



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 Brederick 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  $\text{POCl}_3$  ?
- [C] How will you determine the presence of Alloxan and Allantoin moiety in the structure of Uric acid ?

P.T.O.

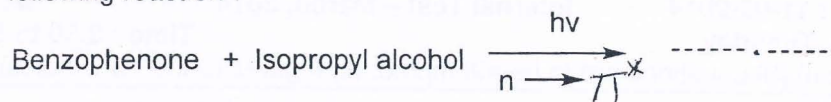


2

Q.4

[8]

- [A] **Discuss** : Norrish 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.

