

SEAT No. _____

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Sardar Patel University

B. Sc. (Semester – V) Examination

Date: 28-12-2020, Saturday

Time: 02:00pm – 04:00pm

Industrial Chemistry Vocational

COURSE NO: US05CICV22 (Technology of Petroleum & Petroleum Products)

Notes: Figures to the right indicate full marks.

Total marks: 70

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

- Average percentage of carbon in petroleum is
A. 15
B. 30
C. 84-86
D. 90-95
- Which of the following treatment used for removal of Sulphur from fuels?
A. Sulphuric acid
B. Dewaxing
C. Hydrofining
D. Alkali washing
- The highest carbon atom present in the crude oil is
A. C₉₀
B. C₇₅
C. C₇₀
D. C₈₀
- The temperature at which methane is converted into HCN is
A. 500-600
B. 600-700
C. 800-1000
D. 1000-1100
- In xanthat process of rayon manufacturing one of the reagents used is.....
A. CS₂
B. CCL₄
C. HCN
D. H₂SO₄
- The catalyst used in manufacturing of HCN is
A. Ag
B. Pt
C. Au
D. Cu
- Hydrogenation of benzoic acid using Pd gives the product.....
A. Caprolactam
B. Salicylic acid
C. Phthalic anhydride
D. Maleic anhydride
-is starting material for production of caprolactam.
A. Benzoic acid
B. Cinnamic acid
C. Salicylic acid
D. Phthalic acid
-is used in manufacturing of unsaturated polyester.
A. Maleic anhydride
B. HCN
C. CS₂
D. H₂O₂
- Phthalic anhydride is manufactured by _____ reaction.
A. Reduction
B. Oxidation
C. Halogenations
D. Hydrolysis

[4]

[P.T.O.]

Q.2 Are the following statements true or false? (All are compulsory)

(08)

1. According to bionic theory, formation of crude is result of temperature and pressure in presence of oxygen on sediments and rocks. True/False.
2. Knocking is observed in engines due to delayed ignition. True/False.
3. HCN when mixed with water produces weak acid. True/False.
4. The chlorination of ethane only yields ethyl chloride. - True/False.
5. The major concern in manufacturing of ethyl benzene is of feeding the catalyst in the reactor. True/False.
6. Acetonitrile is used as raw material for production of nitro fibers and nitrile rubber. True/False.
7. Low octane fuels can be converted to high octane fuels by catalytic reforming. True/False.
8. In dehydrogenation of butane, different catalyst is used in second stage as Chromium oxide cannot function in presence of steam. True/False.

Q.3 Answer the following short questions (Attempt Any 10 out of 12)

(20)

1. Name method used of demulsification of Crude Oil.
2. Name the various reactions taking place in Catalytic Cracking.
3. Why desalting is done before rectification of Crude Oil.
4. Enlist various uses of CS₂.
5. Enlist various uses of Methanol.
6. Out line that how are the important Petro-chemicals obtained from Methane.
7. Write properties and use of "Acetic acid".
8. Give the outline of chemical obtained from C₂ fraction?
9. Write properties and uses of "ACRYLONITRILE".
10. What are the uses of Maleic Acid?
11. Write a reaction for PHTHALIC ACID manufacturing.
12. What are the reaction conditions for manufacturing of BUTADIENE?

Q.4 Answer the following Long questions (Attempt Any 04)

(32)

1. Write a note on "Theory of Petroleum".
2. Write a note on "Composition of Petroleum".
3. With the help of flow diagram explain the manufacturing of HCN.
4. With the help of flow diagram explain the manufacturing of Methanol.
5. Describe the manufacturing process of Ethylene Oxide from Ethylene.
6. Describe the manufacturing of Vinyl acetate from Acetic acid.
7. Write note on manufacturing of LABS.
8. Describe the method of production of "BTX" (Benzene, Toluene, Xylene).

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