

END TERM EXAMINATION

FIRST SEMESTER [B.TECH.] MARCH 2023

Paper Code: ES-119

Subject: Manufacturing Process

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions including Q.No.1 which is compulsory.

Select one question from each unit.

- Q1
- a) What is Manufacturing? List out different manufacturing processes. [2]
 - b) What is the difference between pattern and casting? [2]
 - c) Explain the effect of polarity on penetration in DC arc welding. [2]
 - d) Explain the basic principle of resistance welding. [2]
 - e) What is the difference between open and closed die forging process? [2]
 - f) What is powder metallurgy? [2]
 - g) Define the term plastic. What are its characteristics? [2]
 - h) List out four types of patterns. [1]

UNIT-I

- Q2
- a) Describe in detail about the importance of manufacturing towards technological and social economic development. [7]
 - b) Describe properties of materials: Hardness, elasticity and malleability. [3]
 - c) What are the desirable properties of molding sand? [5]
- Q3
- a) Why is it important to provide a means of venting gases from the mold cavity? [3]
 - b) Describe the process of centrifugal casting with neat sketch. What are the advantages? [7]
 - c) List out the defects in casting process. Explain any three with neat sketch. [5]

UNIT-II

- Q4
- a) Describe the oxy-acetylene gas welding technique and give the applications. [7]
 - b) Explain the principle of submerged arc welding with the help of neat sketch. Discuss its applications. [8]
- Q5
- a) What are differences between TIG and MIG welding processes? [5]
 - b) List out the defects in welding process. Write causes and remedies of following welding defects: i) Spatter ii) Overlap iii) Undercut [7]
 - c) What is the difference between filler metal and flux materials? [3]

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P1/a



UNIT-III

- Q6 a) What are the main characteristics of hot working as compared with cold working process? [3]
b) Explain direct extrusion and indirect extrusion with neat sketch. [8]
c) List out the defects in forging process. Explain any two with neat sketch. [4]
- Q7 a) Explain the following terms with neat sketch: [8]
i) Punching ii) Blanking iii) Lancing iv) Notching
b) Write a short notes on i) Stretch Forming operation and ii) Metal spinning. [7]

UNIT-IV

- Q8 Explain the powder metallurgy process with neat sketch: powder production, blending, compaction and sintering. [15]
- Q9 a) Describe different types of plastics. [3]
b) Explain the following molding processes of plastics with neat sketch: [12]
i) Injection molding ii) Film-blowing iii) Transfer molding
