

17327

21718

4 Hours / 100 Marks

Seat No.

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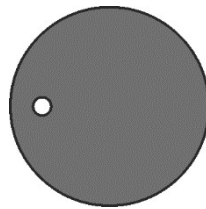
- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Use of Non-programmable Electronic Pocket Calculator is permissible.

**Marks**

1. Answer any TEN :

10 × 2 = 20

- (a) State the utility of hand injection mould.
- (b) List four components of compression mould.
- (c) Stat the function of guide pin and hole.
- (d) Define impression. Draw its diagram.
- (e) What does parting line mean ?
- (f) State the function of register ring.
- (g) Define runner.
- (h) Redraw the sketch showing gate position. (Fig. 1)



**Fig. 1**

- (i) What does gate balancing mean ?
- (j) State the function of ejector grid.
- (k) State the necessity of ejection system.
- (l) Why is it essential to provide cooling for mould ?
- (m) State working principle of milling machine.
- (n) State the method used to engrave text on mould.

**2. Answer any TWO :**

**2 × 8 = 16**

- (a) Describe with examples types of parting lines.
- (b)
  - (i) Define 'guide pillar'. Explain its function.
  - (ii) Explain two types of sprue bush.
- (c) Draw diagram of any four types of gate.

**3. Answer any FOUR :**

**4 × 4 = 16**

- (a) Draw runner layout for mould having five circular cavities.
- (b) State the selection criteria for runner.
- (c) Write down the functions of components of ejector plate assembly.
- (d) Describe the ejection system used for an injection mould of a 'tub'.
- (e) State the function and types of sprue puller.
- (f) Describe air ejection mechanism.

**4. Answer any FOUR :****4 × 4 = 16**

- (a) Explain pin ejection technique with a diagram.
- (b) Describe two types of ejector good.
- (c) Compare : U type and Z type cooling.
- (d) Explain necessity of cooling in plastic product.
- (e) State the purpose and types of venting of mould.
- (f) Explain casting as a mould making technique.

**5. Answer any TWO :****2 × 8 = 16**

- (a) Explain any one cooling system for integer type cavity and insert type core with a diagram.
- (b) Describe construction and explain working of a lathe.
- (c) Write construction and working of shaping and planning machine.

**6. Answer any FOUR :****4 × 4 = 16**

- (a) State the function of components of a blow mould.
  - (b) Explain two types of mould clamping.
  - (c) Differentiate between direct and indirect mould attachment to platen.
  - (d) State the material of construction and significance of guide bush.
  - (e) Draw diagram of types of runner.
  - (f) Draw a diagram of a sprue bush and state its function.
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