

17327

16172

4 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main questions on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (7) Use of steam tables, logarithmic, Mollier's chart is permitted.

Marks

1. Answer any TEN :

10 × 2 = 20

- (a) State the types of compression mould.
- (b) State the types of blow mould.
- (c) Define parting line.
- (d) Define core and cavity.
- (e) State the types of bolster plates.
- (f) Define runner and state any two types of runner.
- (g) Define gate. List any two types of gate.
- (h) State the types of sprue puller.
- (i) Draw a labelled diagram of U-type cooling circuit.
- (j) What is venting ? State its types.
- (k) Define casting.
- (l) List any two components of lathe and write the function of each.

2. Answer any FOUR :**4 × 4 = 16**

- (a) What is an injection mould ? State the standard components of an injection mould.
- (b) Define an impression and insert.
- (c) With a labelled diagram, state the functions of a guide bush.
- (d) Explain the selection criteria of runner.
- (e) What is the necessity of ejection ? Draw a labelled diagram of blade ejection.
- (f) Explain the integer core cooling circuit with a sketch.

3. Answer any FOUR :**4 × 4 = 16**

- (a) Explain with a diagram, any one type of mould attachment to the injection platen.
- (b) Which are the factors to be considered by the designer while deciding the size of the runner ? Explain.
- (c) Explain the rectangular edge gate with a diagram.
- (d) Explain the ejector plate assembly with a diagram.
- (e) State the types of cooling systems used for integer type cavity plate. Explain any one type.
- (f) Explain cold hobbing method with a sketch.

4. Answer any FOUR :**4 × 4 = 16**

- (a) Define bolster. Draw sketches of any two types of bolster.
- (b) Define sprue bush. List the types of sprue bush. Draw sketch of any one sprue bush.
- (c) Explain the concept of gate balancing with a diagram.
- (d) Explain the pin ejection system with a diagram.
- (e) Compare U-type of cooling circuit with Z-type of cooling.
- (f) Explain pressure casting with a diagram.

5. Answer any FOUR :**4 × 4 = 16**

- (a) Define –
 - (i) Register ring
 - (ii) Guide pin
- (b) With a labelled diagram, explain location units.
- (c) Draw a labelled diagram of fan gate and state its use.
- (d) Explain ejector grid system with a labelled diagram.
- (e) Define venting. Why is venting necessary in an injection moulding ?
- (f) Explain the principle and construction of spark machining with a labelled diagram.

6. Answer any FOUR :**4 × 4 = 16**

- (a) Explain the concept of guide pillars reinforced by tapered location.
 - (b) With a labelled diagram, explain sprue gate.
 - (c) Explain sleeve ejection system with a sketch.
 - (d) Explain the cooling of bolster in an injection mould.
 - (e) Describe the principle and construction of planning machine.
 - (f) Explain D-shaped ejection system with a diagram.
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