D 6823

(Pages : 2)

Name.....................................

Reg. No............................

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, DECEMBER 2016

(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 are aquaporins ?

 2 What is photolysis of water ?

 3 How the cohesive and adhesive properties of water helps in ascent of sap in plants ?

 4 What is meant by symport ?

 5 What are isoenzymes ?

 6 What is meant by phloem loading ?

 7 What are antiauxins ?

 8 What is leghemoglobin ?

 9 What is the function of antifreeze proteins ?

 10 What is photomorphogenesis ?

 11 Define a tetrasaccharide. Give one example.

 12 What are LHCs ?

 13 Comment on phytoalexins.

 14 What is meant by fermentation ?

(14 × 1 = 14 weightage)

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

 15 Differentiate photophosphorylation and oxidative phosphorylation ?

 16 Write an account of alkaloids.

 17 Describe the physiologically important properties of water ?

 18 Evaluate the significance of glyoxylate cycle.

 19 Explain the Beta oxidation of fatty acids.

 20 Comment on the physiological roles of Gibberellins ?

Turn over

21 Explain the β-pleated structure of Proteins.

22 What are the different strategies adopted by plants for tolerating heat stress ?

23 What is transamination ? Describe the transamination reactions involved in the synthesis of aminoacids.

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

(7 × 2 = 14 weightage)

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

25 Describe the C_2 Cycle (Glycolate pathway). Comment on the significance of this pathway ?

26 Explain the physiology of symbiotic nitrogen fixation in plants.

27 Give the classification of proteins based on the structure, function and molecular organization and solubility.

28 Write a brief account on the secondary metabolites in plants and their physiological role ?

(2 × 4 = 8 weightage)