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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2021 ONLY)

21PBY310

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI
END-OF-SEMESTER EXAMINATIONS : DECEMBER-2022
COURSE NAME: M. Sc.- BOTANY **MAXIMUM MARKS: 70**
SEMESTER - III **TIME : 3 HOURS**

PLANT BIOCHEMISTRY AND BIO PHYSICS

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.
MULTIPLE CHOICE QUESTIONS. K1

1. Atoms having the same number of neutrons but different number of protons are_____.
   a) Isobars b) Isotones c) Isotopes d) Isomers
2. Based on which of the following enzymes hydrolysis reactions are catalyzed?
   a) Hydrolase b) Cellulose c) Oxidase d) α-amylase
3. Triple bond consists of_____.
   a) 1 sigma, 2pi b) 2 sigma, 1pi c) 3 pi only d) 3 sigma only
4. Which of the following vitamins is stored in the liver?
   a) Vitamin D b) Vitamin E c) Vitamin K d) All of the above
5. Solar cells are made of_____.
   a) Gallium b) Cadmium c) Germanium d) Silicon

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

6. Define Ph.
7. What are Primary metabolites?
8. Define Alkaloids.
9. What is Thermodynamics?
10. Comment on Radio isotopes.

SECTION – B (5 X 4 = 20 MARKS)

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

11. a) How important is hydrogen bonding and hydropholic interactions?
(OR)
b) Write a brief note on Henderson – Hasselbalch equation.

12.a) Explain the structure and classification of amino acids.
(OR)
b) Write short notes on physical and chemical properties of cholesterol.

13.a) Write brief notes on flavonoids.
(OR)
b) Explain the structure and classification of carotenoids. **(CONTD….2)**

ETHICAL PAPER

14.a) Write short notes on factors affecting enzyme activity.

(OR)

b) Comment on enzymes utilization in industry.

15.a) Write a brief note on laws of thermodynamics.

(OR)

b) List the different types of radioisotopes normally used in biology.

SECTION - C (4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS.

(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS (FROM Qn. No : 17 to 21) (K4 (Or) K5)

16. Give an account on classification and biosynthesis of alkaloids.

17. Explain the principle, working procedure and application of pH meter.

18. Describe the structure and classification of fatty acids.

19. Explain the structure of chlorophyll with diagram.

20. Outline the classification and mechanism of enzyme action.

21. Write detailed notes on incorpotation of radioisotopes in biological tissues.

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