

# 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

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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