

**M.Sc. Final (Botany) Degree Examination**  
**August / September 2009**  
**Directorate of Distance Education**  
**PAPER - V : PLANT PHYSIOLOGY**  
**(FRESHERS)**

Time : 3 Hours

Max. Marks : 85

**I. Answer any SEVEN of the following:****7x4=28**

1. Cohesion and adhesion
2. Mineral transport in plants
3. Phytochelatins
4. Antitranspirants
5. Salt stress
6. Emerson enhancement effect
7. Reduction potential
8. Principle of light absorption in plants
9. ABA
10. Measurement of Auxin activity

**II. Answer any THREE of the following:****3x9=27**

11. Components of water potential
12. Reclamation of saline soils
13. RUBISCO
14. Oxidative phosphorylation
15. Seed Dormancy

**III. Answer any TWO of the following:****2x15=30**

16. Explain the mechanism of ascent of sap in plants.
17. Give critical account on different modes of water loss from plants? Discuss the current concepts of stomatal movements?
18. What are C4 plants ? Compare C3 and C4 plants?
19. Write an essay on heat shock proteins and their role in stress tolerance?

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**PAPER - VI : MEDICINAL PLANTS AND ECONOMIC BOTANY**  
**(FRESHERS)**

Time : 3 Hours

Max. Marks : 85

**Note:(1) Answer all the questions.****(2) Draw diagrams wherever necessary****PART - A****I. Answer any SEVEN of the following:****7x4=28**

1. Flavonoids
2. ITK
3. Bada elaichi
4. Kashaya
5. Tea
6. *Azadirachta indica*
7. S.K. Jain
8. Peppermint oil
9. Medicine man
10. Vinblastin

**PART - B****II. Answer any THREE of the following:****3x9=27**

11. Ethnobotanical explorations in Karnataka
12. Cryptogamic medicinal plants
13. Timber yielding plants
14. In Vivo Conservation of endangered plants
15. Drug adulteration

**PART - C****III. Answer any TWO of the following:****2x15=30**

16. Review the literature on medicinal and aromatic plants of India.
17. Explain the properties and mode of action of drugs obtained from *Rauwolfia serpentina* and *Emblca officinalis*.
18. Write an account on the extraction, purification and importance of coconut oil.
19. Explain the chemistry of plant toxins. Add a note on their therapeutic value.

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**PAPER - VII : ANGIOSPERM EMBRYOLOGY**  
**(FRESHERS)**

Time : 3 Hours

Max. Marks : 85

**I. Answer any SEVEN of the following:****7x4=28**

1. Strassberger
2. Ruminant endosperm
3. Thalamus
4. Tetrads
5. Antipodals
6. Porogamy
7. Helobial endosperm
8. Hypocotyl
9. Nucellus
10. Egg apparatus

**II. Answer any THREE of the following:****3x9=27**

11. Typical angiosperm flower
12. Microsporangium wall development
13. Pathenogenesis
14. Apomixis
15. Palynology

**III. Answer any TWO of the following:****2x15=30**

16. Describe the polygonous type of embryo sac development.
17. Describe the process of fertilization in Angiosperms.
18. Describe polyembryony alongwith its classification
19. Write an account of history of development of Angiosperm embryology

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**PAPER - VIII : PLANT BREEDING AND PLANT**  
**BIOTECHNOLOGY**  
**(FRESHERS)**

Time : 3 Hours

Max. Marks : 85

**Note:(1) Answer all the questions.****(2) Draw diagrams wherever necessary.****PART - A****I. Answer any SEVEN of the following:****7x4=28**

1. 2, 4-D
2. Macerozyme
3. pUC vector
4. Forensic test
5. Caulimo virus
6. Cultivar and variety
7. Off-type plants
8. Adventive embryony
9. NBPGR
10. Chimera

**PART - B****II. Answer any THREE of the following:****3x9=27**

11. Technique of restriction mapping.
12. Test cross and its importance.
13. Sexual incompatibility in crop plants.
14. Classification of resistance.
15. Molecular probes and their importance.

**PART - C****III. Answer any TWO of the following:****2x15=30**

16. Write an account of polymerase chain reactions and its importance in biotechnology.
17. Explain the methods for breeding crop plants for disease resistance.
18. Describe the technique of hybridization of crop plants.
19. Describe methods involved in the isolation and purification of protoplasts and testing their viability.

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