

[69]

Seat No.: _____

No. of Printed pages: 2

SARDAR PATEL UNIVERSITY**B.Sc. Vth Semester Industrial Chemistry (Voc) (CBCS) Examination****Industrial Chemistry (Vocational)**

Course No.: US05CICV03

Subject: Technology of Petroleum and Petroleum Products

Time: 10:00 A.M. To 01:00 P.M.

15th November 2019 Friday

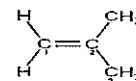
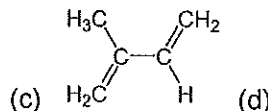
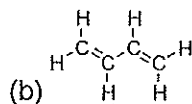
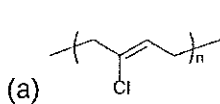
Total Marks: 70

N.B. (1) Marks allotted to the question are on its RHS

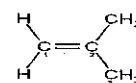
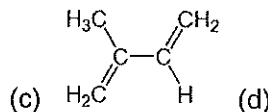
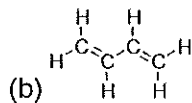
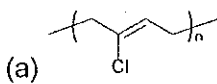
(2) Illustrate your answers wherever necessary with the help of neat sketches & chemical equations

Q. 1 Answer the following MCQ'S:**(10)**

- Kerosene are distillate fractions of crude oil in the *boiling range* of _____ °C
(a) 50-150 (b) 150-250 (c) 150-300 (d) 100-250
- _____ Process is used in crude oil for removal of Sulphur.
(a) Selexol (b) Sulfinol (c) Gribotol (d) None of these
- Organic theory explaining the formation of _____ is also known as Angler's theory
(a) Clay (b) Mineral (c) Soil (d) Petroleum
- The manufacturing of HCN by catalytic combination of _____, _____ and _____ in presence of pt- Rhodium alloy catalyst.
(a) Ethane, Ammonia, Air (b) Methane, Ammonia, Air
(c) Ethane, Ammonia, CO₂ (d) Methane, Ammonia, CO₂
- _____ is used as scrubbing agent in the production of HCN.
(a) CH₄ (b) CS₂ (c) HCL (d) H₂SO₄
- _____ is produced by the reaction of methane with sulphur at high temperature.
(a) CO (b) S (c) CS₂ (d) CO₂.
- _____ is manufactured by hydrolysis of ethylene oxide.
(a) Propylene glycol (b) Butylene glycol (c) Neopentyl glycol (d) Ethylene glycol
- _____ are the raw materials for manufacturing vinyl acetate.
(a) Acetylene / Acetic acid (b) Benzene / Ethylene
(c) Acetylene / Ethylene (d) Nitro benzene/ Methane
- _____ is the ideal structure for butadiene rubber production.



- _____ is the ideal structure for isobutene.



(1)

CPTD

- Q-2 Answer any ten of the following: (20)**
- 1 Why inorganic theory fails to explain formation of crude oil?
 - 2 Distinguish between Octane number and Cetane Number
 - 3 Sketch Labelled diagram of bubble cap tray.
 - 4 Write properties and uses of Methanol.
 - 5 Out line that how are the important petro-chemicals obtained from methane.
 - 6 Write properties & uses of HCN.
 - 7 Write the synthesis reaction of glycerine by Acrolein route.
 - 8 Give the outline of chemical obtained from ethane.
 - 9 Write properties and uses of acrylonitrile.
 - 10 Give the outline how the various chemical obtained from butane.
 - 11 What are the limitations of molecular sieve as catalyst?
 - 12 Give the outline how the various chemical obtained from butenes.
- Q-3 a Explain in detail theories for the formation of petroleum. (05)**
b Enlist the composition of petroleum and explain it in brief. (05)
- OR**
- Q-3 a Write a note on Construction & working of bubble cap tray. (05)**
b Define petroleum and write a note on kerosene and diesel. (05)
- Q-4 a With the help of flow diagram explain the manufacturing of HCN. (05)**
b With the help of flow diagram explain the manufacturing of CS₂. (05)
- OR**
- Q-4 a Out line that how are the important petro-chemicals obtained from Ethylene. (05)**
b Write a short note on properties & uses of CS₂ and Methanol. (05)
- Q-5 a Explain manufacture and use of ethylene oxide. (05)**
b Explain manufacture and use of styrene from benzene. (05)
- OR**
- Q-5 a Explain the manufacture of acrylonitrile. (05)**
b Explain the manufacture of ethyl chloride. (05)
- Q-6 Explain the manufacture of butadiene. (10)**
- OR**
- Q-6 Write a note on linear alkyl benzene sulphonate. (10)**