

Code: 19ME3404

II B.Tech - II Semester – Regular Examinations – AUGUST 2021

**MANUFACTURING PROCESSES
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

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- Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
4. All parts of Question paper must be answered in one place
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PART – A

1. a) What is meant by pattern allowance? List out any 4 Allowances.
- b) Classify the types of extrusion.
- c) List the types of welds and welding joints.
- d) What is meant by sensitivity in Magnetic Particle Testing?
- e) Define the term thermoforming.

PART – B

UNIT – I

2. a) Describe the various materials used in pattern making. 6 M
State the factors to be considered for selection of the pattern materials.
- b) Describe various casting defects and suggest remedies 6 M
with sketches.

OR

3. a) Compare investment casting and shell moulding from the point of process, product and application. 6 M
- b) Explain the working and zones of cupola with a neat sketch. 6 M

UNIT – II

4. a) How rolling mills are classified? Explain any three with their application? 6 M
- b) Describe Smith forging and drop forging with neat sketches. 6 M

OR

5. a) With the aid of neat sketches explain the wire drawing process and tube drawing process. 6 M
- b) Discuss in detail the various types of defects found in the rolled parts and ways to eliminate them. 6 M

UNIT-III

6. a) Illustrate the thermit welding process with neat sketch and also state its application. 6 M
- b) Explain Explosive welding process with a diagram. 6 M

OR

7. a) Explain the working principle of spot welding and seam welding processes. 6 M
- b) Compare the Laser Beam Welding with Electron Beam welding. 6 M

UNIT – IV

8. a) Differentiate between Destructive and Non- Destructive Testing with examples. 6 M
- b) Explain the procedure used for testing the component using Magnetic Particle Inspection. 6 M

OR

9. a) What are the properties required for a good penetrant used in Liquid Penetrant Inspection (LPI)? Differentiate visual penetrants and fluorescent penetrants. 6 M
- b) With neat sketches explain the steps involved in conduction of Acoustic emission test. 6 M

UNIT – V

10. a) With a neat sketch explain the process of plastic injection molding. 6 M
- b) Explain the following terms related to processing of the ceramics parts i) Pressing ii) casting and iii) sintering 6 M

OR

11. a) Give the sequence of operations in transfer molding for plastics. 6 M
- b) Explain with a neat sketch rotational molding and blow molding process. 6 M