

DETAILED SYLLABUS OF PART A

Particulars	Syllabus - General (Part A)
General Knowledge	<ul style="list-style-type: none"> • Facts about India and other countries: Basic facts / Geography / Tourism / Transport systems / Personalities / Places / History / Constitution / Economy / Writers / Literatures / Indian States & Union Territories / International Organizations. • General Science : Branches of studies / Scientific instruments and appliances / Physics / Chemistry / Biology • Sports & Games • Important Events/ Movements / Leaders / Places / Years • Writers – Authors – Biography - Autobiography • Abbreviations
General English	<ul style="list-style-type: none"> • Spotting Errors / Vocabulary usage / Sentence Completion / Synonyms / Antonyms / Reconstruction of sentences / One word substitution / Idioms & Phrases / Grammar / Correct usage of Articles / Prepositions / Singular and Plural
Reasoning	<ul style="list-style-type: none"> • Analogy / Classification / Series Completion / Coding-Decoding / Blood Relation / Direction Sense Test / Alphabet Test / Number and Ranking / Puzzle Test / Odd Man out / General Intelligence / Numerical ability & knowledge in Microsoft excel.
Quantitative Aptitude	<ul style="list-style-type: none"> • Number system / Fraction and Decimals / Simplification / Volume and surface areas / Square roots and Cube roots / Problems based on numbers, Speed, Time and Distance, Simple Interest / Compound Interest / Boats and Streams / Problems on Trains / Percentage - Interest / HCF and LCM / Average / Ratio and Proportion / Time and Work / Problems based on ages / Profit, Loss and Discount, Statistics / Permutations & Combinations / Probability.

DETAILED SYLLABUS OF PART B

Name of Posts	Syllabus - Discipline related (Part B)
For all posts	<ul style="list-style-type: none"> • Organisational Skills- Role of a supervisor – Manpower management & resource planning – Work force motivation – Grievance handling at shop floor level – Code of Conduct & Discipline - Importance of time keeping & productivity. • Basic knowledge of computer applications. • Supervisory Duties:- <ul style="list-style-type: none"> ➤ Principles of Organization – Principles of organization; authority; responsibility; accountability; delegation; span of control; centralization; unity of command. ➤ Motivation – Meaning of motivation; understanding human behavior; factors of motivation; levels of motivation; methods of motivating people; brief on motivation theories. ➤ Communication – Purpose of communication; communication process; methods of communication written, oral, audio – visual; report writing; channels of communication namely formal and informal; art of giving instructions; barriers of communication; guidelines for effective communication. • HSE & IMS- Awareness on Industrial safety & PPEs – Importance of housekeeping – Knowledge of IMS – Quality Standards – 5 S – management of industrial hazardous wastes.

In addition to the above, following are the topics included for various posts:-

Sl No.	Name of Posts	Syllabus - Discipline related (Part B)
1.	Assistant Engineer (Electrical)	Theoretical and application knowledge on <ul style="list-style-type: none"> • Fundamentals of AC Systems • Basic Electrical and Electronics Concepts • Fundamentals of Analogue devices • Fundamentals of Digital circuits • Electrical Measurement and measuring instruments • Electrical Machines – DC Machines, AC Induction Machines, Synchronous Machines • Power Generation, Transmission and Distribution • Quality standards (ISO, IMS, etc) • Industrial Safety
2.	Assistant Engineer (Electronics)	Theoretical and application knowledge on <ul style="list-style-type: none"> • Basic Electronic Measuring Instruments & Transducers. • Fundamentals of various communication & navigational systems • Working principle of starters, variable frequency drives at application level • Knowledge of digital control systems and automated systems • Analysis of line diagrams and drawings • Trouble shooting of PCB • Basic knowledge of OFC, communication electronics,



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3.	Assistant Engineer (Instrumentation)	<p style="text-align: center;">Amplifiers, Optoelectronics, sensors, microwave Testing & calibration techniques</p> <p>Theoretical and application knowledge on</p> <ul style="list-style-type: none"> • Basic Circuits and Measurement Systems • Transducers • Signals • Mechanical Measurement • Analytical Instrumentation • Industrial Instrumentation • Analog and Digital Electronics • Electrical and Electronic Measurements • Control Systems and Process Control
4.	Assistant Engineer (Welding)	<p>Theoretical and application knowledge on</p> <ul style="list-style-type: none"> • Welding symbols and interpretation of weld drawings. • Welding processes- Shielded Metal Arc welding, Gas metal Arc welding, Gas tungsten arc welding, plasma arc welding, One sided welding, Submerged arc welding, flux cored arc welding, Electro slag welding and mechanised welding. • Weld sequences. • WPS, PQR and WPQ. • Testing and inspection of Welds-Tensile properties, Bend Tests, NDT • Weld defects-Undercuts, cracks, porosity, slag inclusion, lack of fusion, lack of penetration • Electrode nomenclatures. • Distortion control methods. • Basic knowledge of IMS. • Economics of welding. • Safety requirements related to welding. • Aluminium welding (in the lights of new ships made of Aluminium super structure)
5.	Assistant Engineer (Structural)	<p>Theoretical and application knowledge on</p> <ul style="list-style-type: none"> • Measurement tools (Vernier, dial gauges etc.) • Marking tools • Cutting processes/ Cutting gases/ Cutting tools • Press/Forming/Lofting • Types of joints/ joint preparation/ edge preparation and fitting processes • Welding processes and related works • Heat Treatment processes • Material Handling equipments • Tools nomenclature • Drawings and quality standards • Metallurgy (Materials related to Ship Building) • Quality standards (ISO, IMS, etc) • Industrial safety and safety at work



