SECTION – C

Answer **any 4** questions. **Each** question carries a **weightage** of **2**.

13. How does DNA replicate ? What is the important function ?

14. What are the characteristics of enzyme catalysis ?

15. How will you convert fructose to glucose ?

16. How is pyridine isolated from coal tar ? Why pyridine is basic in nature ?

17. How are aminoacids classified on different criteria ?

18. Give a note on vitamin deficiency diseases. **(4×2=8)**

SECTION – D

Answer **any 2** questions. **Each** question carries a **weightage** of **4**.

19. a) What are proteins ?
    b) How will you prepare glycylglycine ?
    c) Describe colour reactions of proteins.

20. Discuss the structure of pyrrole and a few electrophilic substitution reactions.

21. a) Give the industrial applications of cellulose.
    b) What happens when glucose is treated with :
    i) Br_2-water ii) Excess $PhNHNH_2$. **(2×4=8)**

M 8541

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (CCSS-Reg./Supple./Imp.) Examination, May 2015

COMPLEMENTARY COURSE IN CHEMISTRY

4C04 CHE : Chemistry for Biological Sciences

Time : 3 Hours Max. Weightage : 25

SECTION – A

Answer **all** questions. **Each** bunch of **four** questions carries a **weightage** of **1**.

1. i) Sucrose on hydrolysis gives
    a) Glucose
    b) Glucose and fructose
    c) Gluconic acid
    d) Glucose and maltose

    ii) Pyrrole on reduction with hydrogen in presence of Ni catalyst gives
    a) Pyrrolidine b) Pyrazole
    c) Piperidine d) Pyridine

    iii) An example of acidic aminoacid
    a) Glutaric acid b) Tartaric acid
    c) Glutamic acid d) None of the above

    iv) The product obtained on passing a mixture of acetylene and HCN through a red hot tube
    a) Pyridine
    b) 3-aminopyridine
    c) Pyrrole
    d) None of the above

2. i) The disruption of native conformation of protein is called
   a) Zwitter ion
   b) Isoelectric point
   c) Conjugate protein
   d) Denaturation
   ii) The base not present in DNA is
   a) Adenine b) Guanine
   c) Uracil d) Thymine
   iii) ———— is a complex of Iron with porphrin
   a) Haemoglobin
   b) Ferridoxin
   c) Chlorophyll
   d) None of the above
   iv) Phosphoesterases can hydrolyse only
   a) Esters b) Acetic acid
   c) Phosphotic esters d) Carboxylic acid

3. i) The DNA sequence that codes for a specific protein is called
   a) Gene b) Nucleoside
   c) Codon d) Nucleotide
   ii) The change in the value of specific rotation is called
   a) Epimerisation b) Anomers
   c) Mutarotation d) None of the above
   iii) Protein part in haemoglobin
   a) Globulin b) Histones
   c) Globin d) Albumin
   iv) Isoquinoline on oxidation with $KMnO_4$ gives
   a) Quinolinic acid
   b) Cinchomeronic acid
   c) Picolinic acid
   d) None of the above

4. i) ———— depicts the sequence of aminoacids units present in protein.
   a) Quaternary structure
   b) Primary structure
   c) Tertiary structure
   d) Secondary structure
   ii) Biotin is
   a) Vitamin A b) Vitamin C
   c) Vitamin B d) Vitamin H
   iii) The product obtained by heating furan with ammonia
   a) Pyrrole b) Pyridine
   c) Tetrahydrofuran d) Thiophene
   iv) Simple proteins on hydrolysis give
   a) Amines
   b) Acids
   c) Aminoacids
   d) None of the above **(4×1=4)**

SECTION – B

Answer **any 5** questions. **Each** question carries a **weightage** of **1**.

5. What is epimerization ? Give as an example.
6. What is peptide linkage ? How is it formed ?
7. Explain why glucose does not give Schiff's test.
8. What are hormones ? Give two examples.
9. What is the important function of iron containing biomolecules ?
10. What is isoelectric point ?
11. Give the resonating structure of pyrrole.
12. Give the name and structure of the sugar unit present in RNA. **(5×1=5)**