

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

Autonomous Institute Affiliated to VTU

## September / October 2023 Supplementary Examinations

**Programme: B.E.**

**Branch: Industrial Engineering & Management**

**Course Code: 21IM3DCMAP**

**Course: Manufacturing Process**

**Semester: III**

**Duration: 3 hrs.**

**Max Marks: 100**

**Date: 15.09.2023**

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

### UNIT - I

- 1 a) Write a note on the Terminology used in case of a Single Point Cutting Tool. **10**
- b) Discuss the various types of chips formed during metal cutting. Under what conditions do they occur? **10**

**OR**

- 2 a) What is the difference between Orthogonal and Oblique Metal Cutting? **10**
- b) Discuss the various types of cutting tool materials used in the workshop. **10**

### UNIT - II

- 3 a) With the aid of a Block diagram, explain the various stages in the Rapid Prototyping process. **10**
- b) Explain the FDM process in Rapid Prototyping using a neat sketch. **10**

### UNIT - III

- 4 a) Discuss Sweep Pattern with the help of a neat sketch. Also, mention its applications. **10**
- b) Explain the constructional features and working principle of a Horizontal Type Centrifugal Casting machine. **10**

**OR**

- 5 a) Write a brief description of the Squeeze casting process. **10**
- b) Mention the various desirable properties of Base Sand. **10**

### UNIT - IV

- 6 a) With the aid of a neat sketch, explain the MIG welding process. **10**
- b) Write a note on the different kinds of flame used in oxy-acetylene welding. **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 - V

- 7 a) Explain with a neat sketch the following: **10**
- i) Dye Penetration Testing
  - ii) Magnetic Particle Inspection
- b) Write a note on the following welding defects along with their remedies. **10**  
Include neat sketches:
- i) Undercut
  - ii) Incomplete Fusion

\*\*\*\*\*

SUPPLEMENTARY EXAMS 2023