[60/A10]

No. of Printed Pages : 2

# Sardar Patel University

T. B. Sc. Examination

(Semester – V)

26th October 2018, Friday. Time: 10:00am to 01:00pm

Industrial Chemistry

## COURSE: US05CICH03 (PETROLEUM TECHNOLOGY)

Notes: Figures to the right indicate full marks. Total marks: 70

---

Q. 1 Answer the following Multiple Choice Questions. (All are compulsory) (10)

1. Average percentage of carbon in petroleum is.....
   A. 15 C. 84-86
   B. 30 D. 90-95
2. Which of the following treatment used for removal of sulphur from fuels?
   A. Sulphuric acid
   B. Dewaxing
   C. Hydrofining
   D. Alkali washing
3. The highest carbon atom present in the crude oil is.....
   A. $C_{90}$ C. $C_{75}$
   B. $C_{75}$ D. $C_{80}$
4. Chloroform is prepared by chlorination of.....
   A. $CH_4$ C. $C_2H_2$
   B. $C_2H_6$ D. $C_3H_8$
5. The raw material for vinyl acetate is.....
   A. Acetylene / Acetic
   B. Propane / Acetic acid
   C. Methane / Acetic acid
   D. Butane / Acetylene acetate
6. Ethylene glycol is prepared from oxidation and hydration of
   A. Ethylene C. Acetylene
   B. Propylene D. Methane
7. The catalyst used in manufacture of HCN is
   A. Ag C. Au
   B. Pt D. Cu
8. .....is used in manufacture for unsaturated Polyester manufacture.
   A. Maleic anhydride
   B. HCN
   C. $CS_2$
   D. $H_2O_2$
9. Hydration of acetylene on industrial scale uses the catalyst.....
   A. $H_2SO_4$ C. $PdCl_2$
   B. $V_2O_5$ D. Cd/Pt
10. Ethanol is manufactured on industrial scale by hydration of .....
    A. Propylene C. Acetylene
    B. Ethylene D. Butane.



(PTO)

Q.2 Answer the following short questions. (Any TEN) (20)

1. What are significant of salts removal from crude oil?
2. Write limitations of inorganic theory for formation of crude oil.
3. Explain significant of water removal from crude oil.
4. Enlist various chemicals derived from methane fraction.
5. Name various techniques used for separation of petroleum distillate.
6. What are the different chemicals derive from C3 fraction.
7. Write a reaction for Phthalic anhydride preparations.
8. Write reaction condition of isopropyl benzene manufacturing.
9. Write the use of Ethyl benzene.
10. Write the use of Butadiene.
11. Enlist applications of Vinyl acetate.
12. Write the use of Ethyl alcohol.

Q. 3 Write a notes on following: (10)

A. Theory of Petroleum.
B. "Demulsification" & "Desalting" of crude oil.

OR

Q. 3 Write a notes on following: (10)

A. Girbotol process of desulfurification.
B. Composition of petroleum.

Q. 4

A. Explain the hypersorber methods of ethylene separation from cracker gas. (05)
B. Using flow diagram explain separation of C8 aromatic fraction using fractional crystallization. (05)

OR

Q. 4

A. Discuss the Azeotropic distillation for the separation of aromatics. (05)
B. Explain low temperature separation of C2 fraction. (05)

Q. 5 Discuss the manufacture of Ethyl benzene. (10)

OR

Q. 5 Discuss the manufacture processes of Isopropyl benzene. (10)

Q. 6 Write a notes on following: (10)

A. LABS.
B. Phenol

OR

Q. 6 Write a notes on following: (10)

A. Vinyl acetate.
B. Acetaldehyde.

—X—