OECH211

Reg. No. | | | | | | | | |

II Semester B.Sc. Degree Examination, September - 2023

CHEMISTRY

Molecules of Life

Paper : II (Open - Elective)

(NEP CBCS Scheme)

Time : 2½ Hours **Maximum Marks : 60**

Instructions to Candidates:

1. Questions paper has three parts.
2. Answer all the parts.

PART - A

Answer any **Five** of the following questions. Each question carries 2 marks. **(5×2=10)**

1. What are disaccharides? Give an example.
2. What are zwitter ions?
3. Explain the role of cofactors in biological reactions.
4. Give the biological importance of triglycerides.
5. What are nucleosides?
6. Define biological oxidation.

PART - B

Answer any **Four** of the following questions. Each question carries 5 marks. **(4×5=20)**

7. a) What are reducing sugars? Give an example.
   b) What is a glycosidic bond? **(3+2)**
8. a) How are proteins classified based on shape? Give an example for each class.
   b) What are essential amino acids? **(3+2)**
9. a) What are glycolipids? Give their biological importance.
   b) What is saponification? **(3+2)**
10. a) What is non - competitive inhibition? Give an example.
    b) Explain the effect of pH on enzyme activity. **(3+2)**

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11. a) Mention the general features of genetic code.
    b) What is anabolism? (3+2)

12. a) Mention the components of nucleic acids.
    b) What is mutation? (3+2)

PART - C

Answer any **Three** of the following questions. Each question carries **10** marks. **(3×10=30)**

13. a) Write a note on secondary structure of proteins.
    b) Explain lock and key model of enzyme specificity.
    c) Explain watson and crick model of DNA. (3+3+4)

14. a) Explain the reaction of glucose with hydrogen cyanide and hydroxyl amine.
    b) Write a note on biological importance of phospholipids.
    c) Give a brief account on transcription. (4+3+3)

15. a) What are the components of starch? Mention one difference between them.
    b) What is structural activity relationship? Explain the role of amino group in drug action - receptor theory.
    c) Give the importance of Kreb's cycle. (3+4+3)

16. a) Name the monosaccharides present in lactose. What is the glycosidic linkage between them?
    b) What is rancidity? Mention the types.
    c) Mention the significance of genetic code. (3+4+3)

17. a) How are polysaccharides classified? Give examples.
    b) What are sustained release drugs? Give eample.
    c) What are exergonic and endergonic reactions? (3+3+4)
