

## **IIITDM Kancheepuram - Recruitment of Non-Teaching Posts**

(Advt.No.IIITDMK/R/3/2019 Dated: 19th June, 2019 )

### **List of Shortlisted Candidates for screening test and Schedule of exams for the post of Junior Technical Superintendent (Mechanical)**

<b>Qualification and experience</b>	BE / B.Tech in Mechanical Engineering with 5 year experience
<b>Desirable</b>	Post qualification experience in Mechanical workshop / CAD / Design

<b>Application Numbers of Shortlisted Candidates</b>	
1903JTSM0001	1903JTSM0008
1903JTSM0002	1903JTSM0013
1903JTSM0004	1903JTSM0017
1903JTSM0005	1903JTSM0029

### **Schedule:**

<b>Level 1 exam :</b>	<b>17.12.19 (Tuesday) - 10:00 AM</b> (Reporting Time: 08: 30 AM)	
<b>Level 2 exam :</b>	<b>18.12.19 (Wednesday) - 10:00 AM</b>	<i>Only for candidates qualified in Level 1 exam</i>
<b>Level 3 exam :</b>	<b>18.12.19 (Wednesday) - 02:00 PM</b>	

### **Note:**

- All the shortlisted candidates are required to bring original mark sheets (SSLC onwards), degree certificates, experience certificates and valid community certificate (SC/ST/OBC/EWS) at the time of reporting. Employees serving in Govt. Organizations /autonomous bodies are to submit No Objection Certificate from the present employer. Only the Candidates satisfying the requirement will be permitted to attend the written Test.

## Scheme of Examination

### **I. Levels of Exams:**

#### **Level 1:**

All the shortlisted candidates shall write screening test carrying maximum of 100 Marks (Objective type).  
Maximum duration of exam: 2 hours

#### **Level 2:**

It is the subject knowledge test designed to test the candidate's knowledge in the concerned subject of specialization. The questions will be objective/descriptive type carrying maximum of 100 marks.  
Maximum duration of exam: 1 hour 30 minutes

#### **Level 3:**

It is the trade test to assess the practical knowledge of the candidate in the concerned subject carrying maximum of 100 marks.  
Maximum duration of exam: 1 hour 30 minutes

*\* The standard of questions for the tests will generally be in conformity with education standard prescribed for the post.*

### **II. Weightage of exams:**

#### **Level 1:**

Candidates securing the minimum qualifying marks shall be shortlisted for further evaluation process scheduled on the next day. In case of SC/ST candidates, the minimum qualifying marks is relaxable at the discretion of the competent authority. The marks secured in the screening test shall not be taken into account for preparation of final selection list.

#### **Level 2 & Level 3:**

Level 2 and Level 3 are of qualifying nature and merit list will be prepared based on the following allocation of weightage.

**Level 2 : 60% and Level 3: 40%**

*\*\* In case of tie, suitable criteria decided by duly constituted committee will be followed.*

#### **Note:**

Success in the examination confers no right of appointment unless the candidate fulfills all requirements of the institute.

## Syllabus of Examination

### **Level 1:**

Verbal Reasoning & Aptitude, General English, General Knowledge, Current affairs

### **Level 2:**

**Safety:** Concepts of Safe working practices, environment regulation and housekeeping, preventive maintenance, BIS: 15001-2000-Standard on occupational health and safety management. Hazard and non-hazardous substances – classification and symbols. Electrical Safety in Workshop

**Engineering Drawing :** Types of lines their meaning & application as per IS696 , Simple conventional symbols for material and parts as per IS696, Geometrical construction of rectangles, square, circles, polygons and ellipse, parabola & hyper-bola, solids cube, cone, prism, cylinder, sphere pyramids., Isometric drawings of simple geometrical solids, drawing of simple machined and testing blocks, Orthographic drawings, application of both the first angle and third angle, Surface Finish and Symbols

**Casting, Forming and Joining Processes:** Different types of castings, design of patterns, moulds and cores; solidification and cooling. Fundamentals of hot and cold working processes; forging, rolling, extrusion, drawing and sheet metal forming processes. Principles of welding, brazing and soldering.

**Machining and Machine Tool Operations:** Basic machine tools; single and multi-point cutting tools, tool geometry and materials, tool life and wear; principles of non-traditional machining processes; principles of jigs and fixtures.

**Machines:** Constructional features, Specifications, types, working principles and mechanism in lathe, drilling machine, milling machine, boring machines, shapers, gear hobbing. Working principle of welding, perform Arc & Gas welding and Brazing operation as per standard procedure to join and cut mechanical components / metals by Gas cutting. Electrical aspects – Fuse, Single phase and three phase motors, starters.

**Metrology and Inspection:** Limits, fits and tolerances; linear and angular measurements; comparators; gauge design; surface finish measurement; alignment and testing methods, Sliding fit of components.

**CAD & CAM:** Basic concepts of CAD/CAM and their integration tools.

**Strength of Materials and Design:** Stress and strain, elastic constants, Poisson's ratio; shear force and bending moment diagrams; bending and shear stresses; deflection of

beams; testing of materials with universal testing machine; testing of hardness and impact strength. Screws, bolts and nuts, Pulleys and belts, Power transmission, types of gears and reduction principles.

**Fluids and Thermal Engineering:** Thermo-physical properties, Temperature, pressure and flow measurements. fluid statics, manometry, Bernoulli's equation; flow through pipes, head losses in pipes, bends and fittings. Modes of heat transfer; conduction, radiative heat transfer. Laws of thermodynamics, Work and heat in various processes. Air and gas compressors

### **Level 3:**

- Stores and inventory maintenance
- Cutting tool operation, measurement tools and errors
- Installation and erection procedure of bench drilling and lathe machines
- Electrical connections, safety, erection of motors of manufacturing equipment
- Servicing and overhauling operation of lathe, drilling and milling machines
- Jigs and fixtures
- Machine assembly from form blueprints
- Petrol and diesel engines; Francis and Pelton turbines
- Heat transfer, Fluid mechanics, Thermal, pneumatic and hydraulic experiments
- CAD/CAM/CIM CNC Programming and operations