

17448

21718

3 Hours / 100 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (7) Abbreviations used convey usual meaning.

Marks

- 1. Attempt any FIVE of the following: **20****
- a) Define Polymer. Represent its classification.
 - b) State principle of manufacturing of LDPE, Write its two properties and two applications.
 - c) State four properties and four applications of PMMA.
 - d) Compare nylon 6 and nylon 66 on the basis of properties. (minimum four points each)
 - e) Explain the manufacturing principle of PF resin with reaction involved in it. Name the grade used for moulding.
 - f) Write four properties and four applications of bismelamide.
 - g) Explain with a labelled diagram the tumbler mixer.

P.T.O.

- 2. Attempt any FOUR of the following:** **16**
- a) Explain the principle of manufacturing of poly vinyl alcohol by hydrolysis process. Write reaction involved.
 - b) Represent the structure of polyethylene terphthalate and polybutylene terphthalate. Which will be more flexible?
 - c) State four properties and four applications of polycarbonate.
 - d) Explain the manufacturing principle of Uf resin with reactions involved in it. Compare colour of Uf and Pf resins in general.
 - e) Write four properties and four applications of styrene acrylonitrile plastic.
 - f) State selection criteria and functions of heat and light stabilizers.
- 3. Attempt any FOUR of the following:** **16**
- a) State the principle of manufacturing of HDPE. Write its two properties and two applications.
 - b) Enlist four properties and four applications of polystyrene.
 - c) Explain the manufacturing principle of acrylonitrile butadiene styrene. State its two properties.
 - d) Write the structural formula of cellulose nitrate list any four properties of it.
 - e) Describe laboratory preparation of MF resin.
 - f) Draw a labelled diagram of a high speed mixer where is it used?
- 4. Attempt any FOUR of the following:** **16**
- a) Enlist four properties and four applications of high impact polystyrene.
 - b) Explain the manufacturing principle of PTFE. Give its two properties and two applications
 - c) List four properties and four applications of polyvinyl acetate. Represent its structural formula.
 - d) State the principle of manufacturing of PPS. Write its two properties and two applications of it.

- e) Explain the need of compounding. List any four compounding agents.
- f) Define expanded polystyrene. State its properties and application.

5. Attempt any FOUR of the following: 16

- a) Explain cracking process for PVC manufacture.
- b) Explain the principle of manufacturing of cellulose acetate. List its two properties and two applications.
- c) Write four properties and four applications of polyphenyleneoxide.
- d) Enlist four general properties and four applications of PU.
- e) Explain with a diagram, two roll mill. State its use.
- f) Two properties and two applications of PAN.

6. Attempt any FOUR of the following: 16

- a) List four properties and four applications of polyethylene terphthalate.
- b) Describe the principle of manufacturing of polystyrene by suspension polymerization technique.
- c) Write four properties and four applications of cellulose acetate butyrate.
- d) Define 'blowing agents'. Explain their use, giving two examples.
- e) Write four properties and four applications of unsaturated polyesters.

or

Describe lamination process.

- f) Explain the principle of manufacturing of polybutylene terphthalate.
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