MUMBAI PORT AUTHORITY

Syllabus for Technical questions

I. Post: Asstt. Materials Manager Gr. I (120 marks – 60 questions)

1. Mechanical and Electrical instruments/ equipments.
2. Mechanical and Electrical measurements/units.
3. Definitions/Terminology in Materials Management.
4. Inventory Management/Store Keeping.
5. Various techniques of Inventory Control
6. Preservation of materials and materials management.
7. Stores procedures.
8. Knowledge of tender procedures.
9. Administration of contracts.
10. Procurement of Goods/services through GeM (Govt E Marketplace) Portal

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II. Post: Asstt. Manager (Sr.) VTMS (120 marks – 60 questions)

1. Fundamentals of Electronics And Tele Communication Engineering

(i) Diodes and Circuits
(ii) Diode Applications
(iii) Bipolar Junction Transistor (BJT)
(iv) Field Effect Transistors
(v) Transducer
(vi) Digital Electronics
(vii) Communication Systems
(viii) OP-AMP

2. Electronics Devices and Circuits
(i) Semiconductor Diode Characteristics
(ii) Rectifiers & Filters
(iii) Multistage Amplifiers
(iv) Sampling Gates
(v) Voltage Regulators
(vi) Boolean Algebra
(vii) Combinational Logic
(viii) Sequential Logic
(ix) ADC and DAC

3. Communication Engineering
(i) Electromagnetic Waves and Propagation
(ii) Amplitude Modulation
(iii) Angle and Pulse Modulation
(iv) Crystal oscillators

(v)   Networks, Antenna and Propagation

4.   <u>Radar System Engineering</u>
(i)   Radar system Block Diagram
(ii)   Radar Frequencies and Band Designations
(iii)   The radar range equation
(iv)   The theory of target detection
(v)   Targets and interference
(vi)   CW and FM Radar
(vii)   MTI Radar
(viii)   Tracking Radar
(ix)   Pulse compression

5.   <u>Microwave Engineering, Networks and Applications</u>
(i)   Microwave network analysis
(ii)   Power dividers and Directional couplers
(iii)   Microwave filters
(iv)   Ferromagnetic components
(v)   Microstrip Antennas
(vi)   Microwave systems
(vii)   Transmission lines
(viii)   Waveguides
(ix)   Microwave passive circuits
(x)   Impedance matching and tuning
(xi)   Microwave solid-state devices
(xii)   Microwave measurements
(xiii)   Microwave tubes

6.   <u>Advanced communication system</u>
(i)   Navigational Aids
(ii)   Digital Communication
(iii)   Optical Communication
(iv)   Satellite Communication
(v)   Mobile Communication
(v)   Internet Technology

III. Post: Dy. Director (120 marks – 60 questions)

Subject/ Topic	Content	Marks
International Trade - with focus on Ports & Shipping	Prominent shipping routes, basic function of Ports, Major Ports of World and in India.	10 questions (MCQs) of 2 marks each - Total 20 Marks
Basic Statistics	Probability Theory, Measures of Central Tendency (Mean , Median , Mode etc.) & Forecasting techniques	10 questions (MCQs) of 2 marks each - Total 20 Marks
MS EXCEL - Basic and Advanced Excel	Creating Excel files , Formulas , Functions, Sort, Filter, Conditional formatting, Charts, Pivot Tables , Power Query & Macros.	30 questions (MCQs) of 2 marks each - Total 60 Marks
Windows Explorer , MS Word and Power Point	Creating folders, copying files, Creating Word documents and Power point presentations.	10 questions (MCQs) of 2 marks each - Total 20 Marks

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IV. Post: Dy. Secretary (120 marks – 60 questions)

A.   Acts/Laws

1.   Major Port Authority Act 2021
2.   Right to Information Act, 2005
3.   Industrial Disputes Act, 1947
4.   Minimum Wages Act, 1948
5.   Factories Act, 1948
6.   Employees Compensation Act, 1923
7.   Contract Labour (Regulation & Abolition) Act, 1970
8.   The Sexual Harassment of women at work place (Prevention, Prohibition and Redressal) Act, 2013.

B.   Other topics related to Personnel Management

1.   Principles of Manpower planning
2.   Recruitment process and procedure
3.   Time and motion study
4.   Performance Appraisal
5.   Industrial Relation policy
6.   Motivational policies
7.   Misconducts and disciplinary action process.

Syllabus for IT questions: (Class I post – 10 marks, Class II post 15 marks)

(i) Use of Computers Technology and IoT in office management

(ii) Office automation applications such as MS office, Word, Excel Spreadsheet and analytics, Power Point Presentation

(iii) Web browsing & web technology

(iv) Network system

(v) General Awareness about Information Technology, Website, Generative AI, etc.

(vi) Uniform code, Google Indic etc.

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