

17449

15162

3 Hours / 100 Marks

Seat No.

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**Instructions :** (1) All Questions are *compulsory*.

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data, if necessary.

**Marks**

**1. (A) Attempt any FOUR :**

**12**

- (a) Describe vacuum sizing device for pipe.
- (b) Compare toggle with hydraulic locking mechanism.
- (c) Explain effect of process parameter on quality of blow moulded product.
- (d) With neat diagram explain dual sheet thermoforming.
- (e) List down any four properties and application of expanded polystyrene (PS).
- (f) Describe constructional detail of wire & cable coating die.
- (g) Define twin screw extruder. How it is differ from single screw extruder.

**(B) Attempt any TWO :**

**8**

- (a) Describe sheet extrusion plant layout with neat sketch.
- (b) Give trouble shooting guide for injection moulding machine.
- (c) Describe reaction injection moulding with neat sketch.

**2. Attempt any FOUR :**

**16**

- (a) Why PET is most widely used in stretch blow moulding ?
- (b) Elaborate the term :
  - (i) shot capacity
  - (ii) day light opening
- (c) Describe construction and working of coat hanger die.
- (d) With neat diagram explain injection moulding cycle.
- (e) Describe working of drive system for extruder.
- (f) Differentiate between co-rotating and counter-rotating twin screw extruder.

- 3. Attempt any FOUR : 16**
- (a) Explain function of breaker plate and screen pack in extrusion.
  - (b) Which modification are necessary if conventional moulding machine is used for thermosets ?
  - (c) How will you control thickness of sheet during extrusion ?
  - (d) Draw neat sketch of Injection Moulding machine, label it and state function of different zones of screw.
  - (e) Describe constructional details of bottom feed blown film die.
  - (f) State the utility of reaction injection moulding.
- 4. Attempt any FOUR : 16**
- (a) State merits and demerits of injection moulding machine.
  - (b) Describe extruder pelletizer unit.
  - (c) Write constructional detail of screw and barrel assembly.
  - (d) How will you select injection moulding machine to suit your requirement ?
  - (e) Enlist auxiliary equipments and their function used in blow film extrusion process.
  - (f) Describe constructional detail of pipe die.
- 5. Attempt any FOUR : 16**
- (a) Explain different trimming Methods used in thermoforming.
  - (b) Describe continuous extrusion blow moulding process.
  - (c) Compare thermoforming with injection moulding process.
  - (d) How does moving mandrel programming works to control Parisian thickness ?
  - (e) Enlist any four properties and application of PVC foam.
- 6. Attempt any FOUR : 16**
- (a) Describe plug assist thermoforming with neat labelled diagram.
  - (b) Explain slab stock foam process for PU.
  - (c) State any four remedies, causes and defects of Thermoforming.
  - (d) Differentiate between Rigid and flexible PU foam.
  - (e) Write down names & chemical blowing agent & its selection criteria.
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