

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

Autonomous Institute Affiliated to VTU

## August 2023 Semester End Make-Up Examinations

Programme: B.E.

Branch: Aerospace Engineering

Course Code: 22AS3PCMNT

Course: Manufacturing Technology

Semester: III

Duration: 3 hrs.

Max Marks: 100

Date: 17.08.2023

**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) Describe and draw a flowchart classifying manufacturing processes. 8
- b) Identify the differences between true centrifugal casting and semi centrifugal casting? 4
- c) Summarize the required properties of casting sand. 8

### UNIT - II

- 2 a) Illustrate the different bulk deformation processes with neat diagrams. 10
- b) Describe with a neat sketch hot rolling process. 10

### OR

- 3 a) Distinguish the direct and indirect extrusion process with neat diagrams. 6
- b) Distinguish the wire and bar drawing with neat diagrams. 5
- c) Summarize the three major categories of sheet metal processes with neat diagrams. 9

### UNIT - III

- 4 a) With a neat diagram explain the seven elements of tool geometry for a single-point cutting tool. 10
- b) Discuss various mechanisms of cutting tool wear. 5

**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.

- c) Illustrate with a neat diagram of Laser beam machining. 5

OR

- 5 a) Describe with a neat diagram of Plasma arc machining. 7
- b) Illustrate with a neat diagram of electric discharge machining. 7
- c) Summarize the types of cutting fluids. 6

UNIT - IV

- 6 a) Discuss the solid-state welding process used for joining two different metals. 7
- b) Describe the concepts of Rapid prototyping. 8
- c) What is a numerical control? Explain the concept of CNC and DNC. 5

UNIT - V

- 7 a) Explain the gear sintering manufacturing techniques with its advantages and neat sketch. 7
- b) Classify and explain the different types of gear with neat diagrams. 6
- c) Discuss the processes used for manufacturing various components of a typical jet engine. 7

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