

SARDAR PATEL UNIVERSITY
Fifth Semester –B.Sc.(Industrial Chemistry)
US05CICH03 Petroleum Technology

Date: 18th November 2013, Monday

Time: 10.30 am to 1.30 pm

Note: figures to the right indicate marks.

Maximum Marks: 70

Q-1 Multiple Choice Questions. Write The Correct Option in Your Answer Sheet. 10

- 1 Which element shows the formation of petroleum is from life source?
 a. O b. N c. H d. S
- 2 The general formula of paraffin is _____.
 a. C_nH_{2n} b. C_nH_{2n+2} c. C_nH_{2n-2} d. none of these
- 3 Mazout is residue obtain from _____.
 a. Atmospheric distillation unit b. Vacuum distillation unit
 c. Both a & b d. None of these
- 4 Saybolt's viscometer is used for determination of _____.
 a. Kinematic Viscosity b. Aniline point c. Absolute viscosity d. Carbon content
- 5 Flash & Fire point determination gives the information related to
 a. Safety b. Viscosity c. % carbon d. Fluidity
- 6 phthalic anhydride is manufactured by _____.
 a. Reduction b. oxidation c. halogenation d. hydrolysis
- 7 Friedel-Craft alkylation of benzene requires which Catalyst?
 a. $AlCl_3$ b. Zn – Cd c. V_2O_5 d. Ni
- 8 The temperature at which methane is converted into HCN is _____ $^{\circ}C$
 a. 500-600 b. 600-700 c. 800-1000 d. 1000-1100
- 9 Ethylene glycol is prepared by _____ of ethylene oxide which is a/an _____ product of ethylene.
 a. Hydration/oxidation b. Hydration/reduction
 c. Hydrolysis/alkylation d. Hydrogenation/halogenation
- 10 The dehydrogenation temperature of butane is _____ $^{\circ}C$.
 a. 200 b. 400 c. 530 d. 680

Q-2 Answer the following in short. (Any ten) 20

- 1 Write details of modern theory of petroleum formation.
- 2 Why desalting and demulsification is done before rectification of crude oil?
- 3 Why inorganic theory fails to explain formation of crude oil?
- 4 Name various techniques used for separation of petroleum distillate.
- 5 What are the different chemicals derived from ethane-ethylene fraction.
- 6 Show various chemicals derived from methane fraction.
- 7 Draw flow sheet diagram for manufacturing HCN.
- 8 Write important uses for maleic anhydride.
- 9 Discuss chief reaction conditions for the manufacturing of caprolactum.
- 10 Write uses of Butadiene.
- 11 Write uses of Vinyl acetate.
- 12 Discuss applications of ethanol.

- Q-3
(a) Name the various reactions taking place in catalytic cracking. 05
(b) Classify hydrocarbons in petroleum on the basis of general structure giving one example each. 05

OR

- Q-3
(a) Discuss on: distillation & refining of light petroleum products. 10

- Q-4
(a) Explain low temperature separation of C_2 fraction. 10

OR

- Q-4
(a) Explain the hypersorber method of ethylene separation from cracker gas. 10

- Q-5
(a) Give manufacture of HCN. 10
(b) Discuss manufacture of CS_2 .

OR

- Q-5
(a) Manufacture of isopropyl benzene. 10

- Q-6
(a) Discuss the manufacturing of Acetaldehyde. 10

OR

- Q-6
(a) Give the detail in the manufacturing for Ethyl alcohol. 10

ALL THE BEST