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SARDAR PATEL UNIVERSITY

Examination: T.Y.B.Sc. Industrial Chemistry (Vocational), Semester: VIth

Day: Tuesday **Date:** 28/03/2017

Session: Morning/ ~~Evening~~ **Time:** 10:00am to 01:00pm

Subject/ Course Code: US06CICV02

Subject/ Course Title: Heavy and Fine Organic Chemicals

TOTAL MARKS: 70

Q.1 Choose the correct answer. **[10]**

(1) Vapour phase reaction between acetylene and acetic acid in the presence of a _____ catalyst yields vinyl acetate.
(A) Mercuric chloride (C) Zinc acetate
(B) Charcoal (D) Raney-nickel

(2) Propagyl alcohol reacts with aldehyde or vinyl ethers in the presence of an acid catalyst to from _____.
(A) Ketones (C) Acid chlorides
(B) Acetals (D) Carboxylic acids

(3) Partial oxidation of natural gas produces _____.
(A) Acetone (C) Acetylene
(B) Methane (D) None of these

(4) Catalytic vapour-phase oxidation of methanol produces _____.
(A) Formaldehyde (C) Ethanol
(B) Acetaldehyde (D) None of these

(5) The high pressure continuous chlorination of propylene yields _____.
(A) Allyl chlorides (C) Acid chlorides
(B) Ketones (D) None of these

(6) In manufacture of methyl chloride, gases are mixed and passed through a chlorination furnace operated at _____.
(A) 425°C (C) 475°C
(B) 450°C (D) 80°C

(7) Which catalyst is used in manufacture of carbon tetrachloride?
(A) Copper (C) Platinum
(B) iron boarings (D) Alluminium

(8) The reaction of ethylene oxide with ammonia is accelerated by _____.
(A) HCl (C) NaOH
(B) H_2O (D) HCOOH

(9) The methyl chloride, methylene dichloride and heavy ends are separated by _____.
(A) Vacuum distillation (C) Extraction
(B) Evaporation (D) Fractional distillation

(10) The reaction between methanol and ammonia in a continuous flow system produces _____.
(A) Ethanol (C) Methylamines
(B) Fromaldehyde (D) None of these

(P.T.O.)

Q.2 Answer the following.(attempt ten) [20]

(1) Write the uses of Acrylates.
(2) Write the chemical properties of acetylene.
(3) Write the uses of Melamine.
(4) Draw the flow sheet for manufacture of formic acid by pyrolysis of ethylene dichloride.
(5) Write the raw materials required for manufacture of glycerine from propylene via acrolein.
(6) Write the uses of ethanolamines.
(7) Draw the flow sheet for manufacture of chloroform from acetone and bleaching powder.
(8) Write the uses of sulfolane.
(9) Write the reaction for manufacture of carbon tetrachloride by chlorination of methane.
(10) Write the uses of DMF.
(11) Write the important properties of THF.
(12) Write the reaction for manufacture of alkylamines from alcohol and ammonia.

Q.3 (A) Discuss the manufacture of vinyl chloride from acetylene and HCl [05]
(B) Write a short note on 1,4 butane diol. [05]

OR

Q.3 With the help of flow diagram discuss the manufacture of phenol by cumene process. [10]

Q.4 (A) Write a short note on glycerine. [05]
(B) Explain manufacturing process of formic acid. [05]

OR

Q.4 (A) With the help of flow diagram discuss the manufacture of formaldehyde. [05]
(B) Write a short note on tri phenyl phosphate. [05]

Q.5 (A) Explain manufacturing process of dichloromethane. [05]
(B) Write a short note on N-alkylated ethanol amine. [05]

OR

Q.5 (A) Write the detail about manufacture process of chloroform. [05]
(B) With the help of flow diagram discuss the manufacture of mono-, di-, tri-ethanol amine. [05]

Q.6 (A) Write a short note on DMSO. [05]
(B) Write the manufacturing process of THF. [05]

OR

Q.6 (A) Write the manufacturing process of diethyl ether. [05]
(B) Write a short note on dioxane. [05]

— X —

(2)