



R18 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A' Grade)

Subject code: 2P5CC

B.Tech V Semester Supplementary Examinations, July 2021
MACHINE TOOLS

(ME)

Maximum Marks: 70

Date: 30.07.2021 Duration: 3 hours

- Note: 1. This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 What are the principle angles of the single point cutting tools?
- 2 Explain shear zone with respect to a machining process.
- 3 Why automatic lathes are preferred in industries.
- 4 What are the advantages of taper turning attachment?
- 5 Describe the differences between planer and shaper.
- 6 What is boring?
- 7 Explain the differences between end milling and face milling.
- 8 How a milling machine is specified.
- 9 List out different types of abrasives.
- 10 What is form grinding? Explain.

Part-B

Answer All the following questions.

(10M X 5=50Marks)

- 11 Explain the effects of the following parameters on chip formation. [10M]
i) Velocity ii) Material of work piece iii) Depth of cut iv) Tool Geometry

OR

- 12 a) The tool signature is given as follows 6-6-5-10-5-5-0.8, label each in the diagram. [5M]
b) Explain ideal properties of cutting tool materials. [5M]

- 13 a) What are the differences between capstan and turret lathe? [5M]
b) Explain the various types of chucks in detail. [5M]

OR

- 14 a) How lathe is specified. Explain briefly the operations that are performed on a lathe. [5M]
b) Discuss in detail the taper turning by compound rest swivelling method. [5M]
- 15 Explain briefly a Jig boring machine with a neat sketch. [10M]

OR

- 16 a) Describe the operation of quick return motion in mechanical shaper. [5M]
b) Draw kinematic scheme of a boring machine. [5M]

- 17 Discuss briefly the vertical milling machine. [10M]
OR
18 Determine the indexing crank movement for milling a square bolt by simple indexing. [10M]
19 a) What are the various methods of centreless grinding. [5M]
b) How the grinding wheel is selected for a particular job? [5M]
OR
20 a) Explain the process of precision grinding with a neat sketch. [5M]
b) Draw kinematic scheme of a grinding machine. [5M]