

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

Subject : ORGANIC CHEMISTRY (US06CCHE02)

Date : 07-03-2013

Internal Test – March, 2017

Marks : 30

Day : Tuesday

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) Which one of the following forms Zwitter ions ?  
(a) amino acid (b) acids (c) amines (d) phenols..
- (ii) In Purine ..... rings are fused together.  
(a) pyrimidine and imidazole (b) pyrimidine and pyridine  
(c) pyrimidine and pyrrole (d) pyrimidine and indole.
- (iii) Which alkaloid is used as an antispasmodic agents ?  
(a) Adrenaline (b) Papaverine (c) Nicotine (d) Quinine.



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

[4]

- [A] Distinguish between : Pleated sheet and  $\alpha$ -helix structure of proteins.  
[B] Give the products obtained upon hydrolysis of nucleic acid under different reaction conditions.  
[C] Calculate the double bond equivalents of Hygrine.

**Q.3**

[6]

- [A] Discuss the primary and secondary structures of DNA.  
[B] Write synthesis of Gly-Ala-Phe using benzyloxy carbonyl method.

OR

**Q.3**

[6]

- [A] Discuss P. Edman method for N-terminal residue analysis. Also give its advantages and limitations.  
[B] Give the broad classification of proteins and discuss their properties.

**Q.4**

[6]

- [A] Give the evidence for the presence of Alloxan moiety in the structure of Uric acid.  
[B] Give the Bredereck synthesis of xanthine, caffeine and theobromine using uric acid. Also discuss the structure of theobromine.

OR

**Q.4**

[6]

- [A] Discuss the relationship between uric acid and Caffeine. How will you determine the position of methyl group in the structure of Caffeine ?  
[B] Show that Uric acid contains Allantoin unit in its structure.

**Q.5**

[6]

- [A] Discuss the constitution of Papaverin.  
[B] How will you establish the linkage between Quinic acid and Meroquinene in the structure of Quinine ?

OR

**Q.5**

[6]

- [A] Write the synthesis of Adrenaline from protocatechuic aldehyde.  
[B] Discuss the extraction method for an alkaloids by using water immiscible solvents. Also give its disadvantages.

