Date: 12th June 2024

Updated Syllabus for Written Test and Selection Criteria for recruitment to the post of Technical Assistant (Mechanical Engineering), Pay Level - 06	
Part – A (General)	**Part – B (Post Related)**
1. Maths & Numerical Ability: Averages, Profit and Loss, Time and Work, Simple Interest, Compound Interest, Decimal Fractions, Problems on Numbers, Square Root and Cube Root, Time and Distance, Simplifications, Problems on H.C.F and L.C.M, Numerical Computation etc. (Upto 10th Standard) **2. Logical Reasoning**: Number Series Compilation, Missing Number Finding, Continuous Pattern Series, Matching Definitions, Missing Character Finding, Odd Man Out, Blood Relations, Coding And Decoding, Logical Sequence Of Words, Arithmetic Reasoning, Letter and Symbol Series, Numerical Reasoning, Data Reasoning and Data Interpretation. etc. **3. Language & Comprehension:** Antonyms, Synonyms, Spelling Check, Common Error Detection, One word substitute, correct option, Grammatical error, Change of voice, Narration, Idioms and Phrases, English Grammar, Sentence Correction and Completion, Paragraph Summary, Reading Comprehension & Inferences, Spotting Errors, Sentence Improvement, Communication Skills, Sentence Formation. **4. General knowledge and Current Affairs**: Indian History, Indian Economy, Indian Culture, Indian Polity, Indian Constitution, Indian Geography, Environmental Science, Awards and Honors, Famous Personalities, Days And Years, Basic General Knowledge, Current Affairs, Government Schemes, etc. upto 10th standard. 5. Computer Fundamentals, MS Word, MS Excel, Power Point, Internet, Email System, etc.	1. Automobile Engineering: Automobile and its development, Classification of automobiles, Transmission System, Steering System, Braking System, Dynamo and Alternator and Exhaust Emissions. 2. Computer Integrated Manufacturing: Introduction to NC, CNC & DNC, Construction and Tooling, Part Programming, System Devices, Problems in CNC Machines, Automation and NC system. 3. Engineering Materials: Scope of Material Science, Crystallography, Metals and Alloys, Heat Treatment, Plastics and Advanced Materials. 4. Engineering Mechanics: Laws of Forces, Moment, Friction, Centre of Gravity and Simple Machines. 5. Fluid Mechanics: Type and Properties of Fluids, Pressure and its Measurement, Flow of Fluids and Flow through Pipes. 6. Heat-Transfer: Modes of Heat Transfer, Fourier's Law, Steady State Conduction, Composite Structures, Natural and Forced Convection and Thermal Radiation. 7. I.C. Engines: Working principle of two stroke and four stroke cycle, SI engines and CI Engines, Otto cycle, Diesel cycle, Dual cycle, Fuel Supply and Ignition System in Petrol Engine, Fuel System of Diesel Engine, Cooling and Lubrication and Testing of IC Engines. 8. Machine Design: Design-Definition, Types of design,

	necessity of design, Design terminology: stress, strain, factor of safety, factors affecting factor of safety, stress concentration, methods to reduce stress concentration, fatigue, endurance limit, Design Failure, Design of Shaft, Design of Key, Design of Joints, Design of Flange Coupling and Design of Screwed Joints. 9. Machining and Machine Tool Operations: Cutting Tools and Cutting Materials, Lathe, Drilling, Boring, Shaping and Planning, Broaching, Jigs and Fixtures and Cutting Fluids and Lubricants, Welding, Pattern Making, Metal Forming Processes. 10. Mechanics of Materials: Stresses and Strains, Resilience, Moment of Inertia, Bending Moment and Shearing Force, Bending Stresses, Columns, Torsion and Springs. 11. Metrology and Inspection: Linear and Angular Measurement, Measurement of Surface Finish and Measurements of Screw threads and Gauges. 12. Refrigeration and air-conditioning: Fundamentals of Refrigeration, Vapour Compression System, Refrigerants, Air Refrigeration System, Vapour Absorption System and Refrigeration Equipment. 13. Theory of Machines: Simple Mechanisms, Friction, Power Transmission, Flywheel, Governor and Balancing

Scheme of Examination	Selection Criteria	Instructions (General Paper / Post Related)	Proficiency Test
Part A - General Paper: Questions - 50 Marks - 50 Duration: 01 Hour **Part B - Post Related Paper:** Questions - 50 Marks - 50 Duration: 1:30 Hour	1. Written Test (Part-A): Qualifying in Nature for evaluation of part B. Qualifying marks to be decided on the basis of performance of the candidates. 2. Written Test (Part-B): Merit list will be drawn on the basis of score of the candidate 3. Proficiency Test: The Candidates shortlisted based on the Written Test (Part B) will be called for Proficiency Test, to be conducted after the Document Verification process.	1. This Part will comprise of objective-type questions with one correct answer. 2. One (1) mark will be awarded for each correct answer & minus one forth (- 1/4) mark for each incorrect answer. 3. The unanswered questions will not attract negative marks.	The syllabus of the Proficiency Test will be shared with the shortlisted candidates.