

22555

22232

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) 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) List down the different binder materials in coatings.
- (b) Define UV curing of coatings.
- (c) State the role of Extender in paint.
- (d) Justify the surface treatment before application of paint.
- (e) Show the importance of contact angle concept in Adhesive Technology.
- (f) Draw neat sketch of Air Knife Coater.
- (g) State any four applications of Calender Coatings.



- 2. Attempt any THREE of the following : 12**
- (a) Describe the concept of emulsion paints.
  - (b) Describe with neat sketch like extrusion coating.
  - (c) Explain hot melt and water borne adhesive with respect to application.
  - (d) Describe the concept of mechanical interlocking.
- 3. Attempt any THREE of the following : 12**
- (a) Describe different industrial paints.
  - (b) Compare Reverse roll coating with gravure roll coating with neat sketch.
  - (c) State the advantages and disadvantages of pressure-sensitive adhesives.
  - (d) Explain corona treatment method for surface preparation prior to adhesive bonding.
- 4. Attempt any THREE of the following : 12**
- (a) Describe the role of plasticizer and surfactants in the coatings.
  - (b) Illustrate the fire retardant paint with its formulation.
  - (c) Describe calender coating method with neat sketch.
  - (d) Compare latex adhesives and hot melt adhesives on the basis of their properties.
  - (e) Explain the mechanism of adhesion on the basis of theory.
- 5. Attempt any TWO of the following : 12**
- (a) Explain the chemical resistant paints and water borne paints in detail.
  - (b) Describe extrusion coating with its neat sketch and state its applications.

- (c) Select the suitable adhesive for following area :
- (i) Cello Tape
  - (ii) Shoe Sole
  - (iii) Carpentry Industry
  - (iv) Office and Stationery
  - (v) Paint
  - (vi) Plywood

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

**12**

- (a) What are the different surface treatments used for substrate in adhesive technology ? Explain any two of them.
- (b) Select the proper type of paint for following applications :
- (i) Ceramic
  - (ii) Fabric
  - (iii) Building interior wall
  - (iv) Automobile
  - (v) Furniture
  - (vi) Structural steel
- (c) Describe powder coating and vacuum coating method in detail.
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