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B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E.

Semester: IV

Branch: Mechanical Engineering

Duration: 3 hrs.

Course Code: 19ME4DCMFT / 15ME4DCMTM

Max Marks: 100

Course: Manufacturing Technology / Machine Tools and Machining

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

1	a) Discuss with a neat sketch the nomenclature of a single point cutting tool?	08
	b) Solve for an orthogonal cutting operations, a chip length of 80 mm was obtained from an uncut chip length of 200 mm while cutting with a tool of 20 degrees rake angle using a depth of cut of 0.5 mm. Determine the shear plane angle and chip thickness?	08
	c) Describe in detail the crater and flank wear?	04

UNIT - II

2	a) With a neat sketch, explain the construction of a Column and Knee milling machine.	08
	b) With a neat sketch, explain any four drilling machine operations.	12

OR

3	a) Analyse the constructional features of a shaper with a neat sketch?	08
	b) Discuss the differences between a Planer and a Shaper?	06
	c) Explain compound indexing of 77 divisions?	06

UNIT - III

4	a) Briefly explain, forging die design parameters.	08
	b) Explain in detail process variables of rolling.	06
	c) Explain various defects in forged components.	06

OR

5	a) With neat figures, explain direct and indirect extrusion process.	10
	b) Explain the various process variables of extrusion process.	10

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

UNIT - IV

6 a) Explain with neat sketch explosive and electromagnetic forming and also state the applications of the same. **10**

b) Explain with neat sketch the defects in sheet metal products. **10**

UNIT - V

7 a) With a neat sketch, explain the construction and principle of operation of Laser beam machining? Also list the advantages and disadvantages of the process? **10**

b) With a neat sketch, explain the construction and principle of operation of Ultrasonic machining? Also list the advantages and disadvantages of the process? **10**
