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D 71437 (Pages : 2) Name.....

Reg. No.....

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, DECEMBER 2014

(CUCSS)

Botany

BO 03 CT 09—PLANT PHYSIOLOGY, METABOLISM AND BIOCHEMISTRY

Time : Three Hours Maximum : 36 Weightage

I. Answer all the *fourteen* questions very briefly :

1 What is meant by Donnan equilibrium ?

2 What are phytochromes ? What is its importance ?

3 Write a brief account of water oxidising clock.

4 Differentiate between Apoplast and Symplast.

5 What is meant by transamination ?

6 What are allosteric enzymes ?

7 Write an account of anapleurotic reaction.

8 What is fermentation ?

9 Comment on Km value of an enzyme.

10 What are isoenzymes ?

11 What are terpenes ?

12 Explain the molecular structure of amino acids.

13 Differentiate between Fats and Oils.

14 What is peptide bond ? How is it formed ?

(14 × 1 = 14 weightage)

II. Answer any *seven* questions. Each question carries 2 weightage :

15 What are antitranspirants ? Add a note on its applications.

16 Comment on red drop and enhancement effect. What is the significance of these two ?

17 Describe the role of auxins in plants.

18 Give an account of salinity stress. Describe the tolerance mechanisms.

19 Explain briefly nitrogen fixation in leguminous plants.

20 Explain the synthesis of saturated fatty acid.

Turn over

21 Write an account of alkaloids.

22 Give an account of PRPP and its significance.

23 Describe the primary and secondary structure of proteins.

24 Explain the structure of a nucleotide. How different nucleotides are linked together ?

(7 × 2 = 14 weighta

III. Answer any *two* questions in 300 words each :

25 Explain the mechanism of transport of organic solute.

26 Describe C_4 pathway. What are the anatomical peculiarities of C_4 plants ?

27 Explain Electron Transport system. How does it work and from what sources it derive reducing power for operation ?

28 Give an account of the classification of carbohydrates. Explain the structure and function cellulose, starch and glycogen.

(2 × 4 = 8 weighta