

[77]

SARDAR PATEL UNIVERSITY  
M. Sc. Semester - IV Examination  
Wednesday, 1<sup>st</sup> November 2017  
INDUSTRIAL CHEMISTRY

SC

Subject: Technology of chemical process industries

Date: 01/11/2017

Course No. : PS04CICH12

Time: 02:00 p.m. to 05:00 p.m.

Marks: 70

Q. 1 Answer the following MCQs (Attempt all) [08]

- i. Pigments are generally \_\_\_\_\_ in medium  
(a) Soluble (b) Insoluble  
(c) Both (a) and (b) (d) None of these
- ii. Titanium dioxide is \_\_\_\_\_ colour pigment.  
(a) White (b) Red  
(c) Blue (d) Orange
- iii. Medium oil alkyd have \_\_\_\_\_ % of oil  
(a) <45 (b) 45 to 55  
(c) >65 (d) 85
- iv. \_\_\_\_\_ is used in production of alkyd resin.  
(a) Phenol (b) Ethanol  
(c) Propanol (d) Glycerol
- v. Epoxy resin does not find application in the field of \_\_\_\_\_  
(a) Surface coating (b) Moulding articles  
(c) Adhesive (d) Agriculture
- vi. Polyurethane is formed by the polymerization of \_\_\_\_\_.  
(a) Isobutylene & Isoprene (b) Phenol & Formaldehyde  
(c) Diisocyanate & Diol (d) Urea & Formaldehyde
- vii. Paris green is \_\_\_\_\_ colour pigment.  
(a) White (b) Red  
(c) Green (d) Blue
- viii. Nitrogen is \_\_\_\_\_ nutrient.  
(a) Natural (b) Primary  
(c) Secondary (d) Micro

Q.2 Answer the following short question (Any seven) [14]

- I. Differentiate between organic and inorganic pigments.
- II. Enlist the uses of titanium pigments.
- III. Write the equation for manufacture of phenol from benzene.
- IV. Define iodine value.
- V. Enlist uses of alkyd resin.
- VI. Write application of epoxy resin.
- VII. Enlist the isocyanate used for polyurathane.
- VIII. Define Fertilizer.
- IX. Define insecticide and fumigants.

- Q.3 (a) Differentiate between pigment and dyes [06]  
 (b) With the help of flow diagram explain manufacture of titanium dioxide. [06]  
 Or  
 (b) Write note on classification of inorganic pigments. [06]
- Q.4 (a) With the help of labelled diagram explain manufacture of alkyd resin [06]  
 (b) With the help of flow diagram explain manufacture of phenol formaldehyde [06]  
 Or  
 (b) Write note on oils used for manufacture of alkyd resin. [06]
- Q.5 (a) Write note on manufacture of epoxy resin. [06]  
 (b) Write explanatory note on polyurethane. [06]  
 Or  
 (b) Write note on curing system used for epoxy resin. [06]
- Q.6 (a) With the help of flow diagram explain manufacture of triple super phosphate. [06]  
 (b) Write note on gammaxine. [06]  
 Or  
 (b) With the help of flow diagram explain manufacture of urea. [06]

Best of Luck.....