

## Syllabus for all post to be advertised through Open Market

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### **A. Common Syllabus for Supervisors & Maintainers**

#### **1. General Knowledge:**

Current Affairs, Economy, Culture, History, Geography and Natural Resources of India.

#### **2. General Science:**

Types of motion, Forces and laws of motion, Work energy and power, Gravitation, Archimedes principle, Sound, Reflection and refraction of light, Basic electricity and magnetism; Structure of atoms, Simple chemical reactions and equations, Acids bases and salts, Metals and non-metals, Carbon and compounds, Periodic table; Live processes, Control and coordination in animals and plants, Reproduction, Heredity and evolution, common illnesses and prevention, Sources of energy, Environment.

#### **3. General Engineering:**

Basics of Mechanical, Electrical, and Electronics Engineering

#### **4. General Trade Knowledge:**

Basics of Fitter, Electrician and Electronics Mechanic Trade.

#### **5. Numerical Ability:**

Rational numbers, Ratio and Proportion, Factorization of polynomials, Linear Equation of one/ two variables, Lines, Angles, Triangles, Quadrilateral and circles, Surface area and volume of common objects, Basics of probability and statistics, Basics trigonometry and Applications.

#### **6. Logical Reasoning:**

Data Interpretation, Venn Diagram, Inductive Logic, Puzzles, Coding and decoding, Number Series, Blood Relations, Arrangements.

#### **7. English:**

Questions based on comprehension – passage in English, basic English grammar.

#### **8. Computer Awareness:**

Computer Software & Hardware, Latest trends in IT, Computer Networks, Operating System, E-Mail and Internet, MS-Office.

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### **B. Technical Syllabus for Supervisors (JE)**

#### **1. Mechanical Engineering:**

Theory of Machines & Machine Design, Engineering Mechanics and Strength of Materials, Thermal Engineering, Fluid Mechanics & Machinery, Production Engineering

#### **2. Electronics Engineering:**

Materials and Components, Physical Electronics, Electron Devices and ICs, Signals and Systems, Network Theory, Electromagnetic Theory, Electronic Measurements and Electronic Instrumentation, Analog Electronic Circuits, Digital Electronic Circuits, Control Systems, Communication Systems, Microwave Engineering, Computer Engineering.

#### **3. Electrical Engineering:**

General Engineering, Basic Electrical Engineering, Electrical Engineering, Analog, Electronics, Electrical and Electronic Engineering Materials, Electrical Machines, Electrical Power, Power Electronics, Digital Electronics Microprocessors, Utilization of Electrical Energy, Control of Electrical Machine, Installation and Machine of Electrical Machine, Supply from the poles to the distribution Board, Domestic Installation

#### **4. Civil Engineering:**

Building Materials, Geo-technical engineering, foundation design, Solid Mechanics, Design of Steel Structures, Concrete Technology, Design of R.P.C and PSC structures, Construction Practices Project, Planning & Management, Fluid Mechanics, Hydrology (Open Channel Flow, Pipe Flow, Hydraulic Machines & Hydro Power), Water Resource Engineering, Surveying, Solid Waste Management, Environmental Engineering, Transportation Engineering, Railway Engineering.

### **C. Technical Syllabus for Maintainers**

#### **1. Fitter Trade:**

Layout & Marking and Marking Tools, Hand Tools, Measurement and Measuring Tools, Metals, Cutting Tools & Operations, Forging, Heat Treatment, Sheet Metal Work, Soldering, Riveting, Welding, Lathe Construction, Lathe Accessories, Laths Tools, Screw Threads, Drilling and Reaming, Grinding, Preventative Maintenance, Safety.

