

## **Syllabus for Computer Based Test**

The paper will consist of 100 questions in 2 parts.

**Part 1:** Knowledge of the subject/discipline

**Part-2:** General Aptitude test (viz. General Knowledge, Logical Reasoning, Current Affairs, Visual Reasoning, English Comprehensions, Mathematics)

The Duration for the test shall be 90 mins.

### **Syllabus for Part 1 of CBT:**

<u>Post(s): S7 Grade</u>	<u>Syllabus</u>	<u>Total No. of Questions</u>
<b>Junior Engineer (Mechanical)</b>	Engineering Mechanics	75
	Strength of Materials	
	Hydraulics and fluid Mechanics	
	Hydraulic Machines	
	Thermodynamics	
	Steam nozzles and Turbines	
	Heat transfer, Refrigeration and Air conditioning	
	Theory of Machines	
	Workshop Technology	
	Production Engineering	
	Engineering Metrology & measurements	
	Machine Design	
	Engineering Materials	
<b>Junior Engineer (Chemical)</b>	Fluid Mechanics	75
	Stoichiometry	
	Mechanical operations	
	Petroleum Refinery Engineering	
	Fertilizer Technology	
	Heat Transfer	
	Mass Transfer	
	Chemical Engineering Thermodynamics	
	Fuels and combustion	
	Process control and instrumentation	
	Furnace technology	
	Unit operations	

**Syllabus for Part 2 of CBT:**

General Aptitude Test (viz. General Knowledge, Logical Reasoning, Current Affairs, Visual Reasoning, English Comprehensions, Mathematics)

25

**Syllabus for Part 1 of CBT:**

<b><u>Post(s): S-5 Grade</u></b>	<b><u>Syllabus</u></b>	<b><u>Total No. of Questions</u></b>
<b>Foreman (Polymer Technology)</b>	Introduction to polymer sciences	75
	Polymer chemistry	
	Elements of Chemical Engineering	
	Polymer additives and compounding	
	Polymer in environment, Rheology and processing of polymers	
	Introduction to fibre science and rubber technology	
	Plastic Material Technology	
	Polymer blends and composites	
	Polymer testing and specifications	
	Mould & die designing	
	Engineering and specialty polymers	
	Paints-coatings and adhesives	
<b>Jr. Superintendent (HR)</b>	General Management & School of Management thoughts	75
	Broad Functions of Personnel Management/ HRM (Function; Org. Structure; Manpower Planning; Recruitment & Selection; Wage & Salary Administration; Grievance Handling)	
	Broad Functions of HRD (PMS; Training & Development; Workers Education Programmes; Training Effectiveness)	
	Organizational Behavior & Organizational Development	
	Industrial Relations & Trade Unions (Participative Management)	
	Disciplinary Proceedings	
	Information Technology (IT) and use of applications in HR (ERP; HR Analytics etc.)	
	Business Communication; Record Management; Data analysis & Interpretation	
<b>Junior Chemist</b>	Polymer Chemistry	75
	Inorganic Chemistry	
	Physical Chemistry	
	Organic Chemistry	
	Environmental Chemistry	
	Analytical Chemistry	
	Principles of Spectroscopy	
	Principle of Chromatography	

Foreman (Chemical)	Fluid mechanics	75
	Stoichiometry	
	Mechanical operations	
	Petroleum refinery engineering	
	Fertilizer technology	
	Heat transfer	
	Mass transfer	
	Chemical engineering thermodynamics	
	Fuels and combustion	
	Process control and instrumentation	
	Furnace technology	
	Unit operations	
Foreman (Mechanical)	Engineering Mechanics	75
	Strength of materials	
	Hydraulics and fluid mechanics	
	Hydraulic machines	
	Thermodynamics	
	Steam nozzles and turbines	
	Heat transfer, refrigeration and air conditioning	
	Theory of machines	
	Workshop technology	
	Production engineering	
	Engineering metrology & measurements	
	Machine design	
	Engineering materials	
Foreman (Electrical)	Electrical circuits and fields	75
	Electrical machines	
	Power systems	
	Control systems	
	Electrical and Electronic measurements	
	Power electronics and drives	
Foreman (Instrumentation)	Basic of circuits and measurement systems	75
	Metrology, mechanical measurement and industrial measurement	
	Analog circuits	
	Digital circuits	
	Signals and systems	
	Control systems	
	Communications	
	Electrical and electronics measurements	
	Analytical, optical and biomedical instruments	

<b>Foreman (Telecom &amp; Telemetry)</b>	Network theory	75
	Electromagnetic theory	
	Control systems	
	Digital electronics	
	Electron tubes	
	Semiconductors	
	Transistors	
	Instruments and measurements	
	Engineering materials	
	Computer and microprocessor	
	Amplifiers and oscillators	
	Linear and non-linear analog circuits	
<b>Jr. Accountant (F&amp;A)</b>	Accounting concepts and conventions	75
	Capital and Revenue Expenditure/receipts	
	Depreciation	
	Final accounts of proprietor	
	Final accounts of company	
	Partnership accounts	
	Bank Reconciliation Statement	
	Income Tax-basic concepts	
	Income Tax-residential status	
	Income Tax-exempted income	
	Business laws-contract act	
	Business laws-sale of goods act	
	Company law	
	Cost Accounting-Concepts	
	Cost Accounting-Marginal costing	
	Cost Accounting- Budgetary control	
	Financial management-basic concepts	
	Financial management-Ratio analysis	
	Financial management-Cash Flow Statement	
	Budgeting & Financial Concurrence,	
	Financial Ratio analysis,	
	Accounting, analysis of Financial Statements,	
	o Indian Accounting Standards (Ind-AS) particularly related to:	
	☐ Presentation of financial statements	
	☐ Segment Reporting	
	☐ Inventory Valuation	
	☐ Contingent Liability, Contingent assets	
	☐ Property, Plant and equipment's	
	o Overview of Companies Act 2013 (Accounts & Audit, Appointment of auditors, Schedule – II (Depreciation) & Schedule – III (Financial Statements), CSR Provision	

