C 3424

(Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2016

(CUCSS)

Botany

BO 04 ET 13 (09)—PLANT PHYSIOLOGY

(2010 Admissions)

Time : Three Hours Maximum : 36 Weightage

I. Answer *all fourteen* questions very briefly. Each question carries 1 weightage.

1 Differentiate passive from active transport.

2 Explain respiratory quotient.

3 Write short note on cryptochromes.

4 Enumerate the importance of phosphorus in plants.

5 Describe the applications of Nernst equation.

6 Define thermoperiodism.

7 Mention the different enzymes involved in Kreb's cycle.

8 Explain Michaelis- Menten kinetics.

9 What are C_4 plants ?

10 Write short note on dormancy.

11 Enumerate the role of protein kinases.

12 List out the properties of water.

13 Distinguish cyclic from non-cyclic photophosphorylation.

14 Mention the factors affecting flowering.

(14 × 1 = 14 weightage)

II. Answer any *seven* questions. Each answer not exceeding 100 words.

15 Explain the apoplastic and symplastic pathways in plants.

16 Write briefly on the physiology fruit ripening.

17 Briefly discuss the classification of seeds.

18 Discuss the metabolism during senescence.

Turn over

19 Describe the adverse effects of frost on plants.

20 List out the properties of phytochromes.

21 Mention the physiological roles of gibberellins and cytokinin.

22 Evaluate the formation of secondary cell wall during differentiation.

23 Describe loading and unloading of phloem in plants.

24 Write short note on programmed cell death.

(7 × 2 = 14 weig

III. Answer any *two* questions. Each answer not exceeding 300 words :

25 Explain the biological fixation and assimilation of N_2 in plants.

26 Give a detailed account on CAM metabolism in plants.

27 Discuss in detail the electron transportation during respiration.

28 Describe the theories that support the mechanism of water transport.

(2 × 4 = 8 weig