

Code: ME5T2

**III B.Tech-I Semester–Regular/Supplementary Examinations  
March 2021**

**METAL CUTTING AND MACHINE TOOLS  
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

**PART – A**

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

- a) Name the factors effecting tool life.
- b) What are the properties required for a cutting fluid to perform efficiently?
- c) State the specifications of a lathe machine.
- d) Briefly explain the process of thread cutting on lathe machine.
- e) Name the operations carried by shaper.
- f) Write the various applications of slotting machine.
- g) Recall the functions of flute in a twist drill.
- h) Compare Lapping and Honing processes.
- i) Recall different types of abrasives.
- j) Write the working principle of universal driving head.
- k) List down Various types of milling cutters.

## PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Explain Earnest - Merchants Theory. 8 M
- b) Explain the Geometry of Single point cutting tool. 8 M
3. a) List down the various methods of Taper turning. Also explain taper turning by taper turning attachment method. 8 M
- b) Differentiate between Capstan and Turret lathe. 8 M
4. a) Differentiate between a shaper and planner. 8 M
- b) Explain Constructional features of a Shaper. 8 M
5. a) Explain the selection procedure of grinding wheel for a specific task. 8 M
- b) Distinguish between Pull broach and Push Broach. 8 M
6. a) Reproduce by sketch the nomenclature of a milling cutter and mention its parts and angles. 8 M
- b) Differentiate between simple and compound indexing methods. 8 M