ME 313 (R-20)

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III/IV B. Tech. DEGREE EXAMINATIONS, DECEMBER - 2022

First Semester

MECHANICAL ENGINEERING

METAL CUTTING AND MACHINE TOOLS

Time : **Three Hours** Maximum : **60** Marks

Answer ONE question from each Unit.

All questions carry equal marks. 5x12=60 M

UNIT - I

1. Explain in detail about Drilling operations used in machines.

(OR)

2. Explain Lathe operations including taper turning and thread cutting in detail with an example.

UNIT - II

3. Describe Spindle speed mechanism in detail.

(OR)

4. Explain Constructional Detail used in shaping and planning.

UNIT - III

5. Explain types of Grinding machine in detail.

(OR)

6. Explain Honing and Lapping Operations in detail.

UNIT - IV

7. What are the fundamental differences in structure of a column type milling machine and knee type milling machine.

(OR)

8. Explain the following milling operations:

   i) Straddle milling ii) Gang milling

UNIT - V

9. Explain various velocity operations in detail.

(OR)

10. Explain Tool Life Criteria in detail.