



K19U 2459

Reg. No. :

Name :

III Semester B.Sc. Degree (CBCSS-Reg./Sup./Imp.)

Examination, November - 2019

(2014 Admn. Onwards)

CORE COURSE IN CHEMISTRY

3B04 CHE: ORGANIC CHEMISTRY-I

Time : 3 Hours

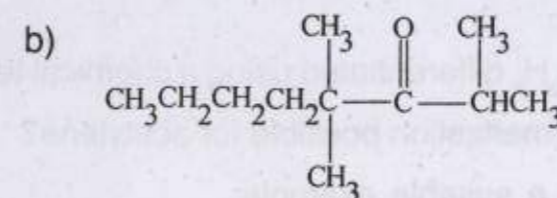
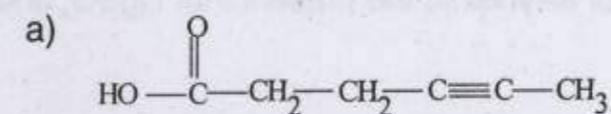
Max. Marks : 40

Answer the questions in English only

SECTION-A

(Objective type-each carries 1 mark - Answer All 4 questions) (4×1=4)

1. Give IUPAC names of the following



2. Write the structural formulae of

a) bicyclo [1, 1, 0] butane and

b) bicyclo [2, 2, 1] heptane.

3. Exemplify Wurtz reaction.

4. Give the major product of addition of HBr to $\text{CH}_3\text{CH}_2\text{CH}=\text{CH}_2$

P.T.O.



SECTION-B

(Short answer type. Each carries 2 marks- Answer 7 questions out of 10)
(7×2=14)

5. How is *n*-butanol converted to *n*-propanol?
6. How do alkenes react with
 - a) Cold dilute KMnO_4 and
 - b) hot concentrated acidified KMnO_4
7. Give the geometry of the products obtained when H_2 is added to 2-butyne in the presence of
 - a) Pd/quinolone and
 - b) Na/liq. NH_3
8. How is phenol prepared from cumene?
9. Outline the course of hydration of alkynes in the presence of HgSO_4 and H^+
10. How does SeO_2 oxidize
 - a) Internal alkyne and
 - b) terminal alkyne?
11. How is $\text{C}_6\text{H}_5\text{COCH}_3$ and $\text{C}_6\text{H}_5\text{COC}_6\text{H}_5$ differentiated using a chemical test?
12. What are the different types of polymerization possible for acetylene?
13. Explain Fries rearrangement with a suitable example.
14. Differentiate between singlet carbene and triplet carbene.

SECTION-C

(Short essay/problem type-each question carries 3 marks. Answer 4 questions out of 6).
(4×3=12)

15. How are 1 and 2 naphthols prepared?
16. Give an account of the polymerization reactions and products of alkenes and substituted alkenes.



17. What are the products obtained when alkenes are oxidized using
 - a) OsO_4 ,
 - b) Peroxyacids,
 - c) $\text{O}_3/\text{Zn}, \text{H}_2\text{O}$
18. Discuss the preparation of cycloalkanes by Freund's and Wislicenus methods.
19. How is *m*-cresol prepared from benzene?
20. Give a brief account of SN_2 reaction.

SECTION-D

(Long essay type - each question carries 5 marks. Answer 2 questions out of 4)
(2×5=10)

21. Explain sp , sp^2 and sp^3 hybridization with suitable examples.
22. Give brief notes on
 - a) Inductive
 - b) Mesomeric
 - c) Electromeric and
 - d) Hyperconjugative effects
23. Comment on the generation reactivity, structure and stability of
 - a) Carbocations and
 - b) Carbanions.
24. a) Discuss the synthesis of glycerol from
 - i) Fats and oils and
 - ii) Propylene
 b) What happens when glycerol is heated with excess of HI?