

(DBOT 21)

M.Sc. (Final) DEGREE EXAMINATION,

DECEMBER 2019.

Second Year

Botany

Paper V — DEVELOPMENTAL BIOLOGY OF
ANGIOSPERMS AND ETHNOBOTANY

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 6 = 30 marks)

Answer any FIVE questions from the following.

1. Tapetum
2. Apomixis
3. Meristem
4. Root
5. Ethnobotany and its concept
6. Sacred groves in Guntur and Prakasam districts
7. Ethnology of Yerukula tribe
8. Scientific evaluation of medicinal plants.

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Describe the process of fertilization.
- Or
- (b) Give an account of female gametophyte.
10. (a) Describe the anomalous secondary growth in monocot stem.
- Or
- (b) Give an account of anatomy of leaf.
11. (a) Explain the role of ethnobotany in developing modern medicine.
- Or
- (b) What are sacred groves? How do you conserve them? What are their significance?
12. (a) Describe the major medicinal plants cultivated in Andhra Pradesh.
- Or
- (b) Explain the role of phytochemicals in modern medicine.

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Paper VI— MICROBIOLOGY, MYCOLOGY AND
PLANT DISEASES

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 6 = 30 marks)

Answer any FIVE questions from the following

1. Transmission of viruses.
2. Heterotrophs
3. Classification of fungi
4. Masticomycotina
5. Establishment of pathogens
6. Plant disease indexing
7. RTV
8. Etiology of clubroot of Crucifers.

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions

9. (a) Explain the role of bacteria in phosphorus cycle.

Or

- (b) Describe the morphology and ultra structure of bacteria cell.

10. (a) Give a general account of Ascomycotina.

Or

- (b) Distinguish between Basidiomycotina and Deuteromycotina.

11. (a) Explain the role of enzymes, toxins and phytoalexins in pathogenesis.

Or

- (b) Describe the factors affecting the outbreak of plant diseases and add a note on forecasting.

12. (a) Describe the symptoms, etiology, epidemiology and control of damping off vegetables.

Or

- (b) Describe citrus canker and brown rot of potato.

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PAPER VII — CELL BIOLOGY AND
MICROBIOLOGY

Time : Three hours

Maximum : 70 marks

SECTION A – (5 × 6 = 30 Marks)

Answer any FIVE questions from the following.

1. Plasma membrane
2. Vacuole
3. Genetics of cancer
4. Transposable elements
5. Conjugation
6. Evolution of gene concept
7. Chemical structure of DNA
8. Eukaryotic gene expression.

SECTION B – (4 × 10 = 40 Marks)

Answer ALL questions.

9. (a) Describe the structure and functions of endoplasmic reticulum.

Or

- (b) Describe the structure and functions of lysosomes.

10. (a) Give an account of various microscopes studied by you.

Or

- (b) Describe cell signalling and signal transduction.

11. (a) Describe the genetic recombination in phage.

Or

- (b) Describe the experiment proving DNA as genetic material.

12. (a) Give an account of genetic code.

Or

- (b) Describe the replication of DNA.

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Paper VIII : PLANT BIOTECHNOLOGY

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 6 = 30 marks)

Answer any FIVE questions from the following.

1. Explant.
2. Scope of Biotechnology.
3. Cell suspension.
4. Synthetic seeds.
5. In vitro genetic engineering.
6. PCR.
7. RFLP.
8. Direct gene transfer.

SECTION B — (4 × 10 = 40 marks)

Answer ALL questions.

9. (a) Describe micro propagation and production of haploids through anther culture.

Or

- (b) Give an account of meristem culture and embryogenesis.

10. (a) Describe the protocol of somatic embryogenesis and synthetic seeds.

Or

- (b) How do you isolate protoplast and culture it?

11. (a) Describe genomic and cDNA libraries.

Or

- (b) Describe the molecular analysis of DNA by blotting techniques.

12. (a) Give an account of gene transfer methods Agrobacterium mediated gene transfer.

Or

- (b) Explain the role of biotechnology in industry.
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