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(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2022 ONLY)

22UBY405

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY-2024

COURSE NAME: B.Sc.-BOTANY **MAXIMUM MARKS: 50**

SEMESTER:IV **TIME : 3 HOURS**

PART - III
BIOCHEMISTRY , BIOPHYSICS AND BIOINSTRUMETATION

SECTION – A (10 X 1 = 10 MARKS)

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

1. In proteins, amino acids are linked together by a bond called _____.
   a) Peptide b) disulfide c) covalent d) ionic
2. Km value indicates the affinity between_____.
   a) Enzyme and coenzyme b) Enzyme and substrate
   c) Coenzyme and substrate d) Enzyme and cofactor
3. _____ is the sum of atomic masses of the elements present in a molecule.
   a) Average atomic mass b) Atomic mass c) Gram formula mass d) Molecular mass
4. Which of the following is the weakest bond?
   a) Ionic bond b) Metallic bond c) Covalent bond d) Van der Waals forces
5. The chromatographic method of separating biochemical mixture of compounds, based on highly specific biological interactions is referred to as _____.
   a) Thin layer chromatography b) Ion- exchange chromatography
   c) Affinity chromatography d) Gel permeation chromatography

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

6. Construct the physical properties of monosaccharides.
7. Define Enzyme.
8. Expand SI unit.
9. Interpret redox couple.
10. Indicate the main function of buffers.

SECTION – B (5 X 3 = 15 MARKS)

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

11. a) Assess the structure of disaccharide with examples.

(OR)

b) List the functions of lipids.

12. a) Describe the nomenclature of enzymes.

(OR)

b) Show the properties of enzymes.

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13.a) Define pH. How will you calculate Ph.

(OR)

b) Compare and contrast molecular weight and equivalent weight.

14. a) What is chemical bond? Show the types of chemical bonds.

. **(OR)**

b) Assess the spin properties of electrons.

15. a) Examine the principle of pH meter.

(OR)

b) Interpret the density gradient centrifuge.

SECTION – C (5 X 5 = 25 MARKS)

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

(K4 (Or) K5)

16. a) Determine the protein classification based on its structural organization.

(OR)

b) Analyze Watson and Crick model of DNA with neat sketch.

17. a) Give an outline on enzyme classification.

(OR)

b) Examine the factors influencing the enzyme activity.

18. a) Determine the basic units of measurement.

(OR)

b) Point out the expression of solution concentration based on volume.

19. a) Infer the laws of thermodynamics.

(OR)

b) Justify the Pauli's exclusion principle.

20. a) Discuss the principle and application of paper chromatography.

(OR)

b) Summarize the steps involved in PCR.

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ETHICAL PAPER