



17449

16172

3 Hours / 100 Marks

Seat No.

--	--	--	--	--	--	--	--

- 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.*

Marks

1. A) Answer any six :

(6×2=12)

- Write the types of injection moulding machines.
- Enlist the two names of plastics which can be blow moulded and state its applications.
- Draw a labelled diagram of an extrusion screw.
- Define daylight opening.
- Write any two applications of polystyrene foam.
- Write any two applications of thermoforming.
- Draw a labelled diagram of standard injection nozzle.
- Define shot capacity of an injection moulding machine.
- Draw a labelled diagram of blown film extrusion plant.

B) Answer any two :

(2×4=8)

- Explain the basic process of extrusion with a diagram.
- Draw a labelled diagram of injection moulding cycle. State its features.
- Explain drape forming with a diagram.

2. Answer any two :

(2×8=16)

- Explain the method of manufacturing of polyvinyl chloride foam by using a chemical blowing agent. **6**
 - State any two properties and applications of it. **2**
- Explain slip forming and ridge forming methods with diagrams.
- Explain any four merits and any four demerits of injection moulding process.

P.T.O.

**3. Answer any two :****(2×8=16)**

- a)
 - i) Describe gas assisted injection moulding.
 - ii) Explain principle involved in reaction injection moulding.
- b) Name any four defects in extruded article. State their causes and suggest remedies.
- c) Explain continuous and intermittent extrusion processes of blow moulding with sketches.

4. Answer any two :**(2×8=16)**

- a) Explain the constructions of pipe die and sheet die with diagram.
- b) State the process variables in thermoforming. Explain their effects on quality of the product.
- c) Describe any four defects observed in process of injection moulding along with their causes and remedies.

5. Answer any two :**(2×8=16)**

- a)
 - i) What is a PU Foam ? Outline a process of forming a rigid PU foam.
 - ii) Write any four properties and applications of PU Foam.
- b) Explain selection criteria for types of injection moulding machine.
- c) Describe take off unit and cutter systems in an extruders.

6. Answer any two :**(2×8=16)**

- a)
 - i) Compare between mechanical and hydraulic clamping system in injection moulding.
 - ii) State any four advantages and any four disadvantages of injection process.
 - b) Describe parison cutting device and parison control device.
 - c) Describe side fed and bottom fed blown film die.
-