



J. C. Bose University of Science and Technology, YMCA, Faridabad

(formerly YMCA University of Science and Technology)

Accredited 'A+' Grade by NAAC

A State Govt. University established wide State Legislative Act. No. 21 of 2009

SECTOR-6, FARIDABAD, HARYANA-121006

web: www.jcboseust.ac.in



भारत 2023 INDIA

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Ref: Estb/Advt. 01-2023/NT/3350

Dated: 24th Feb, 2023

Sub: Regarding Structure & Syllabus for the post of Storekeeper and Technicians advertised vide Advt. no. 01/2023

With reference to the subject cited above, the syllabus for the post of below mentioned posts, advertised vide this University Advt. No. 01/2023, is enclosed herewith: -

1. Storekeeper
2. Technician
 - a. Refrigeration & Air Conditioning
 - b. Fabrication Welding & Sheet Metal
 - c. General Electrical Workshop

This is for information of all concerned.

Encl. As above

**-sd-
REGISTRAR**



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Broad Structure & Syllabus of written test for the Post of Storekeeper

Structure: The structure of written test to be as under: -

- Max. Marks :95 marks
- Time : 2 hrs
- The written test will comprise of 95 MCQs of 1 mark each. The selection will be on the basis of merit but the minimum qualifying marks shall be 40% (38% for SC/ST)
- The examination will be held in English medium only.

Syllabus of written test the Post of Store Keeper

(Syllabus is only indicative. The questions can assess any aspect of knowledge, aptitude, attitude and practical skills, which is expected from a trained person to work efficiently at the advertised post)

a) General Intelligence & Reasoning:

It would include questions of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgment, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, Symbolic/Number Analogy, Figural Analogy, Semantic Classification, Symbolic/Number Classification, Figural Classification, Semantic Series, Number Series, Figural Series, Problem Solving, Word Building, Coding and de-coding, Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing inferences, Punched hole/pattern -folding and unfolding, Figural Pattern folding and completion, Indexing, Address matching, Date and city matching, Classification of centre codes/roll numbers, Small and Capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.

b) General Awareness

Questions in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Questions will also be designed to test knowledge of current events and of such matters of every day observations as may be expected of any educated person. The test will also include questions relating to India especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.



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c) Quantitative Aptitude:

The questions will be designed to test the ability of appropriate use of numbers and number sense of the candidate. The scope of the test will be computation of whole numbers, decimals, fractions and relationships between numbers, Percentage. Ratio and Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time and Work.

d) English Comprehension:

Candidate's ability to understand correct English, his basic comprehension and writing ability, etc. would be tested



**Broad Structure & Syllabus of written test for the post of Technician in
(i) Refrigeration & Air-Conditioning and (ii) Fabrication Welding & Sheet Metal**

Structure: The structure of written test to be as under: -

- i. Section A: General Aptitude: 35 marks
Section B: Subject Knowledge: 60 marks
Total: 95 marks
- ii. Time: 2 hrs
- iii. The written test will comprise of 95 MCQ of 1 mark each. The selection will be on the basis of merit but the minimum qualifying marks shall be 40% (38% for SC/ST)
- iv. The examination will be held in English medium only.

Syllabus of written test for the post of Technician in Refrigeration & Air-Conditioning and Fabrication Welding & Sheet Metal

Section A: General Aptitude (35 marks)

- Unit A: General Knowledge – Current events, sports, history, geography, basic economics, general politics, Indian Constitution, Science environment etc
- Unit B: General English, covering Grammar- Prepositions, adverbs, conjunction, direct/indirect speech, singular & plural, tenses, antonyms/synonyms etc
- Unit C: Questions on Reasoning and analytical Ability

Section B: Subject Knowledge (60 marks)

