

SEAT No. \_\_\_\_\_



No. of Printed Pages : 02

[137]

SARDAR PATEL UNIVERSITY  
T.Y.B.Sc. SEMESTER – V (Industrial Chemistry)  
EXTERNAL EXAMINATION

SUB CODE: US05CICH22 (Petroleum & Petroleum Products)

DATE: 24/11/2021

TIME: 3:00 To 5:00 PM

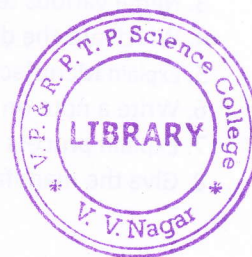
DAY: Wednesday

TOTAL MARKS: 70

Q.1 Choose the correct answer.

[10]

- Diesel oil fraction in the boiling range around \_\_\_\_\_ °C  
a. 250-320      b. 650-700      c. 50-100      d. 350-400
- Which of the following chemical compound has octane number is zero?  
a. Iso-octane      b. n-heptane      c. Benzene      d. β-Naphthol
- Which element shows the formation of petroleum is form life source?  
a. O      b. N      c. H      d. S
- Isobutane removed from C<sub>4</sub> Fraction with \_\_\_\_\_  
a. 90% H<sub>2</sub>SO<sub>4</sub>      b. 70% H<sub>2</sub>SO<sub>4</sub>      c. 65% H<sub>2</sub>SO<sub>4</sub>      d. 55% H<sub>2</sub>SO<sub>4</sub>
- What about Udex extraction meathod \_\_\_\_\_ extraction  
a. aromatic by ethylene glycol      b. aromatic by methanol  
c. aromatic by HCN      d. non of these.
- 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 manufacture one of the reagent is  
a. CS<sub>2</sub>      b. CCl<sub>4</sub>      c. HCN      d. H<sub>2</sub>SO<sub>4</sub>
- The catalyst used in manufacture of HCN is.  
a. Ag      b. Pt      c. Au      d. Cu
- Hydration of acetylene on industrial scale uses the catalyst \_\_\_\_\_  
a. H<sub>2</sub>SO<sub>4</sub>      b. V<sub>2</sub>O<sub>5</sub>      c. PdCl<sub>2</sub>      d. Cd/Pt
- Ethanol is manufactured on industrial scale by hydration of \_\_\_\_\_  
a. Propylene      b. Ethylene      c. acetylene      d. butane



Q.2 Fill in the Blanks and True-False.

[08]

- Demulsification process is used in crude oil for removal of Water. (True/False)
- Gribotol process is used in crude oil for removal Sulphur. (True/False)
- Hypersorption of gas having 98% Pure Ethylene. (True/False)
- The raw material for vinyl acetate is Acetylene/Acetic acid. (True/False)
- The HCN use as a production of Acrylonitrile. (True/False)
- Oxidation product of cumin by phenol & alcohol. (True/False)
- Production of LABS n-paraffines has \_\_\_\_\_ number carbon required. (True/False)
- . Naphthenes are Saturated compounds. (True/False)

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(P.T.O.)

**Q.3 Answer the following.(attempt any 10 out of 12)**

[20]

1. Explain distillation of crude oil in short.
2. Explain importance of petroleum refining before separation.
3. Name the various reactions taking place in catalytic cracking.
4. Give the separated product by C8 fraction.
5. Draw the flow diagram of Udex extraction method.
6. Which chemicals derive from ethane-ethylene fraction?
7. Write the reaction condition of HCN.
8. Explain Significant of mercury in phthalic anhydride production.
9. Write a use of ethyl benzene.
10. Sketch the flow diagram of LABS.
11. Which catalyst reactor used for LABS production?
12. Give the chemical reaction steps of phenol production from cumene.



**Q4. Long Answer Question (Attempt any 4 out of 8)**

[32]

1. Explain Theory of petroleum.
  2. Write a note on Composition of petroleum.
  3. Name various techniques used for separation of petroleum distillate.
  4. Which are the different chemicals derived from methane fraction?
  5. Explain Manufacturing process of HCN.
  6. Write a note on Manufacture of CS<sub>2</sub>.
  7. Explain process of LABS.
  8. Give the manufacturing process of Vinyl acetate.
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