

(70) Seat No.: _____

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY

SEMESTER EXAM (CBCS) (NC), M.Sc. INDUSTRIAL CHEMISTRY

SEMESTER -3, PS03CICH03-CHEMICAL TECHNOLOGY-1

22-10-2016, Saturday, TIME: 2:00 p.m to 5:00 p.m

Total Marks: 70

Note: Attempt all questions. Draw neat and labeled diagram where ever necessary. Figures on the right show marks.

Q.1. Answer the following MCQs.

(08)

1. _____ is used to adjust the consistency of the paint formulation.
A. Binder B. Pigment C. Solvent D. All of these
2. The reactivity of a fatty acid in oil is indicated by _____.
A. Iodine Value B. Acid value C. Saponification value D. Peroxide value
3. Hydroxyl functional polyester resin can be synthesized by taking _____ as excess raw material.
A. Acid B. Polyol C. Amine D. Phenol
4. _____ is an example of white pigment.
A. Lithopone B. Zinc Oxide C. Titanium dioxide D. All of these.
5. _____ is used to determine the solvency of solvents.
A. Iodine Value B. Acid value C. Saponification value D. KB value
6. _____ is an example of organic pigment
A. Perilene-perinone B. Ultramarine blue C. Chrome green D. Anatase
7. _____ is a saturated fatty acid found in fats and oils
A. Lauric B. Oleic C. Linoleic D. Linolenic
8. Solubility of Fat in water is _____ than that of water in fat
A. More B. Less C. Equal D. None of these

Q. 2 Answer the following short questions. (Any 7)

(14)

1. Enlist the various components of surface coating system along with their functions and examples.
2. What is Hexa bromide value? Explain its correlation with unsaturation in fatty acid chain.
3. What is Phenolic resin? Enlist various types of phenolic resin.
4. Enlist different types of epoxy based coating systems.
5. Enlist various important inorganic pigments?
6. Differentiate between pigment and dye.
7. What is aggregates and agglomerates?

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(1)

8. Enlist various non-triglyceride components present in oil.
9. Give the classification of oil on the basis of position of double bonds in the fatty acid chain.

Q.3 (a) Discuss the following chemical properties for oil:

- i. Oxidation ii. thermal polymerization iii. Saponification (06)

Q.3 (b) Discuss the technology of alkyd resins. (06)

OR

Q.3 (b) What are additives? Enlist various additives for paints along with their functions. (06)

Q.4 (a) What are polyurethane resin? Discuss the rawmaterials used for polyurethane resins. (06)

Q.4 (b1) Write a note on modified phenolic resins. (03)

Q.4 (b2) Write a note on butylated amino resins. (03)

OR

Q.4 (b1) Discuss the characterization of epoxy resins. (03)

Q.4 (b2) Discuss the properties of Hydrocarbon solvents. (03)

Q.5 (a) Discuss the Following important properties of pigments:

- i. optical properties ii. Particle shape and size (06)

Q.5 (b) Explain the production technology of phthalocyanine blue pigments. (06)

OR

Q.5 (b) Write a note on azo pigments. (06)

Q.6 (a) Explain the terms oleochemicals and oleochemical derivatives, enlist the various types of oleochemicals. (06)

Q.6 (b) Discuss the technology of fatty acid distillation. (06)

OR

Q.6 (b1) What is degree of split? (03)

Q.6 (b2) Write a note on fatty nitriles? (03)

————— X —————
Best of Luck.

————— X —————
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