

22389

23124

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 answer 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 of the following:** **10**
- a) State the function of co-rotating and counter rotating screws.
  - b) State the function of breaker plate and screen pack in extrusion.
  - c) List down any four thermoplastic materials processed by blow moulding.
  - d) State principle of hot plate welding.
  - e) State difference between dye and pigment.
  - f) List down any four applications of flexible Pu foam.
  - g) Suggest causes and remedies for following problems in extrudate
    - i) Pin holing
    - ii) Discolouration.

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- 2. Attempt any FOUR of the following:** **12**
- a) Explain vacuum sizing and pressure sizing in pipe extrusion.
  - b) Suggest a proper process to produce a LDPE film of thickness 50 micron and explain it with neat sketch diagram.
  - c) State any three advantages of twin screw over single screw.
  - d) For electrical conducting wire and cable coating process is used justify your answer by giving suitable example.
  - e) Explain hot plate welding with neat sketch.
- 3. Attempt any FOUR of the following:** **12**
- a) Explain in detail any one method for Parison wall thickness control.
  - b) State any four defects with their remedies observed in Blow moulding process.
  - c) “Edible oil can of five liter will be manufactured by blow moulding process.” Justify your answer with suitable sketch.
  - d) State any four defects and its remedies observed in blown film.
  - e) Identify the manufacturing process for corrugated sheet, state its applications.
- 4. Attempt any THREE of the following:** **12**
- a) Select proper solvent cement to join UPVC pipe with UPVC elbow.
  - b) State the purpose of filing and tumbling process.
  - c) Explain extrusion blow moulding with neat sketch.
  - d) Define structural foam and state any four properties of it.
  - e) Identify and explain sealing technique for rain wear.

- 5. Attempt any THREE of the following:** **12**
- a) Select proper processing method for the production of 3 mm thickness PVC foam sheet and explain it with suitable sketch.
  - b) “PET bottles are made by stretch blow moulding.”. Justify your answer with suitable explanation and sketch.
  - c) Select proper welding process for inserting metal insert into the plastics.
  - d) Suggest and explain proper method for manufacturing of metallic automotive interior parts and explain it with suitable sketch.
  - e) Explain the concept of blow ratio and hoop ratio.
- 6. Attempt any TWO of the following:** **12**
- a) Explain pelletizing process with neat sketch.
  - b) Select and explain proper process for the production of 90 mm diameter UPVC pipe.
  - c) Suggest the causes and remedies for following defects in pipe extrusion –
    - i) Thickness variation
    - ii) Internal rough surface
    - iii) Burn mark
    - iv) Folding
    - v) Outer surface dull
    - vi) Silver streaks.
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