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(FOR THE CANDIDATES ADMITTED

DURING THE ACADEMIC YEAR 2023 ONLY)

23PBY310

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI
END-OF-SEMESTER EXAMINATIONS : NOVEMBER-2024
COURSE NAME: M.Sc.-BOTANY **MAXIMUM MARKS: 75**
SEMESTER: III **TIME : 3 HOURS**

PLANT BIOCHEMISTRY AND BIOPHYSICS

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.
MULTIPLE CHOICE QUESTIONS. (K1)

1. Among the chemical bonds, _____ is stronger.
   a) Ionic b) Covalent c) H_2 d) CH_2
2. Carbohydrates are polyhydroxy aldehydes or _____.
   a) Galactones b) Ketones c) Phenyls d) Fructose
3. The metal ion found in chlorophyll is _____.
   a) Manganese b) Iron c) Magnesium d) Lead
4. Enzymes are classified into _____ functional classes.
   a) Five b) Two c) Four d) Six
5. The common symbols of enthalpy is _____.
   a) H b) B c) J d) E

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES. (K2)

6. Define buffers.
7. Mention the types of proteins
8. State the nature of secondary metabolites.
9. List the factors affecting enzyme activity.
10. What are radio isotopes?

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Distinguish between chemical bonds and ionic bonds.

(OR)

b) Brief about pH and pH scale.

12. a) Outline the biosynthesis of amino acids

(OR)

b) Enumerate the properties of protein.

13.a) Describe the structure of chlorophyll with a diagram.

(OR)

b) Enlist the functions of secondary metabolites.

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14. a) Discuss the factors affecting enzyme activity.

(OR)

b) Compile the classification of enzymes.

15. a) Explain the laws of thermodynamics.

(OR)

b) Review the safety guidelines to be followed while using radioactive material.

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(K4 (Or) K5)

16. a) Elaborate on the biological role of buffer solution.

(OR)

b) Explain hydrogen bonding and hydrophobic interaction.

17.a) Write an essay on classification structure and properties of lipids.

(OR)

b) Compare gluconeogenesis, glycogenolysis and glycogenesis.

18. a) Explain in detail about the classification and biosynthesis of alkaloids.

(OR)

b) Discuss in detail about the secondary metabolites with suitable illustration.

19.a) Analyze the mechanism of enzyme action in detail.

(OR)

b) Appraise the industrial and medicinal utilization of enzymes.

20.a) Deduce the steps involved in incorporation of radio isotopes in biological tissues and cells.

(OR)

b) Enumerate the properties of different types of radio isotopes.

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