

SYLLABUS FOR TRADE TEST (SKILL TEST) FOR THE POST OF TECHNICIAN MECHANICAL ENGINEERING

1. To determine coefficient of friction using pin on disk apparatus.
2. Exercises in internal turning and threading.
3. Advanced exercises in the use of different types of tools on the lathe.
4. To determine tool life of single point cutting tool.
5. Exercise on metallurgical microscope and a diamond polishing machine.
6. To prepare specimens of following materials for microscopic examination and to examine the microstructure of the specimens of following materials : i) Brass ii) Copper iii) HSS
7. Tensile test on bars of Mild steel and Aluminium.
8. Hardness test on metal and finding the Brinell, Rockwell hardness.
9. CNC Milling of a spur gear.
10. Exercise on CNC milling machine with the help of a form cutter.
11. Exercise in cutting of serrations/ gears with the help of indexing device on a milling machine.
12. Use of linear measuring instruments like vernier calliper and micrometer.
13. Use of height gauge and depth gauge.
14. Measurement of surface roughness of a surface
15. Develop a part programme for following lathe operations and make the job on CNC lathe trainer.
 - Plain turning and facing operations
 - Taper turning operation
 - Thread cutting operation
 - Operation along contour using circular interpolation.
16. Develop a part programme for following milling machine operation and make the job on CNC milling machine.
 - Plane milling operation
 - Slot milling
 - Pocket milling
17. To perform machining of ferrous material on ECM and its process parametric optimization.
18. To perform 3D printing on thermoplastic printers for a given job.
19. To perform 3D printing on metal printer for given job.
20. To operate F.M.S for given conditions and perform a time study.