- Public relations
- Estate management

**Note:-** It may be noted that apart from the topics given above, questions from other topics related to the job and prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

## Revised Scheme of Examination & Indicative Syllabus

Post Name:- **Mechanic (E&M)**

### Pattern of examination:

- CBT Multiple Choice Questions with four answer options.
- Total **200** questions.
- **01** mark for each correctly answered question
- **Negative 0.25** marks for each wrong answered question.

### Proposed Scheme of Examination

**No. of Questions**

A. <b>General Intelligence &amp; Reasoning</b>	<b>15</b>
B. <b>General Awareness and Financial Rules</b>	<b>15</b>
C. <b>Quantitative Aptitude</b>	<b>15</b>
D. <b>English Language and Comprehension</b>	<b>15</b>
E. <b>Subject knowledge of the concerned post (Mechanic- E &amp; M)</b>	<b>140</b>

### Indicative Syllabus (Revised)

- A. General Intelligence & Reasoning:** It would include question 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 Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small& Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness and Financial Rules:** 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:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of 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 angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.

*The questions in Part A, B and D will be of a level commensurate with the essential qualification and questions in Part C will be of 10<sup>th</sup> standard.*

### E. Subject knowledge of the concerned post (Mechanic- E & M): -

#### E-1:- Subject knowledge (Electrical)- (70 Questions)

**Fundamentals of Electricity:** - Effects of electric current, fundamental terms, Definition, solder, flux, definition and properties of conductors, insulators, semiconductors, different types of insulators, types of wires and cables, specification of wires and cables- insulators, low medium and high voltage, various types of cables

Law of Resistance, Ohm's law, Kirchoff's laws- Resistance, PD, Current, specific resistance, laws of resistance, ohm's law, series and parallel circuit, kirchoff's laws, wheat stone bridge, effects of variation of temperature on resistance, work, power, energy, efficiency, heating effect of electric current. **Cells and Batteries:** - electrolysis, Faraday's laws of electrolysis, basic principle of electro plating and electronic chemical equivalents, primary cell and secondary cell, lead acid cell, methods of charging care and maintenance of cells, grouping of cells of specified voltage and current, inverter, battery charger nickel alkali cell, efficiency of cells, power and capacity of cells. **House Wiring and Earthing:-** Different method of earthing, IE, Pipe, plate importance of earthing, improving Earth resistance, E LC B-type of wiring and their users, IE rules wiring accessories, such as lamp holder, switch, plug, bracket, ceiling rose, cut out, ICTP, ICDP.

**Illumination:** - Construction working and application of incandescent lamp fluorescent tube cfl neon sign halogen Mercury vapour lamp sodium vapour lamp. **Magnetism:-** Classification of magnets, methods of magnetising magnetic materials, properties, care and maintenance, para and diamagnetic, and ferro magnetic, materials principle of electromagnetism, Maxwell's cork screw rule, Fleming's left hand right hand rules, magnetic field of current carrying conductor, solenoid, MF, flux density, reluctance, hysteresis, Eddy current, principle of electromagnetic induction, faraday's laws, lenz's law, electrostatics capacitor, different types of function and uses. **Alternating Current and Poly Phase:** - Comparison and advantage AC and DC related terms, frequency, instantaneous value RMS value, average value, peak factor, form factor, sine wave, phase and phase difference, inductive and capacitive reactance, impedance

power factor, active and reactive power, single phase and 3 phase system, power consumption series and parallel PF, 3 phase star Delta connection line and phase voltage, current and power in 3 phase circuits with balanced and unbalanced load. **Basic Electronics:** - semiconductor, atomic structure, P type and N type, types of materials, PN Junction, classification diodes, reverse and forward bias, heat sync specification of diode, PIV rating, half wave, full wave, and bridge circuit, filter circuit, passive filter, LED, diode types of transistor, UJT, SCR regulator, ICS, zener diode uses and its application, IC voltage regulator JFET, and logic gate AND gate. **DC Generator and DC Motors:** - Introduction to DC generator and working principle, parts of DC generator, classification of generator self-excited and separately excited, their application types and characteristics of DC generator series, shunt and compound their application. emf equation DC motor working principle, types of motor, torque, speed back emf, characteristics speed control of DC motor, necessity of starter types of starters, 2 point, 3 point, 4 point starters, Protective device used method of speed control. **AC Generators Motors and Starters:** - parts and construction of alternator principle of working, types of alternator, emf equation, various applications and power rating of alternator, general idea of loading and regulation of alternator, parallel operation of alternators, synchronising method AC single phase motor and types capacitors, start/run, start and run. FHP motors and their uses various application of AC single phase motors. **Three Phase Motors:** - construction principle of operation of 3 phase induction motors squirrel Cage and slipring induction motors rotor slip, rotor frequency and motor torque starting method, speed control method, importance of phase sequence in 3 phase induction motor, single phasing preventere, starters, DOL starters, Delta starters, and auto transformer starter, rotor resistance starter. **Transformers:** - power transformer: its construction working parallel operation of transformer their connection, cooling transformer, emf equation, transformation ratio, ideal transformer, construction of core, shell, Berry type, auxiliary parts, breather, conservator, buchholz's relay, other protective device, transformer oil testing OF load and ON load, auto transformer, its construction, working and uses CT, PT losses and efficiency. **Measuring Instruments:** - Types of measuring instruments- MC and MI construction and working principle of ammeter, Volt metre, ohm metre, watt meter, energy meter, PF metre, megger, earth tester, CT and PT tong tester/clip on metre multi metre. generation transmission and distribution of electricity. Generation: diesel power station, steam power station, hydroelectric power station, nuclear power station. Substation: indoor, outdoor, pool mounting (EHT substation Hd substation medium and low voltage substation). UG cable. construction of cable, types, testing.

#### **E-2: - Subject knowledge (Mechanical)- (70 Questions)**

**Basic Safety:** Safety introduction, Personal protection. Basic injury prevention Hazard identification and avoidance, safety signs for Danger, warning, caution and personal safety messages. Use of Fire extinguishers. Various safety measures involved in the Industry. Elementary first Aid. Concept of Standard. Personal safety and factory safety.

- Conservation of Energy
- Engineering Materials
- Mechanics of Solids
- Workshop Technology
- Hydraulics and Pneumatics
- Theory of Machines
- Preventive Maintenance of machines
- Design and Estimation
- Production Technology
- Advanced Manufacturing Processes
- Industrial Engineering and Safety
- Metrology and Measuring Instruments
- Repair and Maintenance
- Disaster Management and Safety
- Introduction of fitting trade. Marking tools; callipers Dividers, Surface plates, Angle plates, Scribes, punches, surface gauges Types, Uses, Care and maintenance. Use of different bench tools used by sheet metal worker. Description and types of taps and dies, Description of marking and cutting tools such as snubs shears punches and other tools like hammers, mallets, etc. used by sheet metal workers. Types of rivets and riveted joints. Use of thread gauge. Different types of threads. Materials, fluxes and process. Care and maintenance of tools. Introduction to thermometers, pressure gauges etc.

**Note:-** It may be noted that apart from the topics given above, questions from other topics related to the job and prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.