

# RRB JE 2024 Syllabus - Important Subjects & Topics

## Computer Based Test (CBT)- I

### 1. MATHEMATICS:

- Number Systems
- Pipes and Cisterns
- Calendar and Clock
- Age Calculations
- Square Root
- Elementary Statistics
- Trigonometry
- Algebra Geometry
- Profit and Loss
- Simple and Compound Interest
- Time and Work
- Ratio & Proportion
- LCM & HCF
- Percentage
- Mensuration
- Fractions
- Decimal
- BODMAS (Brackets, Orders, Division, Multiplication, Addition, and Subtraction)

### 2. GENERAL INTELLIGENCE AND REASONING:

- Analogies
- Alphabetical and Number Series
- Coding and Decoding
- Mathematical Operations
- Relationships
- Syllogism
- Jumbling
- Venn Diagram
- Data Interpretation and Sufficiency
- Conclusions and Decision Making
- Similarities and Differences
- Analytical reasoning
- Classification
- Directions
- Statement – Arguments and Assumptions etc.

### 3. GENERAL AWARENESS:

- Knowledge of Current Affairs
- Indian Geography

- Culture and History of India including the freedom struggle, Indian Polity, and constitution
- Indian Economy
- Environmental issues concerning India and World, Sports, General, Scientific, and technological developments. etc.

#### **4. GENERAL SCIENCE:**

- Physics
- Chemistry
- Life Sciences

#### **Computer Based Test (CBT)- II**

##### **1. GENERAL AWARENESS:**

- Knowledge of Current Affairs
- Indian Geography
- Indian Polity, and constitution
- Indian Economy
- Culture and history of India including the freedom struggle
- Environmental issues concerning India and the World
- Sports
- General Scientific and Technological Developments

##### **2. PHYSICS AND CHEMISTRY**

This segment of the **RRB JE Exam 2024** makes it essential for the aspirants aiming to crack the **RRB-JE recruitment** process to prepare up to 10th standard CBSE syllabus.

##### **3. BASICS OF COMPUTERS AND APPLICATIONS:**

- Architecture of Computers
- Input and Output Devices
- Storage Devices
- Computer Virus
- Networking
- Operating Systems such as Windows, Unix, and Linux
- MS Office
- Various data representation
- Internet and Email
- Websites and Web Browsers

##### **4. BASICS OF ENVIRONMENT AND POLLUTION CONTROL:**

- Basics of Environment
- Adverse effect of environmental pollution and control strategies
- Air, water, and noise pollution – their effect and control
- Acid Rain

- Waste Management, Global Warming
- Ozone Depletion

### 5. TECHNICAL ABILITIES:

It is important to keep an eye on the **RRB-JE 2024** detailed notification to stay updated with the exam date, latest RRB-JE syllabus.

The candidates must refer to the following table to understand regarding exam groups related to the RRB JE exam. The table will help you to find out the degrees/diplomas eligible for this competitive exam. One of the unique aspects of the RRB-JE exam is that the engineering streams are divided into different exam groups. The exam groups are as follows:

S.No	Three years Diploma in Engineering or Bachelor's Degree in Engineering/Technology	Exam Group
1	Mechanical Engineering Production Engineering Automobile Engineering Manufacturing Engineering Mechatronics Engineering Industrial Engineering Machining Engineering Tools and Machining Engineering Tools and Die-Making Engineering Combination of any sub-stream linked with the basic streams of the above disciplines	Mechanical and Allied Engineering
2	Electrical Engineering Combination of any sub-stream of basic streams of Electrical Engineering	Electrical and Allied Engineering
3	Electronics Engineering Instrumentation and Control Engineering Communication Engineering Computer Science and Engineering Computer Engineering	Electronics and Allied Engineering

Computer Science

Information Technology

Combination of any sub-stream of basic streams of the above disciplines

4 Civil Engineering

Civil and Allied Engineering

Combination of any sub-stream of basic streams of Civil Engineering

B.Sc in Civil Engineering (3 years duration)

S.No	Educational Qualifications	Exam Group
1	B.Sc. Chemistry and Physics	CMA
2	Degree or it's equivalent in Chemical Technology/Metallurgical Engineering	Chemical and Metallurgical Supervisor

## Technical Syllabus of RRB JE Exam (Engineering Stream-wise)

Now, let us dive into the most important topics associated with the **RRB-JE exam**.

### 1. Civil and Allied Engineering:

- Engineering Mechanics
- Building Construction
- Building materials
- Construction of substructure & superstructure
- Building finishes, maintenance, and drawing
- Surveying
- Concrete Technology
- Computer-Aided Design (CAD)
- Geo Technical Engineering
- Hydraulics
- Irrigation Engineering
- Mechanics of Structures
- Theory of Structures
- Design of Concrete & Steel Structures
- Transportation and Highway Engineering
- Environmental Engineering
- Advanced Construction Techniques and Equipment
- Estimating and Costing
- Contracts and Accounts

## **2. Mechanical and Allied Engineering:**

- Engineering Mechanics
- Material Science
- Strength of Materials
- Machining, Welding, Grinding, and Finishing Processes
- Metrology
- Fluid Mechanics and Hydraulic Machinery
- Industrial Management
- Thermal Engineering

## **3. Electrical and Allied Engineering:**

- Basic concepts
- Circuit Law: Kirchoff's Law and Simple Circuit Solution using network theorems
- Magnetic Circuit
- AC Fundamentals
- Measurement and measuring instruments
- Electrical Machines and Synchronous Machines
- Generation, Transmission, and Distribution (Switchgears and Protection)
- Estimation and costing
- Utilization of electrical energy
- Basic Electronics

## **4. Electronics and Allied Engineering:**

- Electronic Components and Materials
- Electronic Devices and Circuits
- Digital Electronics
- Linear Integrated Circuit
- Microprocessor and Microcontroller
- Communication Engineering
- Electronic Measurements
- Data communication and Network
- Basic Electrical Engineering
- Computer Programming

## **5. CMA Group (B.Sc Chemistry and Physics):**

- Measurements, Units, and Dimensions, Types of errors in measurements, and Significance of accuracy in measurement
- Light, Heat, and Sound
- Mechanics & Magnetism
- Electricity & Electro Magnetism
- Modern Physics
- Electronics and Communications
- Matter
- Chemical Reactions

- Acids, Bases, and Salts
- Atomic Structure
- Periodic Classification of Elements
- Chemical Bonding
- Carbon and its Compounds
- Environmental Chemistry
- Metallurgy

#### **6. Chemical and Metallurgical Supervisor :**

- Fuels
- Material Science & Nonferrous metals
- Engineering Polymers
- Thermodynamics
- Applied Chemistry & Important Industrial Chemicals
- Applied Physics
- Basic Computer Science - Hardware & Software
- Instrumentation & Measurement
- Energy, Environment & Ecology
- Basic Mechanical Engineering
- Mechanism
- Strength of Materials
- Fluid Mechanics & Manufacturing Processes
- Welding & Foundry
- Basic Electrical Engineering
- Semiconductors
- Basic Civil Engineering: Building Materials & Building Construction