

Roll No.

Total No. of Questions : 09]

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B.Tech. (Sem. - 3rd)

MANUFACTURING PROCESSES - I

SUBJECT CODE : PE - 209

Paper ID : [A0806]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

(10 x 2 = 20)

- a) Define pattern.
- b) What do you understand by term allowances?
- c) Differentiate between soldering and brazing.
- d) How selection of electrodes is done?
- e) Define arc stability.
- f) What are risers and what are their functions?
- g) What do you understand by directional solidification?
- h) What is core baking?
- i) What do you understand by arc blow?
- j) What are various materials for patterns?

Section - B

(4 x 5 = 20)

- Q2)** What are various moulding sand compositions and what are moulding sand properties?
- Q3)** What is the principle of gas welding and what are various types of flames?
- Q4)** What is the principle of resistance welding? Explain spot welding technique.
- Q5)** What are moulding machines? What are various types of cores and core sands used?
- Q6)** Explain with help of neat sketch the working of electron beam welding and also mention its process parameters and give its applications.

Section - C

(2 x 10 = 20)

- Q7)** What is the principle of electric arc welding and also explain welding arc and its characteristics.
- Q8)** What are the various types of furnaces used in casting? Explain cupola and its operation.
- Q9)** Write short notes on any two :
- (a) Cleaning and finishing of castings.
 - (b) Filler metals in welding.
 - (c) Thermal effects on weldment.

