

(3 Hours)



Max. Marks: 80

N.B:

- 1) Question No **ONE** is compulsory.
- 2) Attempt any **THREE** out of remaining **FIVE** questions.
- 3) Figures to the right indicate full marks.
- 4) Illustrate answers with proper justification and neat sketches wherever required
- 5) Answers to questions should be grouped and written together.

- Q.1 Explain in brief (Any Four) 20
- i) Colour coding for patterns and core boxes.
 - ii) Casting defects and with causes and remedies
 - iii) Ultrasonic Machining
 - iv) Difference between thermoplastic and thermo-setting plastic.
 - v) Compare brazing and soldering
 - vi) Pultrusion process
- Q.2 (a) Explain in brief with neat sketches the various types of patterns used in foundry shop. 10
- (b) Explain the following terms with reference to the powder- metallurgy process: Sintering, Infiltration and impregnation. 10
- Q.3 (a) Explain the process of Laser Beam Machining with its advantages, limitations and applications. 10
- (b) Explain the composite manufacturing processes: Filament winding, and Resin transfer molding with its advantage, limitations and applications. 10
- Q.4 (a) Briefly explain the powder metallurgy process with a block diagram. 10
- (b) Explain with neat sketch the plastic processing method: Injection moulding or compression moulding, stating their advantages and application. 10
- Q.5 (a) Explain the process of Plasma arc machining with its advantage, limitations and applications. 10
- (b) Explain various welding defects with causes and remedies. 10
- Q.6 (a) Describe in brief, i) Spot Welding ii) Thermit Welding 10
- (b) Explain squeeze or investment casting process with its advantages, limitations and applications. 10
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