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### **2. Electrician Trade:**

Various Safety Measures, Identification of Trade, Fundamental of Electricity, Solders, Flux and soldering technique, Ohm's Law and Kirchoff's law, Concepts & types of circuits, Chemical effects of electrical current, Rechargeable dry cells, Lead acid cells, Magnetism, Resistance, working principal and circuits of common domestic equipment and appliances, D. C. Machines, Armature, D. C. Motors, Insulating materials, Elementary first Aid

### **3. Electronics Trade:**

Hand Tools and their uses, Basics of AC Electrical Cables, Cell and Batteries, Passive Components, Transformers, AC and DC Measurements, Soldering & De-soldering and switches, rectifiers, IC Regulators, Computer Hardware, OS, MS Office networking, Transistor, Amplifier, Wave shaping circuits, Power Electronic Components, MOSFET & IGBT, Opto Electronics, Basic SMD, Basic Gates, Combinational Circuits, Flip Flops, Electronic circuit simulation software, Counter & Shift Registers, Op-Amp & Timer 555 Applications, Digital Storage Oscilloscope, SMD Soldering and De-soldering, PCB Rework, Protection devices, Electrical control circuits, Electronic Cables & Connectors, Communication electronics, Microcontroller (8051), Sensor, Transducers and Applications, Analog IC Applications, Digital IC Applications, Fibre optic communication, Digital panel Meter, SMPS, UPS, Solar Power, Cell phones, LED Lights, LCD and LED TV.

### **D. Common Syllabus for Store, HR & FINANCE**

#### **Paper- I**

##### **1. General Knowledge:**

Geography, Indian History, Politics, Arts, Culture.

##### **2. General Science**

Chemistry, Defence, Physics, Agriculture, Space, Environment, Agriculture, Biology.

##### **3. Current Affairs**

Sports, Economy, Awards, International Affairs, Banking, Current Events.

##### **4. English**

Antonyms, One word Substitutes, Reading Comprehension, Grammar, Error Detection

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Direct & Indirect Speech, Vocabulary, Parts of Speech, Synonyms, Fill in the blanks, Para Completion, Error Correction, Passages, Active voice & Passive voice, Usage of Articles Idioms & Phrases, Sentence Arrangements.

### **5. Logical Ability**

Verbal Classification, Analogies, Matching Definitions, Number Series, Verbal Reasoning.

Logical Games, Statement and Assumption, Odd One Out, Syllogisms, The course of Action Venn Diagrams, Missing Numbers Series, English Alphabet Problems, Dice and Cubes Statement and Conclusion, Logical Deduction, Ranking, Blood Relations Direction, Essential Part, Making Judgments, Logical Problems, Analysing Arguments, Cause and Effect, Artificial Language, Paper Cutting Paper Folding, Theme Detection, Statement and Argument, Pair Formation, Test Calendars & Clocks, Matrix & Analogies.

### **6. Quantitative Aptitude**

Simplifications, Percentages, Time & Distance, Probability, Boats & Streams, Allegations & Mixtures, Mensuration, Ratios & Proportions, Permutations & Combinations, Partnerships. Number System, Time & Work, Problems on Ages, LCM & HCF, Geometry, Compound Interest, Discounts, Simple Interest, Averages, Profit & Loss.

### **7. Computer Awareness**

Basic Operating System, E-Mail and Internet, MS-Office.

## **E. Technical Syllabus of HR & FINANCE**

### **Paper- II**

#### **1. Assistant Account**

Corporate Accounting, Income Tax, Law & Practice, Corporate Laws, Indirect Tax Laws, Cost Accounting, Computer Application in Business, Management Principle and applications, Auditing, Project Management, E-Filing of returns, Banking and Insurance e.t.c.

## Details of Post, Qualification and Question paper Pattern

Sr. No	Name of Post	Essential Qualification	Question Paper Pattern	Total question
1	Supervisor (Operations)	Bachelor's degree or Diploma in any Engineering or B.Sc Hons in (Physics/Chemistry/Maths) or B.Sc(Physics/Chemistry/Maths) from a Govt Recognised University /Institute	General Knowledge – 20 General Science– 20 Numerical Ability – 40 Logical Reasoning – 20 English – 10 Computer Awareness– 10	120
2	Supervisor (Signalling & Telecom/Rolling stock)	Three years Engineering diploma in Electrical/Electronics/Mechanical Discipline from a Govt Recognised University/Institute	<b>Paper – I</b> General Knowledge – 05 General Science – 05 General Engineering – 30 Numerical Ability – 10 Logical Reasoning – 10 English – 10 Computer Awareness – 10 <b>Paper – II</b> Mechanical Engineering – 40 or Electrical Engineering – 40 or Electronics Engineering – 40	120
3	Supervisor (Traction/E &M)	Three years Engineering diploma in Electrical/Electronics/Mechanical Discipline from a Govt Recognised University/Institute	<b>Paper – I</b> General Knowledge – 05 General Science – 05 General Engineering – 30 Numerical Ability – 10 Logical Reasoning – 10 English – 10 Computer Awareness – 10 <b>Paper – II</b> Mechanical Engineering – 40 or Electrical Engineering – 40 or Electronics Engineering – 40	120
4	Supervisor (Track)	Three years Engineering diploma in Civil Discipline from a Govt Recognised University/Institute	<b>Paper – I</b> General Knowledge – 10 General Science – 10 Numerical Ability – 10 Logical Reasoning – 10 English – 10 Computer Awareness – 10 <b>Paper – II</b> Civil Engineering – 60	120
5	Supervisor (Work)	Three years Engineering diploma in Civil Discipline from a Govt Recognised University/Institute	<b>Paper – I</b> General Knowledge – 10 General Science – 10 Numerical Ability – 10 Logical Reasoning – 10 English – 10 Computer Awareness – 10 <b>Paper – II</b> Civil Engineering – 60	120