	☐ Indirect & Direct taxation,	
	☐ Project accounting and funding,	
	☐ Stores and Procurement procedure,	
	☐ Payment of Bills,	
	☐ Payroll accounting	
	☐ Cost Audit & Cost Management	
	☐ Computer and Financial Packages Proficiency	
<b><u>Syllabus for Part 2 of CBT:</u></b>		
General Aptitude Test (viz. General Knowledge, Logical Reasoning, Current Affairs, Visual Reasoning, English Comprehensions, Mathematics)		25

### **Syllabus for Part 1 of CBT:**

<b><u>Post(s): S-3 Grade</u></b>	<b><u>Syllabus</u></b>	<b><u>Total No. of Questions</u></b>
<b>Assistant (Stores &amp; Purchase)</b>	Introduction to Warehousing – Basic Warehousing Decisions – Warehouse Operations – Types of Warehouses – Functions – Centralized & Decentralized – Storage Systems – Warehousing Cost Analysis – Warehouse Layout – Characteristics of Ideal Warehouse	50
	Inventory: Basic Concepts – Role in Supply Chain – Role in Competitive Strategy – Independent Demand Systems – Dependent Demand Systems – Functions – Types _ Cost – Need for Inventory – Just in Time	
	Inventory Control – ABC Inventory Control – Multi-Echelon Inventory Systems – Distribution Requirement Planning – Bull Whip Effect – Using WMS for Managing Warehousing Operations	
	Principles and Performance Measures Of Material Handling Systems – Fundamentals of Material Handling – Various Types of Material Handling Equipments – Types of Conveyors – Refrigerated Warehouses- Cold Chain- Agri SCM	

	<p>Modern Warehousing – Automated Storage &amp; Retrieval Systems &amp; their Operations – Bar</p> <p>Coding Technology &amp; Applications in Logistics Industry – RFID Technology &amp; Applications</p> <p>– Advantages of RFID</p>	
	<p>Basic knowledge of tendering/ procurement including Evaluation of Bids</p>	
<b>Marketing Assistant</b>	MARKETING CONCEPTS : Production; Marketing ; Sales; Customer needs; wants etc.	50
	MARKETING PLANNING: Gathering and classifying data about the market the organization is currently in. Examining the market dynamics, patterns, customers, and the current sales volume for the industry as a whole; etc.	
	Principles of management	
	MARKET SEGMENTATION : dividing a broad consumer or business market, normally consisting of existing and potential customers into sub-groups of consumers ; Criteria for segments, Basis for Segmentation; Positioning; Targeting etc.	
	ADVERTISING MANAGEMENT : employing various media to sell a product or service through print media; broadcast media; outdoors etc.	
	Consumer behavior: consumer purchase decision; consumer decision styles; customer relation management	
	BUSINESS LAWS : concept of principal and agent; carriage by land and sea; merchant shipping; LC/Guarantee; marine, fire, life, and accident insurance; bills of exchange, negotiable instruments, contracts and partnership, sales of consumer goods.	
	RESEARCH METHODOLOGY :Surveys, focus groups, interviews, field trials etc.	
	Basic accountancy & financial management, basic economics & operation research	
<b>Accounts Assistant</b>	Accounting concepts and conventions	50
	Capital and Revenue Expenditure/receipts	
	Depreciation	
	Final accounts of proprietor	
	Final accounts of company	
	Partnership accounts	
	Bank Reconciliation Statement	

	Income Tax-basic concepts	
	Income Tax-residential status	
	Income Tax-exempted income	
	Business laws-contract act	
	Business laws-sale of goods act	
	Company law	
	Cost Accounting-Concepts	
	Cost Accounting-Marginal costing	
	Cost Accounting- Budgetary control	
	Financial management-basic concepts	
	Financial management-Ratio analysis	
	Financial management-Cash Flow Statement	
	Budgeting & Financial Concurrence,	
	Financial Ratio analysis,	
	Accounting, analysis of Financial Statements,	
	o Indian Accounting Standards (Ind-AS) particularly related to :	
	§ Presentation of financial statements	
	§ Segment Reporting	
	§ Inventory Valuation	
	§ Contingent Liability, Contingent assets	
	§ Property, Plant and equipment's	
	o Overview of Companies Act 2013 (Accounts & Audit, Appointment of auditors, Schedule – II (Depreciation) & Schedule – III (Financial Statements), CSR Provision	
	· Indirect & Direct taxation,	
	· Project accounting and funding,	
	· Stores and Procurement procedure,	
	· Payment of Bills,	
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	· Cost Audit & Cost Management	
	· Computer and Financial Packages Proficiency	
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## **Syllabus for Computer Proficiency Test**

**[Applicable for Non- Technical disciplines viz; Assistant (Stores & Purchase)/ Marketing Assistant/ Accounts Assistant in S-3 grade; Jr. Accountant (F&A) & Jr. Superintendent (HR) in S-5 grade only]**

Working knowledge of MS Office viz; Word, Excel and PowerPoint.