



Vitthalbhai Patel & Rajratna P. T. Patel Science College
Vallabh Vidyanagar
B. Sc. (Semester-VI)

Subject : ORGANIC CHEMISTRY (US06CCHE02)

Date : 11-03-2014

Internal Test – March, 2014

Marks : 30

Day : Tuesday

Time : 3.30 to 5.00 p.m.

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

Q.1 Answer the following (Attempt any three) : [6]

- [A] Write the structure and name of any four essential amino acids.
[B] **Explain:** Human being gets suffocation in "CO" atmosphere.
[C] Write the hydrolysis of nucleic acid under different reaction conditions.
[D] **Differentiate between:** Nucleoside and Nucleotide.
[E] **Distinguish between :** Triplet and singlet excited state of ethylene molecule.
[F] **Define the term :** (i) Fluorescence. (ii) Phosphorescence.

Q.2 [8]

- [A] What is chymotrypsin ? Discuss the mechanism of enzyme action of chymotrypsin.
[B] What are proteins ? Give the broad classification of proteins on the basis of their shape and discuss their properties.
[C] **Explain the term :** (i) Denaturation (ii) Electrophoresis.

OR

Q.2

- [A] Discuss Pehr Edman method for *N*-terminal residue analysis. Also give its advantages and limitation. [3]
[B] **Write the synthesis of :** [5]
(i) Ala-Val-Phe using benzyloxy carbonyl method.
(ii) Valine using malonic ester synthesis.

Q.3 [8]

- [A] Discuss the primary structure of RNA and secondary structure of DNA.
[B] Discuss the structure of Theobromine. Also give the synthesis of Theobromine from uric acid using Fisher synthesis and Brederock synthesis.

OR

Q.3 Answer the following: [8]

- [A] Discuss the relationship between uric acid and Caffeine. How will you determine the position of methyl group in the structure of Caffeine ?
[B] Discuss the isolation of Uric acid from human urine. Also give its physical properties. What happens when Uric acid is heated with POCl_3 ?
[C] How will you determine the presence of Alloxan and Allantoin moiety in the structure of Uric acid ?

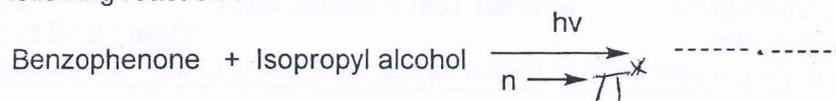
P.T.O.



Q.4

[8]

- [A] **Discuss** : Norrise Type- I & -II reactions.
- [B] Complete and suggest appropriate reaction mechanism involved in the following reaction :



- [C] Discuss photochemistry of carbonyl compound.

OR

Q.4

[3]

- [A] Discuss Photo -Fries rearrangement.

- [B] **Explain the following** :

[5]

- (i) Michler's ketone do not undergo photoreduction in isopropyl alcohol.
- (ii) Limitation of Paterno-Buchi reaction giving an illustration.

