

**Third Year B.Sc., Degree Examinations**

**December 2017**

*(Directorate of Distance Education)*

**BOTANY**

**DSC291: Paper IV: Plant Physiology, Plant Breeding and Tissue Culture**

*Time: 3 hrs.]*

*[Max.Marks:75/85*

***Instruction 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 scheme 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 diagram wherever necessary.*
- 5. Q.No. V is compulsory for 85 marks scheme.*

**I. *Simple answer questions :***

***10 X 1= 10 Marks***

***Answer in a word, or a phrase or a sentence.***

- 1.** What is chesard ?
- 2.** Define Thylakoid.
- 3.** What is layering ?
- 4.** What is Hypotonic solution ?
- 5.** What is Photorespiration ?
- 6.** What is Caulogenesis ?
- 7.** What is Recurrent selection.
- 8.** Define “Respiratory quotient” ?
- 9.** Expand IAA.
- 10.** Define Transamination.

**II. *Short answer questions :***

***Answer any FIVE of the following.***

***5X3= 15 Marks***

- 11.** Explain the advantages of embryo culture.
- 12.** Explain the structure of Root hair.

***Contd...2***

13. Describe Sigmoid curve.
14. Write a note on applications of pure lines.
15. What are the aims and scope of tissue culture.
16. Explain protoplasmic streaming theory.
17. Describe the functions of Gibberellins.

**III. Medium answer questions :**

*Answer any FIVE of the following.*

*5X6= 30 Marks*

18. Write the differences between Aerobic and anaerobic respiration.
19. Explain the objectives of plant breeding.
20. Explain the factors affecting organogenesis.
21. Explain the mechanism of photoperiodism.
22. Explain Guttation.
23. Explain Root nodule formation.

**IV. Long answer questions :**

*2X10=20 Marks*

*Answer any TWO of the following.*

24. Explain Dark reaction.
25. Explain the procedure of Hybridization.
26. Explain terminal oxidation.
27. "Transpiration is a necessary evil". Discuss.

**V. Compulsory question for 85 marks scheme only. Long answer questions.**

*Answer any ONE of the following.*

*1X10=10 Marks*

28. Explain the steps involved in Somatic hybridization.
29. Explain the mechanism of mineral absorption.

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