

# 313354

**12526**

**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 properties of Polymethyl methacrylate polymer.
  - b) Enlist applications of polyacetal and any one product manufactured from polyacetal.
  - c) Name the raw material used to manufacture urea-formaldehyde and any one application of it.
  - d) State the type of phenol formaldehyde and write any one application of it.
  - e) Define impact modifier. Write its function.
  - f) State the function of flame retardant and one example of flame retardant.
  - g) Draw neat sketch of tumbler mixer.

P.T.O.

- 2. Attempt any THREE of the following: 12**
- a) Enlist the types of Polyethylene. State properties and application of HDDE.
  - b) State the properties and application of cellulose acetate.
  - c) Enlist any four properties and application of Acrylonitrile Butadiene Styrene (ABS).
  - d) Enlist any four properties and four applications of epoxy resin.
- 3. Attempt any THREE of the following: 12**
- a) Explain the manufacturing of High Impact Polystyrene (HIPS) and write properties of it.
  - b) State any four properties and application of Polyurethane (PTFT).
  - c) Enlist any four properties and application of Polyurethane (PU).
  - d) Classify lubricant. State the function of lubricant. Give one example of each.
- 4. Attempt any THREE of the following: 12**
- a) State any four properties and applications of PVC.
  - b) State any four properties and application of polycarbonate.
  - c) Define plasticizer. Classify the plasticizer and give one example of each.
  - d) State the function of heat stabiliser explain criteria of selection of heat stabiliser.
  - e) Explain the construction and working of ribbon blender with sketch.
- 5. Attempt any TWO of the following: 12**
- a) Suggest polymer material used for plastic bucket and write its properties and application.
  - b) Describe manufacturing principle, properties and applications of nylon 6.
  - c) Draw neat label sketch of high speed mixer and explain the construction and working of it.

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**Marks**

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

**12**

- a) Describe manufacturing principle, properties and applications of polypropylene (PP).
  - b) Enlist the raw material used to manufacture melamine formaldehyde. Write it's properties and application.
  - c) Draw neat sketch of two roll mill and explain construction and working of it.
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