

22353

11920

3 Hours / 70 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) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.

Marks

1. Attempt any FIVE :

10

- (a) State the location and function of screen pack.
- (b) Name any two materials used and products of injection moulding process.
- (c) Name the finishing method used with plastic part to
 - (i) Remove flash
 - (ii) Make hole
- (d) State any two advantages of Electroplating.
- (e) Enlist surface treatment methods.
- (f) State different types of foam.
- (g) State any two properties of polyurathane foam.

- 2. Attempt any THREE of the following : 12**
- (a) Draw neat sketch of single screw extruder and explain its operation.
 - (b) Differentiate between Co-rotating and counter rotating twin screw extruder.
 - (c) Describe spin welding process with neat diagram.
 - (d) State any four properties and applications of Polystyrene foam.
- 3. Attempt any THREE of the following : 12**
- (a) State significance of blow ratio and hoop ratio with respect to blow moulding.
 - (b) Identify the manufacturing process for corrugated sheet, explain auxiliary equipments.
 - (c) Explain parison programming method to control thickness.
 - (d) Describe the process of hot gas welding.
- 4. Attempt any THREE : 12**
- (a) Select suitable process for manufacturing of 3 mm dia. and 4 mm long pallet with polyethylene waste material. Justify your answer.
 - (b) Select and describe the process for manufacturing of 1 litre drinking water bottle.
 - (c) Identify any four defects in blow moulded product and suggest suitable remedies for them.
 - (d) Describe any two auxiliary equipments used in pipe extrusion plant with neat figure.
 - (e) Select the welding method for joining of plastic part containing metal insert with justification.

5. Attempt any TWO :**12**

- (a) With neat sketch, explain the process of vacuum metalizing. State its advantages.
- (b) Select and explain process for manufacturing of milk packaging pouches.
- (c) Select the material and explain process for manufacturing foam for refrigerator packaging.

6. Attempt any TWO of the following :**12**

- (a) Identify and describe the process for deposition of short fibers on adhesive coated surface with neat sketch.
 - (b) Explain the effect of process parameters on quality of blow moulded product.
 - (c) Identify the three most important auxiliary equipments in sheet extrusion process. State their functions and defects in products if they are not properly operated.
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