

Vitthalbhai Patel & Rajratna P. T. Patel Science College

Vallabh Vidyanagar

B. Sc. (Semester-V)

Subject : ORGANIC CHEMISTRY (US05CCHE02)

Date : 04-10-2017

Internal Test – October, 2017

Marks : 25

Day : Wednesday

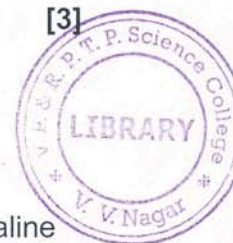
Time : 11.00 to 12.30 p.m.

Note: (i) All questions are to be attempted. (ii) Figures to the right indicate marks.

Q.1 Choose the correct option for the following :

[3]

- (i) Molecular formula of hydrazoic acid is
(a) HN_2 (b) NH_2 (c) NH_3 (d) N_3H
- (ii) How many isoprene units are present in the structure of limonene ?
(a) 1 (b) 3 (c) 4 (d) 2
- (iii) Which hormone is responsible for causing Jaundice in human ?
(a) Cortisol (b) Oestrone (c) Testosterone (d) Adrenaline



Q.2 Answer the following (Attempt any two) :

[4]

- [a] Write mechanism for Wittig reaction.
- [b] Give the importance of Tilden's reagent in the structure elucidation of terpenoids.
- [c] Write a note on Michael addition reaction.

Q.3 Do as directed :

[6]

- [a] Explain: In an unsymmetrical benzil, the aryl group with electron donating character migrates faster than simple aryl group.
- [b] Complete and rewrite the given equation :
Cyclohexanone + alkylidene triphenyl phosphoranes \longrightarrow -----

OR

Q.3 Give reaction mechanism for the following:

[6]

- [a] Mannich reaction.
- [b] Crige – Kasper mechanism of Baeyer – Villiger Oxidation reaction.

Q.4 Discuss the following :

[6]

- [a] Define special isoprene rule. Why special isoprene rule is a guiding principle and not a fixed rule ?
- [b] Wallach's oxidative degradation of α - terpeniol.

OR

Q.4 Do as directed :

[6]

- [a] Prove that Nerol and Geraniol are geometrical isomers of each other.
- [b] Outline synthesis of Citral via Arens – Van Dorp's synthesis.

Q.5 Answer the following :

[6]

- [a] Give evidence for the presence of following in the structure of *Oestrone* :
(i) keto group, (ii) steroid nucleus, (iii) position of phenolic group.
- [b] Write synthesis of *Testosterone* from cholesterol.

OR

Q.5 Answer the following :

[6]

- [a] Write synthesis of *Oestrone*.
- [b] Give comparison of nucleophilic and electrophilic addition on α , β - unsaturated carbonyl compounds.