

Third Year B.Sc., Degree Examinations**August/September 2011****Directorate of Distance Education****BOTANY****Paper IV : Plant Physiology, Plant Breeding and Tissue Culture**

Time: 3 hrs.]

[Max.Marks:75/85

Instructions to the Candidates :

1. Students who have attended 25 Marks IA Scheme will have to answer for total of 75 Marks.
2. Students who have attended 15 Marks IA Schem. will have to answer for total of 85 Marks
3. One mark questions should be answered in first two pages of the answer book.
4. Draw neat labelled diagrams wherever necessary.
5. Question No. V is compulsory for 85 marks scheme.

I. Simple answer questions :**10 X 1= 10Marks***Answer in a word, or a phrase or a sentence.*

1. What is growth curve ?
2. Name fruit ripening hormone.
3. What is pure line selection ?
4. Name the Bacterium involved in Symbiotic Nitrogen fixation.
5. What are molar solutions ?
6. Mention one auxin used in tissue culture medium
7. What is senescence ?
8. Define "Intraspecific crosses"
9. What is photoperiodism ?
10. What is Paratonic movement ?

II. Short Answer Questions.*Write any FIVE of the following.***5X 3= 15Marks**

11. What are the causes of dormancy ?
12. What are Gibberellins ? Mention any four practical applications.
13. Describe the process of Guttation occurring in plants.
14. Describe pulsation theory of ascent of sap.

Contd...2

15. Differentiate PS – I and PS – II.
16. Explain progeny selection.
17. Describe seismonasty.

III. Medium answer questions.

Answer any FIVE of the following.

5X6= 30Marks

18. Describe : a) Approach grafting b) Bud grafting.
19. What are micronutrients ? Explain role and deficiency symptoms of copper and Iron.
20. What is translocation of organic solutes ? Describe protoplasmic streaming theory.
21. Describe phases of growth.
22. Explain T-C-T theory of ascent of sap.
23. Describe the role of plant breeding in developing new varieties of plants useful in industries.

IV. Long answer questions :

2X10=20 Marks

Answer any TWO of the following.

24. Describe EMP pathway. Add a note on its significance.
25. Explain different theories of stomatal movements.
26. Describe Calvin cycle.
27. Explain : a) Emasculation b) Somatic hybridization

V. (Compulsory question for 85 marks scheme only)

1X10=10 Marks

Answer any ONE of the following question..

28. Describe practical applications and physiological role of Auxins and Gibberellins.
29. Describe any 2 types of plant propagation that you have studied.
