

R16

Code No: 134BK

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech II Year II Semester Examinations, September/October - 2023

MANUFACTURING PROCESS

(Mechanical Engineering)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) List out any four types of patterns. [2]
- b) What are the desirable properties of moulding sand? [3]
- c) What are the types of flames used in oxy fuel welding? [2]
- d) Write any three advantages of gas welding over arc welding. [3]
- e) Write any two differences between soldering and brazing. [2]
- f) Differentiate straight and reverse polarity. [3]
- g) Differentiate hot working and cold working. [2]
- h) What is the difference between blanking and piercing operation. [3]
- i) State the principle of extrusion and write the types of extrusion. [2]
- j) List out the forging defects. [3]

PART – B

(50 Marks)

2. List out the defects in casting process. Explain reasons and remedies for any five defects with neat sketch. [10]

OR

3. What is a pattern allowance? List out and explain the different pattern allowances with neat sketch and example. [10]

4. Explain the process of submerged arc welding with neat sketch. List out the applications, advantages and limitations. [10]

OR

- 5.a) Explain the process of thermit welding with neat sketch. Write its applications.
- b) Discuss the process of forge welding along with its applications. [5+5]

6. Explain the process of MIG welding with a neat sketch. What are its advantages, limitations and applications? [10]

OR

7. List out the welding defects. Discuss any five welding defects with causes and remedies. [10]

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8.a) Why recovery, recrystallization and grain growth are required after plastic deformation of a metal. Explain these processes.

b) Discuss the process of bending.

[5+5]

OR

9.a) Derive the expression for roll separating force and power in rolling.

b) Discuss different types of drawing processes.

[5+5]

10.a) What are the advantages and limitations of hot working over cold working.

b) Explain the process of hydrostatic extrusion.

[5+5]

OR

11.a) Write a short notes on impact extrusion process.

b) Explain i) smith forging ii) drop forging.

[5+5]

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