Elements of Mechanical Engineering

- Applied Mechanics, Friction, laws of friction, friction applications, the centroid of a plane area, a system of pulleys, projectile, work, power, energy, simple machines, screw jack, wheel & axles.
- Strength of materials, stress, strain, hooks law, stress-strain diagram, temperature stresses, composite section, resilience, principal stresses, principal planes, B.M. & S.F. diagram for simply supported and cantilevers, beams, columns & struts, Relation between elastic constants, (E.C.G.)
- Thermodynamics, First Law of Thermodynamics, Second Law of Thermodynamics, Zeroth Law, Steam Properties, Diesel cycle, Otto cycle.
- Modes of Heat Transfer (Conduction, Convection, Radiation).
- Fluid Mechanics, Properties of fluid, Viscosity, Newtonian and Non-Newtonian Fluids, Bernoulli's Theorem, Types of Fluid Flows, Dimension less numbers, Measurement of fluid flow by the pilot tube, Venturimeter, Darcy Equation
- Refrigeration & Air Conditioning – Systems & Equipments

Elements of Production Engineering/ Manufacturing Processes

- Workshop Technology, Lathe – Operations, Turning Machining Time, Cutting Speed, Feed, Depth Of Cut, Drilling, Type Of Drilling Machines, Drilling Operation, Drilling



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Time, Milling, Up Milling, Down Milling, Milling Operations, Milling Cutters, Milling Time, Shaper & Planer Working Principle, Measuring Instruments And Gauges, Vernier Calliper, Micrometer, Sine Bar, Plug Gauges, Snap Gauges, Ring Gauges Welding, Soldering, Brazing

- Material Science, Engg. Materials, Mechanical Properties Of Materials, Hardness Testing Methods, Tempering, Heat Treatment, Hardening Annealing, Carburizing, Normalizing.
- Engineering Graphics & Drawing, First Angle And Third Angle Projection Methods, Orthographic Views, Isometric Views, Conventions For Lines And Materials, Projections Of Lines And Solids (Only Conceptual Questions)
- Foundry, Pattern And Their Types, Moulds And Moulding Materials
- Plastic & Their Properties, Various Moulding Processes of Plastic.
- Industrial Management, Types of Organizational Structure, Qualities & Responsibilities Of Good Leader, Methods Of Quality Control, Productivity.

Automobile Engineering

- Power flow in an automobile
- Gearbox & its types
- Use and types of breaks
- Types of clutches
- Basic knowledge of differential
- Cooling
- Lubrication of Engine
- Types of wheels and tyres used in Automobile
- Major automobile industries.



Broad Structure & Syllabus of written test for the post of Technician in General Electrical Workshop (GEW)

Structure: The structure of written test to be as under: -

- i. Section A: General Aptitude: 35 marks
Section B: Subject Knowledge: 60 marks
Total: 95 marks
- ii. Time: 2 hrs
- iii. The written test will comprise of 95 MCQ of 1 mark each. The selection will be on the basis of merit but the minimum qualifying marks shall be 40% (38% for SC/ST)
- iv. The examination will be held in English medium only.

Syllabus for the post of Technician in General Electrical Workshop

Section A: General Aptitude (35 marks)

- Unit A: General Knowledge – Current events, sports, history, geography, basic economics, general politics, Indian Constitution, Science environment etc
- Unit B: General English, covering Grammar- Prepositions, adverbs, conjunction, direct/indirect speech, singular & plural, tenses, antonyms/synonyms etc
- Unit C: Questions on Reasoning and analytical Ability

Section B: Subject Knowledge (60 marks)

- Safety Measures, Industrial Safety and Electrical Precautions
- Tools
- Earthing
- Protective Devices i.e. Fuse, MCB, MCCB, ELCB etc., Relay and all types of circuit breakers
- Complete knowledge of electrical type of digital & analog measuring instruments
- Residential, Commercial & Industrial Wiring
- Estimation & Coasting of Residential & Commercial Wiring
- Maintenance Schedule
- Transformer, Fan & Motor winding (Low rating)
- Repair and Maintenance of all type of home appliances
- Knowledge of UPS, Inverter and batteries
- Industrial Electrical Accessories
- Contactor, Relay & Timer
- All type of starters
- Knowledge of soft starter, drives, VFD, PLC & sensors etc.
- Well known to do the soldering
- PCB, Breadboard, basic electronics & power electronics knowledge
- Stock handling
- COMPUTER: MS-Office, Typing, Basic Internet