

Seat No.	
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B.Sc. (Part - III) (Semester - V) (Revised) Examination, November - 2019

CHEMISTRY

Organic Chemistry (Paper - XI)

Sub. Code: 65825

Day and Date : Monday, 04 - 11 - 2019

Total Marks : 40

Time : 12.00 noon to 2.00 p.m.

- Instructions :
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Spectroscopic chart is allowed.

Q1) Select most correct alternatives among those given below and rewrite the sentences. [8]

- a) Saturated hydrocarbons show _____ type of transition.
 - i) $\pi - \pi^*$
 - ii) $\sigma - \sigma^*$
 - iii) $n - \sigma^*$
 - iv) $n - \pi^*$
- b) The shift of absorption band to longer wavelength is called as _____.
 - i) bathochromic shift
 - ii) hypsochromic shift
 - iii) hyperchromic effect
 - iv) hypochromic effect
- c) The fundamental modes of vibrations for non linear molecule are calculated by _____.
 - i) $3N-6$
 - ii) $3N-5$
 - iii) $3N-4$
 - iv) $3N-8$
- d) The molecular vibrations can be detected in between the IR region _____.
 - i) 1.5μ to 15μ
 - ii) 2.5μ to 15μ
 - iii) 3.5μ to 15μ
 - iv) 4.5μ to 15μ
- e) The chemical shift in Aromatic protons is due to _____ deshielding phenomenon.
 - i) isotropic
 - ii) anisotropic
 - iii) inductive effect
 - iv) electronegative
- f) Formaldehyde contains _____ sets of equivalent protons.
 - i) 1
 - ii) 2
 - iii) 0
 - iv) 3

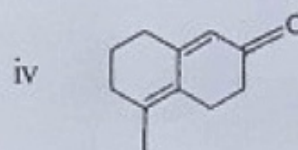
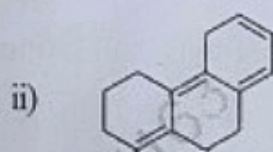
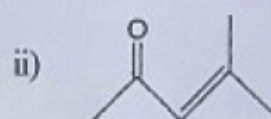
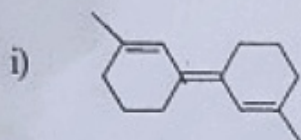
P.T.O.

- g) The largest peak in the Mass spectrum is called as _____.
- i) Weak Peak ii) Sharp Peak
iii) Broad Peak iv) Base Peak
- h) _____ ion is formed by ejection of electron from neutral molecule by bombarded with electrons.
- i) Molecular ii) Isotopic
iii) Metastable iv) Cluster

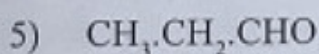
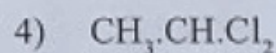
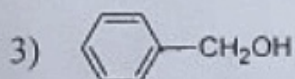
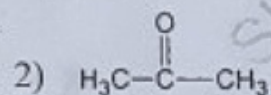
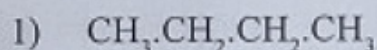
Q2) Attempt any two of the following.

[20]

- a) Explain the fundamental modes of vibrations in IR Spectroscopy.
b) Calculate λ_{\max} for the following compounds by using Woodward-Fieser rule.



- c) i) How many sets of equivalent protons present in the following compounds?



- ii) Explain shielding and De-shielding of protons.

Q3) Attempt any three of following.

[12]

- a) Short note on Hook's law.
b) Spin-spin coupling.
c) Mc-Lafferty Rearrangement.
d) Chromophore and Auxochrome.
e) Explain the types of Electronic transition.

