

D 42504

(Pages : 2)

Name.....

Reg. No.....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2018

(CUCSS)

Botany

BO 4ET 13 9—PLANT PHYSIOLOGY

(2010 Admissions)

Time : Three Hours

Maximum : 36 Weightage

I. Answer the questions briefly :

- 1 Describe cavitation and its effect.
- 2 Explain facilitated diffusion.
- 3 Describe symport and antiport.
- 4 Describe the role of nitrite reductase.
- 5 Comment on nod factors.
- 6 What is photoinhibition ?
- 7 Describe necrosis and apoptosis.
- 8 Explain blue light photoreceptor and photoperiodism.
- 9 Comment on anaerobic stress proteins.
- 10 Comment on the role of cytokinin on leaf senescence.
- 11 Write a brief note on heat shock proteins.
- 12 Explain acid rain.
- 13 Differentiate between reductive amination and transamination.
- 14 Comment on germination inhibitors.

(14 × 1 = 14 weightage)

II. Answer any seven questions in not more than 100 words :

- 15 Discuss water absorption through apoplastic, symplastic and transmembrane pathways.
- 16 Give an account of the application of Nernst equation.
- 17 Write an account of leaf anatomy in relation to light absorption.
- 18 Write an account of ammonium assimilation with special reference to the enzymes.
- 19 Explain the structure and functions of RubisCo.
- 20 Classify plants based on photoperiodic responses. Add a note on the role of phytochrome.

Turn over

- 21 Discuss the physiological effects of auxins on phototropism and gravitotropism.
- 22 Explain phloem loading and unloading.
- 23 Describe the effect of chilling injury on membrane properties.
- 24 Write an account of the protein component of cell wall.

(7 × 2 = 14 weights)

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

- 25 Explain the process of electron transport and ATP formation in mitochondrial membrane
- 26 Write an account of phytochrome and its photochemical and biochemical properties.
- 27 Discuss the effects of Gibberellins on growth and development.
- 28 Write an account on water stress and drought resistance.

(2 × 4 = 8 weights)