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Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(PE) (Sem.-1)

**METAL CASTING**

Subject Code : PE-501

Paper ID : [E0441]

Time : 3 Hrs.

Max. Marks : 100

**INSTRUCTION TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

- Q1. What is critical radius of nucleus? Explain various structures obtained after solidification of metals and alloys.
- Q2. What are the desired properties of core sand? Explain ingredients and additives of core sand.
- Q3. Explain methods to decide riser location, shape and size.
- Q4. What is directional solidification? What is its importance? Explain different methods to achieve directional solidification.
- Q5. Explain shell moulding process with the help of diagrams.
- Q6. Explain vacuum moulding process with the help of diagrams.
- Q7. Explain the hot and cold die casting process for the casting of copper and its alloys.
- Q8. a) What are the precautions to be taken for producing defect free castings of non-ferrous alloys?
- b) What is fluidity of metal? Explain various factors that affect fluidity.