(i) Printed Pages: 3 Roll No. .....

(ii) Questions : 9 Sub. Code : 0351

Exam. Code : 0004

B.A./B.Sc. (General) 4th Semester

1059

CHEMISTRY

(Same for B.Sc. Microbial & Food Technology)

Paper-XIV (Organic Chemistry-B)

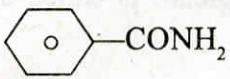
Time Allowed : Three Hours] **[Maximum Marks : 22**

Note :— Attempt **five** questions in all, selecting at least **one** question from each unit. Question No. **9** of Unit V is compulsory.

UNIT—I

1. (a) Write IUPAC names of the following :

(i) $CH_3COOC_2H_5$

(ii) 

(b) Acetic anhydride is preferred over acetyl chloride for acetylation reactions. Explain. 2,2

2. (a) Give the mechanism of alkaline hydrolysis of amides.

(b) Complete the reaction :

(i) $CH_3CONH_2 + Br_2 + KOH \longrightarrow$

(ii) $C_6H_5CONH_2 \xrightarrow{P_2O_5}$ 2,2

UNIT—II

3. (a) Define :

   (i) Acid value

   (ii) R.M. value.

   (b) Briefly discuss Ziesel's method for the estimation of methoxy group. 2,2

4. (a) Give the mechanism of acid catalysed ring opening of epoxides.

   (b) Explain the cleansing action of soaps and synthetic detergents. 2,2

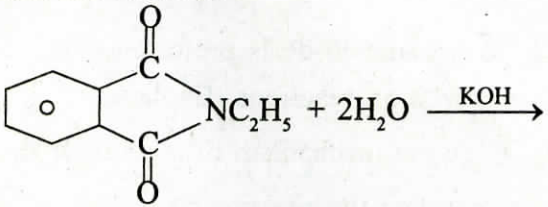
UNIT—III

5. (a) Discuss the reaction of primary, secondary, tertiary nitroalkanes with nitrous acid.

   (b) What is Nef reaction ?

   (c) Why 2, 4, 6-Trinitrophenol is called an acid ? 2,1,1

6. (a) Complete the reaction :

   (i) 

   (ii) $C_2H_5NH_2 + CHCl_3 \xrightarrow{KOH}$

   (b) Briefly discuss the Hinsberg's method for separation of primary, secondary and tertiary amines. 2,2

UNIT—IV

7. (a) Compare the basicity of pyrrole, piperidine and pyridine.

   (b) Draw the molecular orbital structure of pyridine and discuss its aromatic character. 2,2

8. (a) Give the mechanism of Bischler-Napieralski synthesis.

   (b) Discuss the mechanism of electrophilic substitution in Quinoline. 2,2

UNIT—V

9. (a) Why carboxylic acids have high boiling points ?

   (b) Why are acid amides amphoteric in nature ?

   (c) What is chichibabin reaction ?

   (d) Write one method for preparation of diazonium salts.

   (e) What is the chemical difference between fats and oils ?

   (f) Why do ethers have relatively low boiling points as compared to alcohols ? 6×1=6