

**B.SC. CHEMISTRY
THIRD SEMESTER
ORGANIC CHEMISTRY-II
BSC – 302**
(USE OMR FOR OBJECTIVE PART)

**SET
A**

Duration: 1:30 hrs.

Full Marks: 35

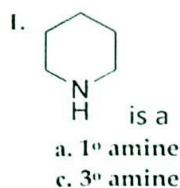
Time: 15 mins.

(Objective)

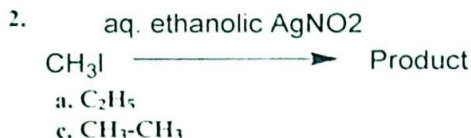
Marks: 10

Choose the correct answer from the following:

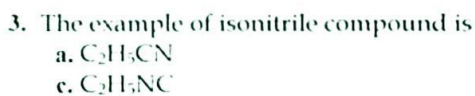
1×10=10



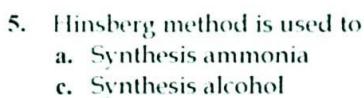
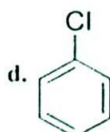
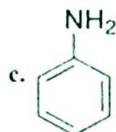
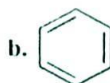
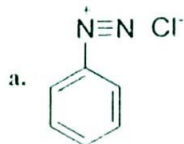
- b. 2^o amine
d. 4^o amine



- b. $\text{CH}_3\text{-NO}_2$
d. $\text{CH}_3\text{CH}_2\text{NO}_2$



- b. $\text{C}_2\text{H}_5\text{COOH}$
d. $\text{C}_2\text{H}_5\text{CONH}_2$



- b. Separate 1^o, 2^o and 3^o amine
d. Separate 1^o, 2^o and 3^o alcohol



- b. phenyl alanine
d. lysine

7. The amino acid that cannot be synthesized in the body is
 - a. alanine
 - b. glycine
 - c. isoleucine
 - d. aspartic acid
8. In trans amination process which α -keto acid is needed to synthesize valine?
 - a. α -keto isovaleric acid
 - b. α -keto valeric acid
 - c. α -keto glutaric acid
 - d. pyruvic acid
9. In the solid phase synthesis, after the formation of the peptide linkage, protecting group is removed by
 - a. CH_3COOH
 - b. CF_3COOH
 - c. CBr_3COOH
 - d. CH_2Cl_2
10. During the dipeptide synthesis, amino group is protected by using
 - a. benzene carbonyl chloride
 - b. benzyl carbonyl chloride
 - c. benzyloxy carbonyl chloride
 - d. butyl carbonyl chloride

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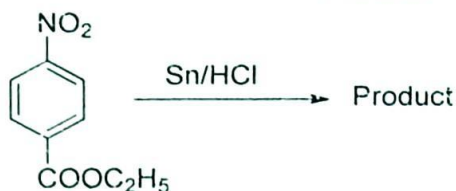
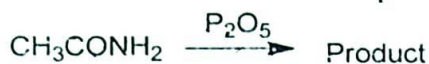
(Descriptive)

Time : 1 hr. 15 mins.

Marks : 25

[Answer question no.1 & any two (2) from the rest]

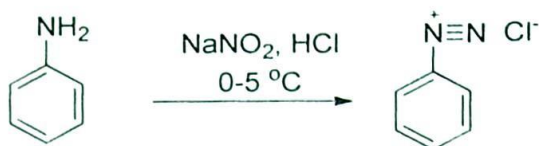
1. a. Write a note on isoelectric point of α -amino acids. 3+2=5
b. Write down the correct product of the following reactions



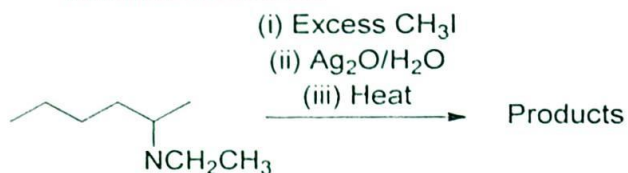
2. a. Write the synthesis of alanine by Gabriel method. 3+2+5
b. Name the product formed when glycine reacts with acetyl chloride in presence of NaOH. Write the reaction. =10
c. What are the different steps involved in the synthesis of dipeptide? Using these different steps give the synthesis of the dipeptide, Ala-Ser.
3. a. How will you separate primary, secondary and tertiary amine via Hinsberg and Hofman method? Show the detailed mechanism. 5+2+3=10
b. Write down two important physical properties of amine.
c. How will synthesize isonitrile via carbylamine reaction? Show the detailed mechanism
4. a. What do you mean by N-terminal and C-terminal amino acids? Explain. 3+3+4=10
b. Describe in brief the primary structure of protein.
c. Discuss the solid phase synthesis of protein.

5. a. Show the detailed mechanism of the following reaction

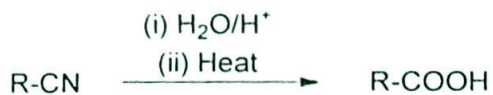
3+4+3=10



b. What are the products of the following reaction? Give detailed mechanism



c. Give the detailed acid catalysed mechanism of hydrolysis of nitriles



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