

SELECTION PATTERN FOR JTS - WORKSHOP

Reporting Venue: IIT Tirupati, Temporary Campus, Behind CKS Dental College, Renigunta Road, Tirupati, AP – 517506,

Reporting Time: 8:30 AM

Test	Details of the tests	Date, Time, Venue etc
Screening Test	<ul style="list-style-type: none">Objective type testDuration : 2 hoursBased on the performance in this test, candidates will be shortlisted for further Tests.	<ul style="list-style-type: none">Date: 17th August, 2021Time: 09:00 hrs – 11:00 hrsVenue: IIT Tirupati, Temporary Campus, Renigunta Road, Tirupati, AP
Subjective Test	<ul style="list-style-type: none">Descriptive / Numerical ProblemsDuration: 1:30 Hours	<ul style="list-style-type: none">Date: 17th August, 2021Time: 11:30 hrs – 13:00 hrsVenue: IIT Tirupati, Temporary Campus, Renigunta Road, Tirupati, AP
Practical Test and Technical Writing Skill	<ul style="list-style-type: none">This is hands-on test, candidate will undergo practical test { one each from (a) and (b) }a) Lathe/Milling/CNCb) Sheet-metal/Welding/Fittingc) Advanced Manufacturing (Optional)	<ul style="list-style-type: none">Date: 17th August, 2021*Time: 14:30 hrs – 18:30 hrsVenue: IIT Tirupati, Transit Campus, Near Yerpedu, Andhra Pradesh

*Date may change to 18th August, 2021 (If the time is insufficient on 17th August, the hands on test may conduct on 18th August also. Please prepare accordingly)

WORKSHOP SYLLABUS

Engineering Materials: Structure and properties of engineering materials, phase diagrams, heat treatment, stress-strain diagrams for engineering materials.

Casting, Forming and Joining Processes: Different types of castings, design of patterns, moulds and cores; solidification and cooling; riser and gating design. Plastic deformation and yield criteria; fundamentals of hot and cold working processes; load estimation for bulk (forging, rolling, extrusion, drawing) and sheet (shearing, deep drawing, bending) metal forming processes; principles of powder metallurgy. Principles of welding, brazing, soldering and adhesive bonding.

Machining and Machine Tool Operations: Mechanics of machining; basic machine tools; single and multi-point cutting tools, tool geometry and materials, tool life and wear; economics of machining; principles of non-traditional machining processes; principles of work holding, jigs and fixtures; abrasive machining processes; NC/CNC machines and CNC programming.

Metrology and Inspection: Limits, fits and tolerance; linear and angular measurements; comparators; interferometry; form and finish measurement; alignment and testing methods; tolerance analysis in manufacturing and assembly; concepts of coordinate-measuring machine (CMM)

Computer Integrated Manufacturing: Basis concepts of CAD/CAM and their integration tools; additive manufacturing.