SI No.	Name of Posts	Syllabus - Discipline related (Part B)
6.	Assistant Engineer (Pipe)	<p>Theoretical and application knowledge on Piping Practices</p> <ul style="list-style-type: none"> • Piping materials and specifications. • Piping standards & classification. • Pipe joints and fittings. • Fabrication of piping. • Welding methods of pipe and fittings. • Surface preparation of pipes. • Pipe supports. • Installation of piping system. • Measurement tools. • Testing of piping systems.
7.	Assistant Engineer (Engineering)	<p>Theoretical and application knowledge on</p> <ul style="list-style-type: none"> • Zone outfitting • Shaft alignment • Choke fastening. • Types of pumps and valves. • Welding Defects. • Quality standards (ISO etc). • NDT methods used in shipyards. • Coupling bolts and its uses. • CAD/CAM applications in shipyards. • Procedure for tail shaft survey.
8.	Assistant Engineer (Electrical Cranes)	<p>Theoretical and application knowledge on</p> <ul style="list-style-type: none"> • Fundamentals of AC Systems • Basic Electrical and Electronics Concepts • Fundamentals of Analogue devices • Fundamentals of Digital circuits • Electrical Measurement and measuring instruments • Electrical Machines – DC Machines, AC Induction Machines, Synchronous Machines • Power Generation, Transmission and Distribution • Quality standards (ISO, IMS, etc) • Industrial Safety
9.	Assistant Engineer (Painting)	<p>Theoretical and application knowledge on</p> <ul style="list-style-type: none"> • Surface preparation for painting – methods – tools used – standards of preparation – effect of climate – application of paint, methods – on Ships and other marine vessels • Marine Paints and Systems • Quality control and Inspection / tests for Surface preparation and Painting • Corrosion and Cathodic protection • PSPC regulations • Practical maths – Estimation of paint and areas • Marine coating defects • HSE policy – Marine environment and Paints / surface preparation • Equipment used in blasting and painting



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		<ul style="list-style-type: none"> • PPE for blasting and painting • Disposal of Hazardous wastes • First aid in painting environment
10.	Accountant	<p><u>Theoretical and application knowledge on</u></p> <ul style="list-style-type: none"> • Financial Accounting • Trading & Profit & Loss Accounts and Balance Sheet • Bank Reconciliation Statement • Depreciation, Reserves and Reserve Funds, Ratio Analysis • Capital and Revenues, Revenue Accounts, Receipts & payments Accounts, Income & Expenditure Accounts • Company Accounts • Financial Statements and Reporting • Cost Accounting, Cost Records and Cost Audit • Direct and Indirect Taxes- Income Tax Act, Central Sales Tax Act, Service Tax Act, Central Excise Act • Contracts Act, Payment of Gratuity Act, Payment of Bonus Act, ESI Act, EPF Act. • Companies Act, Factories Act, ID Act • FEMA, SCRA and SEBI Act. • Company Audit, preparation of Auditors Report and other requirements. • Familiarity with Word. • <u>Familiarity with Excel:-</u> <ul style="list-style-type: none"> ➤ PivotTables and Charts ➤ Lookups, Ranges and Dates ➤ Conditional Formatting ➤ Managing Worksheets ➤ Built formulas and Understanding Formulas ➤ Changing Views ➤ AutoFill and Custom Lists ➤ Conditional Logic, Tables & Data Tools ➤ Referencing Formulas ➤ Ranges and Dates ➤ Introduction & Formatting Charts ➤ Adding Graphics to Spreadsheets ➤ Outline, Sort, Filter, and Subtotal ➤ Protecting Data ➤ Printing ➤ Saving a Workbook
11.	Assistant Administrative Officer	<ul style="list-style-type: none"> • Basic Knowledge about Personnel Management and industrial Relations. • Work culture • Employee coordination and Manpower Management • Resource Planning • Disciplinary proceedings / Grievance handling • Time Management • Office Management and procedures



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		<ul style="list-style-type: none"> • Familiarity with word • <u>Familiarity with Excel:-</u> <ul style="list-style-type: none"> ➤ Entering, Editing and Formatting Data ➤ Formatting Numbers ➤ Managing Worksheets ➤ Modifying Rows and Columns ➤ Understanding Formulas ➤ Changing Views ➤ Autofill and Custom Lists ➤ Conditional Formatting ➤ Tables ➤ Data Tools ➤ Referencing Formulas ➤ Ranges and Dates ➤ Lookups ➤ Conditional Logic ➤ Text Formulas ➤ Introduction to Charts ➤ Formatting Charts ➤ Adding Graphics to Spreadsheets ➤ Outline, Sort, Filter, and Subtotal ➤ PivotTables ➤ Protecting Data ➤ Printing ➤ Saving a Workbook
12.	Assistant Engineer (Information Technology)	<p><u>Theoretical and application knowledge on</u></p> <ul style="list-style-type: none"> • System Administration and management • Operating systems – UNIX, LINUX and Windows • Network administration and Management • Database Management systems • ERP systems management • Website management • Management of PCs and peripheral devices • Various types of IT systems management • Programming languages including Scripting languages • Information security practices and Cyber laws