

M.Sc Sem-3 Examination**503****Polymer Science****November-2024****[Max. Marks : 70]****Time : 2-30 Hours]****QUESTION – 1 Write the following**

(i) Classify adhesives based on origin and mode of setting. Discuss the theories of adhesion. **7 MARKS**

(ii) Explain silane coupling agents with structure, properties and their specific applications. **7 MARKS**

OR

(i) Explain the various surface preparation techniques prior to the application of adhesive. **7 MARKS**

(ii) Discuss in detail the types of adhesives used in the construction industry, including their properties, applications, and advantages **7 MARKS**

QUESTION – 2 Write the following

(i) Write preparation, properties and applications of Pressure Sensitive Adhesives. **7 MARKS**

(ii) Discuss in detail about compounding of Nitrile Rubber Adhesive. **7 MARKS**

OR

(i) Define the term 'wetting' in the context of adhesion and explain its importance. **7 MARKS**

(ii) Write short note on (i) Water based Adhesive (ii) Acrylic adhesive. **7 MARKS**

QUESTION – 3 Write the following

(i) Discuss various types of adhesive joint designs. Discuss about maximizing Joint Efficiency. **7 MARKS**

(ii) Discuss preparation, properties and applications of Conductive Adhesive. **7 MARKS**

OR

(i) List out the types of Peel strength test. Explain any one in detail. **7 MARKS**

(ii) Discuss in detail, adhesives used in Automotive Industry. **7 MARKS**

QUESTION – 4 Write the following

(i) Explain the function of Extenders, Solvents and diluents in paint manufacture. **7 MARKS**

(ii) Explain any two methods used for film preparation. **7 MARKS**

(P-T.O)

OR

(i) Describe the method of application of paint by Dip coating and spray painting.

7 MARKS

(ii) Explain the Mechanical, Rheological and Optical properties of coatings.

7 MARKS

QUESTION – 5 Attempt any seven out of twelve.

14 MARKS

1. What are selection criteria of adhesives?
2. Differentiate between organosol and plastisol.
3. Define pigment volume concentration (PVC) ?
4. Differentiate oil paints and emulsion paints?
5. Define reactive diluents. Give one example.
6. Give two examples of anaerobic adhesive.
7. Polyolefin based adhesives are also called as Vinyl adhesives. (True/False).
8. ABS is a triblock copolymer. (True/False)
9. TDI stands for
10. SBS stands for
11. Soluble Silicates and Phosphates cement areadhesives.
12. LDPE and PP based adhesives are also called as..... adhesives
