

17327

**11920**

**4 Hours / 100 Marks**

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Attempt **6** questions including Question No. 1 which is compulsory.
  - (3) Answer each next main Question on a new page.
  - (4) Illustrate your answers with neat sketches wherever necessary.
  - (5) Figures to the right indicate full marks.
  - (6) Assume suitable data, if necessary.
  - (7) Use of Non-programmable Electronic Pocket Calculator is permissible.
  - (8) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

**1. Attempt any FIVE of the following :**

**4 × 5 = 20**

- (a) Draw neat sketch of Simple blow mold and label its different components.
- (b) Draw neat labelled sketch of any one type of register ring.
- (c) Write function of parting line. Suggest the parting line for solid square article.
- (d) State the significance of runner and gate balancing.
- (e) Explain stepped pin ejection with suitable sketch.
- (f) Draw cooling circuit for large rectangular core.
- (g) Explain process of cold hobbing.

2. Attempt any TWO the following : 8 × 2 = 16

- (a) (i) State function & material of construction of guide pillar and bush.
- (a) (ii) Write importance of insert-bolster method.
- (b) Explain with suitable sketch which runner system is most efficient. Draw star runner layout.
- (c) Draw neat sketches of cooling circuit for integer core and cavity, bolster and core inserts.

3. Attempt any TWO of the following : 8 × 2 = 16

- (a) Explain sprue bush with suitable sketch and write function of dowel pin with sketch.
- (b) Explain rectangular edge gate, film gate, tab gate and pin point gate with neat sketch.
- (c) Write the purpose of venting & cooling the mould. Draw Z type cooling circuits.

4. Attempt any TWO of the following : 8 × 2 = 16

- (a) Define Bolster. Explain different types of bolster plate with neat sketch.
- (b) Suggest the type of runner and gate for following injection molded product :
  - (i) Pen cap
  - (ii) Soap case (Two cavity)
  - (iii) Cold drink cup
  - (iv) Elbow
- (c) Suggest and explain the ejection system with suitable sketch for following product :
  - (i) Plastic Bucket
  - (ii) Plastic Bobbins

**5. Attempt any TWO of the following :**

**8 × 2 = 16**

- (a) Define ejection grid. Explain different types of ejection grid with suitable sketch.
- (b) Write need of sprue puller. Explain any three types of sprue puller with neat sketch.
- (c) Explain principle, construction and working of cylindrical grinding machine.

**6. Attempt any TWO of the following :**

**8 × 2 = 16**

- (a) (i) Compare injection molding with blow molding by giving at least four points.  
(ii) Draw neat labelled sketch of two plate injection mold.
  - (b) (i) Define setting effect and ejector retainer plate.  
(ii) Explain with suitable sketch casting process.
  - (c) Explain bench fitting steps for mould assembly.
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