Vitthalbhai Patel & Rajratna P. T. Patel Science College, Vallabh Vidyanagar

B. Sc. (Fifth Semester) (CHEMISTRY)

Subject : ORGANIC CHEMISTRY (US05CCHE02)

Date : 03-10-2019 **Internal Examination – 2019** **Marks : 25**

Day : Thursday **Time : 11.00 am to 12.15 pm**

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

Q.1 **Choose the correct option for the following :** **[5]**

(i) α-chloroketone is converted into acid by action of .....

(a) NaOR (b) $NaNH_2$ (c) ROR (d) NaOH

(ii) Drug used to decrease blood pressure by dilating the capillaries and increasing the heart rate is known as .....

(a) histamine (b) antihistamine (c) hematological agents (d) sedative.

(iii) *tert.* –OH group is present in .....

(a) α-terpineol (b) nerol (c) geraniol (d) none of this

(iv) Which of the following reagent gives idea about the nature of carbon atoms having double bond in terpenoid?

(a) NOCl (b) NaOBr (c) NH_2OH (d) HNO_3

(v) Oestrogens are ..... hormones.

(a) Female (b) Male (c) corpusluteum (d) none of these

Q.2 Write reaction mechanism for the **(i)** conversion of ketoxime into *N*-substituted amide. **(ii)** preparation of Mannich base from amine, formaldehyde and ketone. **[5]**

OR

Q.2 Predict the product, suggest name and appropriate reaction mechanism : **[5]**

(i) Benzyltrimethyl ammonium iodide + $NaNH_2$ ⟶ .....?.....

(ii) Benzaldehyde + Acetic anhydride $\xrightarrow{NaOAc}$ ----------

Q.3 (i) Discuss the mode of action of Sulpha Drugs. **[5]**

(ii) Differentiate between : Pharmacodynamic and Chemotherapeutic agents.

OR

Q.3 Write synthesis of : (i) Drug known as German penicillin. (ii) Drug used as dusting power for wounds and ulcers. (iii) Drug used in the treatment of urticaria. **[5]**

Q.4 (i) Prove that Nerol and Geraniol are geometrical isomers of each other.

(ii) Give oxidation product of : (a) camphor & (b) α–pinene. **[5]**

OR

Q.4 (i) Discuss Wallach's oxidative degradation of α-terpineol.

(ii) Predict the number of rings present in the terpenoid having molecular

formula $C_{10}H_{16}$, having one double bond. **[5]**

Q.5 Discuss Michael conjugate addition reaction. Differentiate between electrophilic addition and nucleophilic addition reaction on α, β-unsaturated carbonyl compounds. **[5]**

OR

Q.5 Write synthesis of testosterone using Ruzicka and Butenandt reaction. **[5]**

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