

Roll No.....

Total No. of Questions : 09]

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Paper ID [PE209]

(Please fill this Paper ID in OMR Sheet)

B. Tech. (Sem. - 3rd)

MANUFACTURING PROCESS - I (PE - 209)

MAY 2008

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 × 2 = 20)

- a) Discuss various types of patterns used.
- b) What are the different allowances for patterns?
- c) What are the various types of cores?
- d) What is directional solidification?
- e) What do you understand by term segregation?
- f) How welding processes are classified?
- g) What are various welding positions?
- h) What is meant by arc blow?
- i) List various thermal effects on weldment.
- j) Define welding.

Section - B

(4 × 5 = 20)

Q2) Discuss various cleaning and finishing operations for castings.

Q3) Discuss the moulding sand composition and various properties of moulding sand.

- Q4)** What are the metallurgical effects of welding? Also explain mechanism of metal transfer.
- Q5)** What is the principle of resistance welding and explain briefly its types.
- Q6)** Differentiate between brazing and soldering. Also give their applications.

Section - C

(2 × 10 = 20)

- Q7)** What are the various casting defects? Discuss their causes and remedies.
- Q8)** (a) Differentiate between MIG and TIG.
(b) Explain laser beam welding with neat sketch.
- Q9)** Write short notes on :
- (a) Vacuum Casting
 - (b) Inspection methods for castings
 - (c) Electron beam welding
 - (d) Friction welding.