

# BARC Stipendiary Trainee Exam Pattern

## Stipendiary Trainee Category I

Subjects	Total Questions	Total Marks	Time Duration	Qualifying Marks
Diploma/B.Sc. Level	40 Questions	120 Marks	1 Hour	General category: 30% of Total Marks, Reserved Category: 20% of Total Marks

**Note:** 1 mark deducted for every wrong answer

## Stipendiary Trainee Category II, Technician/ B, Technician C Posts

### Stage 1 Preliminary Test

S.No	Subjects	Number of Questions	Total Marks	Time Duration	Qualifying Marks
1	Mathematics	20	60	1 Hour	General category: 30% of Total Marks, Reserved Category: 20% of Total Marks
2	Science	20	60		
3	General Awareness	10	30		
<b>Total</b>		<b>50 Questions</b>	<b>150 Marks</b>		

**Note:** 1 mark deducted for every wrong answer

### Stage – II Advanced Test

Serial Number	Subjects	Number of Questions	Total Marks	Time Duration	Qualifying Marks
1	Questions belong to their Respective Trade	50	150	2 Hours	General category: 30% Marks, Reserved

Category:  
20% Marks

**Note:** 1 mark deducted for every wrong answer

**Stage – III is a skill test**

Skill Test will be based on the Go/No-Go basis.

## **BARC Stipendiary Trainee, Technician Syllabus - Topic Wise**

### **Mathematics**

- Permutation and Combination.
- Problems on H.C.F and L.C.M.
- Height and Distance.
- Banker's Discount.
- Decimal Fraction.
- Area.
- Square Root and Cube Root.
- Problems on Ages.
- Simple Interest.
- Boats and Streams.
- Volume and Surface Area.
- Ratio and Proportion.
- Time and Work.
- Races and Games.
- Time and Distance.
- Pipes and Cistern.
- Allegation or Mixture.
- Probability.
- Average.
- Compound Interest.
- Chain Rule.
- Surds and Indices.
- Simplification.
- Numbers.
- Partnership.
- Logarithm.
- Stocks and Share.

### **General Awareness**

- Artists.
- Rivers, Lakes and, Seas.

- Indian Politics.
- Heritage.
- Tourism.
- Current Affairs.
- Famous Books & Authors.
- Biology.
- Environmental Issues.
- Geography.
- Countries and Capitals.
- Literature.
- Sports.
- Civics.
- Indian History.
- Famous Days & Dates.
- General Science.
- Inventions and Discoveries.
- Indian Parliament.
- Famous Places in India.
- Indian Economy.

## Science

- Material
- Scientific Reasons
- Differences
- Abbreviations
- Units
- Discoveries & Inventions
- Measuring Tools
- Making Decisions perspective to Science

## Physics

- Thermodynamics
- Statistical Mechanics
- Nuclear and Particle Physics
- Quantum Theory and its Applications
- Electromagnetic Theory
- Electronics
- Experimental Physics
- Mathematical Methods
- Classical Mechanics
- Relativity
- Atomic
- Molecular Physics
- Condensed Matter Physics

## Chemistry

- Redox Reactions
- Chemical Kinetics
- States of Matter
- Equilibrium
- Thermodynamics
- Processes of Isolation of Elements
- Coordination Compounds
- P, D, F Block Elements
- Hydrogen
- D Block Elements
- Alkali and Alkaline earth metals (S Block)
- Haloarenes
- Alcohols
- Haloalkanes
- Aldehydes
- Phenols
- Ketones
- Ethers
- General Organic Chemistry
- Carboxylic Acids
- Biomolecules
- Hydrocarbons
- Environmental Chemistry
- Amines
- Chemistry in Everyday Life
- General Chemistry
- Structure of Atom
- Electrochemistry
- Periodicity
- Solid State
- Solutions
- Classification of Elements
- Molecular Structure
- Chemical Bonding
- Surface Chemistry

## Civil Engineering

- Hydrology & Water Resources Engineering.
- Bridge Engineering.
- Soil Mechanics and Foundation Engineering.
- Surveying.
- Reinforced Concrete Structures.
- Transportation Engineering.

- Civil Engineering Materials and Construction.
- Fluid Mechanics.
- Environmental Studies etc.
- Estimation, Costing, and Specifications.
- Construction and Project Management.
- Environmental Engineering.
- Solid Mechanics, Structural Analysis.
- Concrete Technology.
- Steel Structures.
- Hydraulic Structures.
- PSC Structures.

### **Electrical Engineering**

- Switchgear & protection (MC/LV) & LT Switchgear design and testing etc
- Distribution HT/LT Line parameters
- Present Power Sector scenario in India and other Electrical Engineering topics etc
- Performance of line fault analysis
- Measurement of Electrical Power
- Functions of capacitors & reactors
- Low Voltage constraint & resolving thereof
- Non-conventional Energy sources like Wind, Solar, Biomass, etc
- Power Engineering
- Distribution Network Installation & load studies
- Analysis of Dist. Transformers, Meters & Testing

### **Mechanical Engineering**

- Hydraulics machinery
- Machine Design
- Industrial engineering
- Management
- Thermal engineering
- engineering materials
- Hydraulics
- Manufacturing Technology
- Engineering mechanics and strength of materials

### **Instrumentation Engineering**

- Analog Electronics.
- Optical Instrumentation.
- Analytical Instrumentation
- Electrical and Electronics Measurements.
- Biomedical Instrumentation.
- Basics of Circuits and Measurement Systems.

- Transducers
- Digital Electronics.
- Signals.
- Control Systems and Process Control.
- Systems and Communications.
- Industrial Instrumentation.
- Mechanical Measurement.

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