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2703N1128

Candidate's Seat No : _____

M.Sc. Sem.-3 Examination

503

Polymer Science

March-2025

Time : 2-30 Hours]

[Max. Marks : 70

QUESTION – 1 Write the following

(i) List out the important factors for selection of adhesives. Explain in detail.

7 MARKS

(ii) Compare the Water based vs Solvent based in detail.

7 MARKS

OR -

(i) Give advantages and disadvantages of adhesive Bonding over conventional bonding techniques.

7 MARKS

(ii) Define titanate coupling agent. Describe their types and adhesion mechanism.

7 MARKS

QUESTION – 2 Write the following

(i) Write short note on (i) Water based Adhesive (ii) PVC plastisol.

7 MARKS

(ii) Discuss in detail, naturally available adhesive materials with examples

7 MARKS

OR

(i) Differentiate between novolac and resole.

7 MARKS

(ii) What are the requirements of Structural Adhesives? Explain in detail about Epoxy adhesive.

7 MARKS

QUESTION – 3 Write the following

(i) Differentiate between Adhesive and Cohesive adhesion. Draw the basic types of joints designs for adhesive bonding.

7 MARKS

(ii) List out the types of Peel strength test. Explain any one in detail.

7 MARKS

OR

(i) Explain the standard test methods on adhesive joints with schematic illustration.

7 MARKS

(ii) Write about adhesives used in electric and electronic industry

7 MARKS

(P.T.O)

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QUESTION – 4 Write the following

- (i) Discuss the factors affecting pigment dispersion. **7 MARKS**
(ii) Describe different types of solvents used in paint manufacture. **7 MARKS**

OR

- (i) Discuss on anyone technique for pigment dispersion. **7 MARKS**
(ii) Distinguish oil paints and emulsion paints with examples. Compare their properties. **7 MARKS**

QUESTION – 5 Attempt any seven out of twelve.

14 MARKS

1. What are the factors affecting adhesive bond ?
2. Define anaerobic adhesive with example.
3. Give two examples of inorganic pigments used in paints formulation.
3. List applications of Adhesives for building construction
4. Define inorganic adhesives. Give one example.
5. Give two examples of tackifiers.
6. Differentiate between non-reactive diluents and solvent.
7. HALS are used as UV stabilizers. (True/False).
8. Aromatic amines are used as antioxidants. (True/False).
9. ABS is a triblock copolymer. (True/False)
10. DIOP stands for
11. APMS full form is
- 12 RTV stands for
