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Reg. No. : .....

Name : .....

Third Semester M.Sc. Degree Examination, January 2023

Botany

BO 232 : BIOCHEMISTRY, PLANT PHYSIOLOGY AND RESEARCH METHODOLOGY

(2019 Admission Onwards)

Time : 3 Hours Max. Marks : 75

I. Answer the following questions.

1. SPAC.
2. Isoenzymes.
3. Characteristics of C_4 plants.
4. Role of compatible solute in stress.
5. Role of ethylene in plants.
6. Comment on ATP synthase
7. Active transport.
8. Photoinhibition
9. Comment on the amphibolic nature of citric acid cycle.
10. Differentiate between source and sink.

(10 × 1 = 10 Marks)

P.T.O.

II. Answer the following questions not more than 50 words.

11. (a) Comment on RUBISCO.

OR

(b) Comment on water potential.

12. (a) Comment on synthetic hormones.

OR

(b) Differentiate the functions of Guttation and Transpiration.

13. (a) Comment on Active transport.

OR

(b) Comment on the antioxidation in plants.

14. (a) Briefly explain Kranz anatomy.

OR

(b) Briefly explain cryptochrome.

15. (a) Explain Self Plagiarism.

OR

(b) What is TURNITIN.

(5 × 2 = 10 Marks)

III. Answer the following questions not more than in 150 words.

16. (a) Describe any one of the mechanisms for opening and closing of stomata

OR

(b) Explain Red drop and Emerson's enhancement effects.

17. (a) Give an account of the carbon dioxide fixation in succulent species.

OR

(b) Give an account on plant hormones involved in seed germination.

18. (a) Write a note on the regulation of citric acid cycle.

OR

(b) Role of secondary metabolites in plants.

19. (a) Explain the process of ammonium assimilation in plants.

OR

(b) Give an account on salt stress and salt stress resistance in plants.

20. (a) Explain action spectrum and the absorption spectrum of photosynthesis.

OR

(b) Explain Ramachandran plot and explain its uses.

21. (a) Write a note on seed dormancy breaking.

OR

(b) What are the various mechanisms of resistance shown by plants during biotic stress?

22. (a) Research approaches are classified as qualitative or quantitative: explain what these approaches are and what research purposes they serve?

OR

(b) Distinguish between primary and secondary data.

(7 × 5 = 35 Marks)

IV. Answer the following questions in not more than 250 words.

23. (a) Explain the metabolic fate of pyruvic acid in aerobic respiration.

OR

(b) Differentiate between cyclic and non-cyclic photophosphorylation.

24. (a) With relevance to biological research comment on the methods to measure central tendencies and dispersion.

OR

(b) With reference to it application, explain any three of the five software programes that are used when writing a research article.

(2 × 10 = 20 Marks)
