



22353

11819

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**.*
 - (7) *Mobile Phone, Pager and any other Electronic Communication devices are **not permissible** in Examination Hall.*

Marks

1. Attempt any five :

10

- a) State the principle of extrusion.
- b) Define blow ratio in blow moulding.
- c) Enlist any two applications of ultrasonic welding.
- d) Define term corona discharge.
- e) State the purpose of surface treatment.
- f) State the function of thrust bearing.
- g) Enlist any two chemical blowing agents used to manufacture foam.

2. Attempt any three :

12

- a) Explain the blown film extrusion process and state its applications.
- b) Explain the wire and cable coating process along with materials used in it.
- c) Describe the adhesive bonding technique and state its any two applications.
- d) Explain any one manufacturing technique for polystyrene foam in detail.

3. Attempt any three :

12

- a) Explain the trouble shooting guide for blow moulding process (any four defects).
- b) Identify the extruder for rigid PVC powder applications and explain in detail with neat sketch.

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- c) Explain in detail Purison programming in blow molding process.
- d) Explain the application of
 - i) Hot gas welding (any four)
 - ii) Induction welding (any four).

4. Attempt any three :

12

- a) Identify the process for manufacturing of PVC pipe and explain in detail process plant layout.
- b) Select process for manufacturing from preform of 1 liter PET drinking water bottle and explain in detail.
- c) Identify different process parameters for blow moulding and explain their effect on quality of products.
- d) Explain with neat sketch construction and function of breaker plate and screen pack assembly.
- e) Identify sealing techniques for rain-wear and explain in detail.

5. Attempt any two :

12

- a) Explain paint and coating techniques in detail and state its any two significance.
- b) State and explain welding techniques for tank liners and ducting along with any two materials suitable for these techniques.
- c) Identify the foam material that can be used to make flexible as well as rigid products. Explain the chemistry involved in the same.

6. Attempt any two :

12

- a) Select manufacturing process to deposit a thin aluminum layer on jewelry components and explain in detail with neat sketch.
 - b) Suggest relevant causes and remedies for any six common defects in extrusion process.
 - c) Select extrusion blow molding process for manufacturing of 55-gallon drum and explain in detail the same.
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