

Roll No. ....

Total No. of Questions : 09]

[Total No. of Pages : 02

**Paper ID [PE209]**

DEC-07

(Please fill this Paper ID in OMR Sheet)

**B.Tech. (Sem. - 3<sup>rd</sup>)**

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**MANUFACTURING PROCESSES - I (PE - 209)**

**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**

**(10 x 2 = 20)**

**Q1)**

- a) What are the effects of mold materials on fluid flow and heat transfer?
- b) Explain the difference between short and long freezing ranges.
- c) Are External chills as effective as internal chills? Explain.
- d) Why can blind risers be smaller than open-top risers?
- e) What are similarities and difference between consumable and non consumable electrodes?
- f) Explain why some joints may have to be preheated prior to welding?
- g) Explain the draw backs of riser being too large and too small.
- h) Why does porosity have detrimental effects on mechanical properties of castings?
- i) What is meant by solid state welding?
- j) Why quality of weld is produced better in submerged arc welding?

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**P.T.O.**

**Section - B**

(4 × 5 = 20)

Q2) What are different types of pattern material? Explain.

Q3) What is the function of core in sand molding? How they are held in places and how are they supported?

Q4) What is Thermit welding? Explain.

Q5) What are different types of pattern allowances? Explain.

Q6) Differentiate between welding, brazing and soldering.

**Section - C**

(2 × 10 = 20)

Q7) What do you understand from the gating system? What are the different types of gates? Explain any one in detail.

Q8) What is resistance welding? What are its types? Explain in detail with diagram.

Q9) Explain special casting Processes in detail:

- (a) Investment casting                      (b) Die casting.