## Details of Post, Qualification and Question paper Pattern

Sr. No	Name of Post	Essential Qualification	Question Paper Pattern	Total question
6	Maintainer (Signalling & Telecom/ Rolling Stock)	Matriculation plus two years ITI (NCVT/SCVT) in any of the following specific trade: Electrician, Electronics, Mechanics, Fitter, Ref & AC Mechanic from a Govt. Recognised Institute	<b>Paper – I</b> General Knowledge – 10 General Science – 10 General Trade Knowledge – 20 Numerical Ability – 10 Logical Reasoning – 10 English – 10 Computer Awareness – 10 <b>Paper – II</b> Fitter Trade – 40 or Electrician Trade – 40 or Electronics Trade – 40	120
7	Maintainer (Traction/ E&M)	Matriculation plus two years ITI (NCVT/SCVT) in any of the following specific trade: Electrician, Electronics, Mechanics, Fitter, Ref & AC Mechanic from a Govt. Recognised Institute	<b>Paper – I</b> General Knowledge – 10 General Science – 10 General Trade Knowledge – 20 Numerical Ability – 10 Logical Reasoning – 10 English – 10 Computer Awareness – 10 <b>Paper – II</b> Fitter Trade – 40 or Electrician Trade – 40 or Electronics Trade – 40	120
8	Maintainer (Track)	Matriculation plus two years ITI (NCVT/SCVT) in Fitter from a Govt. Recognised Institute	<b>Paper – I</b> General Knowledge – 10 General Science – 10 Numerical Ability – 10 Logical Reasoning – 10 English – 10 Computer Awareness – 10 <b>Paper – II</b> Fitter Trade – 60	120
9	Maintainer (Work)	Matriculation plus two years ITI (NCVT/SCVT) in Fitter from a Govt. Recognised Institute	<b>Paper – I</b> General Knowledge – 10 General Science – 10 Numerical Ability – 10 Logical Reasoning – 10 English – 10 Computer Awareness – 10 <b>Paper – II</b> Fitter Trade – 60	120
10.	Store (Store Assistant)	Bachelor Degree in any Engineering discipline a Govt. Recognised University /Institute	<b>Paper – I</b> General Knowledge – 10 General Aptitude – 10 Numerical Ability – 10 Logical Reasoning – 10 English – 10 Computer Awareness – 10 <b>Paper – II</b> General Engineering – 60	120

## Details of Post, Qualification and Question paper Pattern

Sr. No	Name of Post	Essential Qualification	Question Paper Pattern	Total question
11.	Human Resources (Assistant HR)	Graduate in any discipline from Govt. Recognised University /Institute	<b>Paper – I</b> General Knowledge – 20 General Aptitude – 20 Numerical Ability – 25 Logical Reasoning – 25 English – 10 Computer Awareness –20	120
12.	Finance (Assistant Finance)	B. Com/ M. Com from a Govt Recognised University /Institute/ CA(Intermediate) from ICAI /ICWA (Inter)/ from ICWAI.	<b>Paper – I</b> General Knowledge – 10 General Aptitude – 10 Numerical Ability – 10 Logical Reasoning – 10 English – 10 Computer Awareness – 10 <b>Paper – II</b> Finance Technical – 60	120