



भारतीय प्रबंध संस्थान बोध गया  
उरुवेला, प्रबंध विहार, बोध गया - ८२४२३४, भारत  
Indian Institute of Management Bodh Gaya  
Uruvela, Prabandh Vihar, Bodh Gaya – 824234, India

## **Syllabus for Written & Skill Test**

### **OFFICE ASSISTANT**

- Numerical ability
- Logical reasoning
- General Awareness and Current Affairs
- English Language and Comprehension
- Computer proficiency and skills
- Office Procedures
- Office Management
- Records and files management
- Office communication
- Noting and drafting
- General Hindi
- CCS (Conduct) Rules, 1964, CCS (CCA) Rules 1965, Leave rules, GFR.

### **UDC**

- Verbal Ability (English Language based)
- Reading Comprehension (English)
- Quantitative aptitude
- Reasoning ability
- Computer competency in MS Office, Email, etc.
- Office Communication
- File Handling processes
- Dispatch and Dak handling processes
- Personality Test

### **BUILDING MANAGEMENT SYSTEM OPERATOR**

- Technical knowledge domain –
- Handle to operate BMS workstation & it's application.
- Basic knowledge of Services like HVAC, Lifts, DG, Internal Electrical & Mechanical Installations, illumination systems etc.
- Understanding of BMS Terminology & its Documentations.
- Basics of Electrical panels, Power Supply, Controllers, Sensors and Actuators.
- Basic communication skills.
- Logical Reasoning
- General Awareness
- Basic Mathematics

## **PLUMBER**

- **General Intelligence & Logical Reasoning** - It would include questions of both verbal and non- verbal type. problem solving, visual memory, relationship concepts, arithmetical reasoning, arithmetic number series, non-verbal series, coding and decoding etc.
- **General Awareness**
- Quantitative Aptitude to test the ability of appropriate use of number and number sense of the candidates includes number system, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Time and Distance, Time and work.
- **Subject knowledge of the concerned post (Plumber):-**
- Safety:- Importance of safety and general precautions required for the trade. Safety attitude development of the trainee by educating them to use Personal Protective Equipment (PPE). Carry out cutting of Pipes of Different Dia in different angle and Joining of pipes by gas welding:- Method of gas welding. Joining of Pipe in same dia by gas welding.
- Construct complete pipe line circuit with different types of Joints and fixing Cocks & valve on Pipe line:- Types of fittings for different joints & different pipes.:- CI, HCl, AC, AC Pressure, DI, GI Pipes. Joints:- Flange joint, Socket joint. Description of pipe fittings. Methods of joining and their uses.
- Perform Water analysis test, Water Pressure test and Water distribution system by using Pipe line:- Sources of water. Hard & Soft water, temporary hardness & permanent hardness. Water purification stages and methods.
- Expansion of water on freezing and heating. Pressure of water on the sides of cistern or tank. Water hammer in pipes. Install and maintain different Electric Pumps:- Plumber's materials Lead, tin, Zinc, solder, copper, red lead and their uses. Water supply system of a small town. Centrifugal pump. Contamination of water in a well. Types of pumps suction head.
- Construct inspection chamber, manhole, gutter, septic tank, socket:- Inspection chamber, septic tank, description of drains, cesspools, soak pits. Layout of drainage system.
- Perform removal of leakage pipe line:- Method of dismantling and renewal of the valves and pipes. Leaks in pipes and noises in plumbing. Installation of water meters. Air lock in pipes and its removal.
- Perform fitting and maintenance of Fixture at different place:- Lay out of one pipe system & Two pipe system. Method of testing leakage. Different types of traps, ventilation, antisiphonage and sinks. Fire hydrants and their fittings.
- Carry out fitting, fixing & laying installation of hot & cold water pipe line:- Heat and Temperature. Method of transmission of heat. Heating system by different thermal units. Domestic hot and cold water. Repairs to service main. Domestic boilers and Geysers. Method of ventilating pipe. Precaution against air Poisoning. Fixing of solar water system.
- Identify plumbing services required for each type of building according to usage.



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## **HOSTEL ASSISTANT**

- English Language- Comprehension, Grammar, Sentence correction, one words, Antonyms, Synonyms, Idioms and Phrases, Clauses, Articles, Prepositions etc.
- Mathematic & Numerical Ability: Basic Arithmetic, Numerical Computation, Numerical Reasoning, Data Reasoning & Interpretation etc.
- General Awareness and Current Affairs: Current Affairs, Government Schemes, Economics, Indian Constitution etc.
- Domain Knowledge: Rules and Regulations related to Hostel, RTI, GFR rules CCS/CCA rules.
- Noting and Drafting of Office orders, Circulars etc.
- Drafting of Formats: Requisitions forms, Hostel inventory, etc.

## **ELECTRICIAN**

**Aptitude:** Logical Reasoning and Verbal Ability - Verbal; Image-Based; Puzzle; Sequence

**Core:**

- **Fundamentals of Electricity: -**  
Effects of electric current, fundamental terms, Definition, solder, flux, definition and properties of conductors, insulators, semi-conductors, 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:-



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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, 27 Eddy current, principle of electromagnetic induction, faraday's laws, lenz's law, electrostatics capacitor, different types of function and uses. Distribution: Design of overhead line and underground distribution systems. Specification for cables, conductors, Supports etc. Cable joining and termination methods, power factor improvement, service connection to buildings.

- **AC Generators/03 phase Motors and Starters: -**

Parts and construction of alternator principle of working, types of alternators, 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 of capacitors, start/run, start and run. FHP motors and their uses various application of AC single face motors.

## **ELECTRICAL SUB-STATION OPERATOR**

**Aptitude:** Logical Reasoning and Verbal Ability - Verbal; Image-Based; Puzzle; Sequence

**Core:**

- **Knowledge of Electrical Engineering: -**

General Knowledge of Indian Electricity Act, Indian Elect. Rules as amended up-to date. General conditions of supply for obtaining connection. CPWD General Specifications for Electrical Works, Principles of analysis of rates. General Principles in preparation of estimates, project reports, award of works and execution of works and measurement. ISI/BIS Standards and Codes of practices. Lift Act and Rules. Illumination Units and Standards, Principles of indoor and outdoor lighting design. Types, characteristics, and application of lamp in fittings and luminaires. Lighting calculation for indoor and outdoor applications. Internal Electrical Installations Systems of wiring and their design, distribution system. Apparatus for control,



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protection, and Testing. Earthing, Lighting Protection, Safety & Maintenance, Necessity of earthing, earthing resistance, type of earthing. Lighting protection design, layout, material, and installation. Safety procedures and practices, principles of equipment installation, preventive maintenance, and testing of equipment. methods.

- **Earthing, Lighting Protection, Safety & Maintenance: -**

Necessity of earthing, earthing resistance, type of earthing. Lighting protection design, layout, material, and installation. Safety procedures and practices, principles of equipment installation, preventive maintenance, and testing of equipment.

- **Sub-Station up to 33 KV and Distribution: -**

Layout and Design for indoor and outdoor application. Specifications for equipment, Sub- Station earthlings, stand-by generating sets, commissioning procedures and tests. Distribution: Design of overhead line and underground distribution systems. Specification for cables, conductors, Supports etc. Cable joining and termination methods, power factor improvement, service connection to buildings.

**General Note for all: -**

*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.*

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