

- 5 What are coalescing agents & explain their use in latex paints.
- 6 Give mechanism & advantages of associative thickeners?
- 7 Dilution ratio and Dilutability in solvents.
- 8 Flocculation leads to the instability of pigment dispersions- *justify*
- 9 Kauri-Butanol value of solvents.
- Q.3(a) What are CICPs? Give their classification & method of preparation? Write in brief about Aluminate pigments? (6)
- (b) Enlist various high performance pigments. Write in detail about Bismuth vanadate pigment. (6)
- OR
- (b) Write note on any one in detail (6)
- i. Phthalocyanine Blue & Green Pigment
 - ii. Cadmium Sulfide and Cerium Sulfide pigments
- Q.4(a) What is the basic difference between substrate free & substrate based special effect pigment? Give brief account on Mica & Silica based special effect pigment? (6)
- (b) Give design principle of high performance organic pigment? Write in brief about any three high performance organic pigments? (6)
- OR
- (b) Why wetting & dispersion is important in pigmented coatings? Explain in brief about characteristics of wetting & dispersing agents used in coatings? Illustrate & explain mechanism of W&D agents in aqueous & non aqueous systems? (6)
- Q.5(a) What are driers? Why they are used? Give their mechanism in oxidative cured system? Explain roles of Active drier and auxiliary drier with two examples in each class? (6)
- (b) Write note on any one in detail (6)
- i. Organoclay Rheology modifier
 - ii. Organic Thixotrope
- OR
- (b) Write note on any one in detail (6)
- iii. Biocides
 - iv. Flow & Leveling agents
- Q.6(a) What are solvents? Explain their function during paint manufacturing and paint application? Give detailed classification of solvents giving example? (6)
- (b) Write note on any one in detail (6)
- i. Defoamers & Antifoaming agents
 - ii. Antiskinning Agents
- OR
- (b) Explain the chemistry of Silicone additives used in surface coatings? (6)

