

[130]

SEAT No. _____

No. of printed pages : 2

SARDAR PATEL UNIVERSITY
M.Sc. Polymer Science & Technology Semester-IV Examination – 2019
Saturday, 23th March 2019
2:00 p.m. to 5:00 p.m.
PS04CPST23: Polymer Blends, & Adhesives

Note: (1) Attempt all questions.
(2) Figures to the right indicate full marks.

Total marks: 70

Que. 1 Answer the following

08

- (1) _____ is example of boil proof type adhesive
(a) UF resin (b) MF resin (c) PF resin (d) None of these
- (2) _____ technique is used for wood surface preparation
(a) Abrasion (b) degreasing (c) both a & b (d) None of these
- (3) The major difference between Small Angle Neutron Scattering and Small Angle X-ray Scattering is their _____
(a) Intensity (b) Wavelength (c) Angle (d) None of these
- (4) _____ method is used for preparation of polymer blend
(a) solution mixing (b) melt mixing (c) Interpenetrating network (d) all of these
- (5) _____ is used as degreasing solvent for metals
(a) Acetone (b) Methanol (c) Ethanol (d) Trichloro ethylene
- (6) _____ technique is used for metal surface preparation
(a) Abrasion (b) degreasing (c) chemical method (d) all of these
- (7) _____ can reduce the interfacial energy between two phase separated domains in polymer blends.
(a) Addition of block copolymer (b) Chemical modification of polymer (c) Polarity (d) Molecular weight of polymer
- (8) Polystyrene – Poly(vinyl methyl ether) is a example of _____ blend
(a) Miscible blend (b) Partially miscible blend (c) Immiscible blend (d) None of these

Que. 2 Answer the following (any seven)

14

- (1) Why polyethylene and polypropylene don't mix together? Explain it
- (2) Explain the different methods for preparation of polymer blend.
- (3) Discuss the surface treatment of wood for adhesive application
- (4) Explain the type of stresses that occur on the adhesive bonded joint
- (5) Write the different reason for insufficient bonding in adhesive bonding.
- (6) Write the classification of adhesive based on durability
- (7) Discuss the surface treatment of metal for adhesive application
- (8) Discuss the advantages of blending
- (9) How the chemical modification of polymer enhancing the miscibility

①

(P.T.O)

- Que. 3 (a) Discuss briefly on physical additive used in compatibilization 06
- (b) Answer the following 06
1. Explain the different parameters influencing the miscibility and immiscibility.
 2. Discuss the method of studying miscibility or immiscibility.
- OR**
- (b) Answer the following 06
1. Discuss the molecular interpretation of polymer –polymer miscibility.
 2. Write a note on practical compatibilization in a polymer blend.
- Que. 4 (a) Discuss briefly on reactive compatibilization 06
- (b) Explain natural compatibility in two phase blends 06
- OR**
- (b) Answer the following 06
1. Explain the different factors in miscibility
 2. Explain polymer modification for reactive compatibilization.
- Que. 5 (a) Write the a note on modification during polymerization in polymer modification for physical compatibilization 06
- (b) Answer the following 06
1. Explain the factor affecting the adhesive selection.
 2. What are the different reasons for poor adhesion bonding?
- OR**
- (b) Explain the different methods of adhesive bond curing 06
- Que. 6 (a) Explain the different methods of adhesive application 06
- (b) Explain the different methods of adhesive bonding 06
- OR**
- (b) Answer the following 06
1. Write the advantage and disadvantage of adhesive bonding.
 2. What are the different additives used in adhesive formulation? Explain its role in adhesive

— X —
 (2)