

2906/2

FACULTY OF SCIENCE

B.Sc. (II Semester) Examination

BOTANY

Paper II

(Bryophytes, Pteridophytes, Gymnosperms and Paleobotany)

Time : 3 Hours]

[Max. Marks : 80

Section A – (Marks: $8 \times 4 = 32$)

1. Answer any **eight** questions:

- | | |
|--|------------------------------|
| (a) Gemma in Marchantia | (g) Amphiphloic Siphonostele |
| (b) Internal structure of Anthoceros thallus | (h) Pinus pollen grains |
| (c) Polytrichum male shoot structure | (i) Gnetum male flower |
| (d) Rhynia | (j) Pavement tissue |
| (e) Strobilus of Lycopodium | (k) Carbon dating |
| (f) Structure of equisetum cone | (l) Mesozoic age. |

Section B – (Marks: $4 \times 12 = 48$)

Answer **all** questions and draw well-labelled diagrams wherever necessary.

2. (a) Describe the structure of sporophyte of Polytrichum.
Or
(b) Describe the evolution of sporophyte among bryophytes.
3. (a) Describe the internal structure of equisetum stem. Mention the xerophytic and hydrophytic characters.
Or
(b) Write general characters of heterospory and seed habit.
4. (a) Describe the Pinus T.S. of needle.
Or
(b) Describe the structure of Gnetum female cone and the development of its female gametophyte.
5. (a) What are fossils? Describe the process of fossilization.
Or
(b) Describe general characters of Bennettitales. Add a note on its affinities with other plant groups.

5159/2

FACULTY OF SCIENCE
B.Sc. (IV Semester) Examination
BOTANY
Paper IV
(Cell Biology and Plant Physiology)

Time : 3 Hours]

[Max. Marks : 80

Section A – (Marks: $8 \times 4 = 32$)

1. Attempt any eight questions in short-form:

- (a) Chloroplast
- (b) Ribosomes
- (c) Golgi complex
- (d) t-RNA
- (e) Lampbrush chromosome
- (f) Plasmids
- (g) Ascent of sap
- (h) Micro nutrients
- (i) Enzymes Kinetics
- (j) Cyclic photophorylation
- (k) Biological nitrogen fixation
- (l) ABA.

Section B – (Marks: $4 \times 12 = 48$)

Answer all questions.

- 2. (a) Describe the structure and function of cell wall.
Or
(b) Describe the various models and functions of plasma membrane.
- 3. (a) Describe the structure and functions of DNA.
Or
(b) What is Mitosis? Write different stages in mitosis.
- 4. (a) What is Transpiration? Write about the mechanism of stomatal movement.
Or
(b) What is Mineral nutrition? Write about Macro nutrients.
- 5. (a) Write about Calvin cycle (C_3 – cycle)
Or
(b) What are phytohormones? Write about Auxins and its effects on plants.

[P.T.O.

4358/6

FACULTY OF SCIENCE
B.Sc. (V Semester) Examination
BOTANY
Paper V
(Cell Biology and Genetics)
(Under CBCS)

Time : 3 Hours]

[Max. Marks : 80

Section A – (Marks: 4 × 10 = 40)

Answer any four questions.

1. Fluid mosaic model.
2. Polytene chromosome.
3. Plasmids.
4. Gene mutations.
5. Dihybrid cross.
6. Types of Crossing over.
7. DNA replication.
8. RNA polymerase.

Section B – (Marks: 2 × 20 = 40)

Answer any two questions.

9. Explain the structure and functions of DNA.
10. Discuss different stages in mitosis and add a note on its significance.
11. Define linkage. Discuss about coupling and repulsion.
12. Give an account of operon model for gene regulation in prokaryotes.

E89E546A-58CE-4D92-84DB-59559F7F2B25

4359/6

FACULTY OF SCIENCE
B.Sc. (V Semester) Examination
BOTANY
Paper VI (a)
(Ecology and Biodiversity)
(CBCS)

Time : 3 Hours]

[Max. Marks : 80

Section A – (Marks: 4 × 10 = 40)

Answer any four questions.

1. Ecological Pyramids.
2. Atmosphere.
3. Soil Erosion.
4. Growth Curves.
5. Concepts of Productivity.
6. Earth Summit.
7. Levels of Biodiversity.
8. IUCN.

Section B – (Marks: 2 × 20 = 40)

Answer any two questions.

9. Define Ecosystem. Describe the structure and function of Ecosystem.
10. Define population. Discuss the characters of population.
11. What is plant succession? Describe process of Xerosere.
12. Write an essay on conservation of Biodiversity.

[P.T.O.]

375D8F3D-B4FD-4E9E-BC40-2B76F2B6D518

2596/1

FACULTY OF SCIENCE
B.Sc. (VI Semester) Examination
BOTANY
Paper VI(b)
(Tissue Culture and Biotechnology)
(New)

Time : 3 Hours]

Section A – (Marks: $8 \times 4 = 32$)

[Max. Marks : 80

1. Attempt any **eight** questions in short-form:
- (a) Ovule culture
 - (b) Totipotency
 - (c) Embryogenesis
 - (d) Synthetic seeds
 - (e) Haploids
 - (f) Secondary metabolites
 - (g) Bacteriophage
 - (h) Plasmid
 - (i) Applications of Biotechnology
 - (j) Polymerase Chain Reaction (PCR)
 - (k) Golden Rice
 - (l) Microinjection method.

Section B – (Marks: $4 \times 12 = 48$)

Answer **all** questions.

(a) Write about the various steps of the plant Tissue culture.

Or

(b) What is Organ culture? Write about Leaf culture.

(a) What is Tissue culture? Explain about applications of Tissue culture.

Or

(b) Write about Somatic hybrids and cybrids.

(a) Explain about different steps in rDNA technology.

Or

(b) What are the different types of enzymes used in gene cloning?

(a) Write an essay on transgenic plants and their applications in crop improvement.

Or

(b) Write an essay on construction of Genomic and cDNA libraries.

[P.T.O.]

4588

68217 3029

FACULTY OF SCIENCE
B.Sc. (VI Semester) Examination
BOTANY
Paper VIII (a)
(Tissue Culture and Biotechnology)

Time : 3 Hours]

[Max. Marks : 80

Section A - (Marks: $8 \times 4 = 32$)

(Short Answer Questions)

1. Answer any **eight** questions:
- | | |
|--|--------------------------|
| (a) Totipotency | (g) Restriction enzymes |
| (b) Callus culture | (h) Bacteriophages |
| (c) Micropropagation | (i) r-DNA technology |
| (d) Cybrid | (j) c-DNA libraries |
| (e) Secondary metabolites | (k) Bt. Cotton |
| (f) Production of Pathogen-free plants | (l) Microprojectile gun. |

Section B - (Marks: $4 \times 12 = 48$)

Answer **all** questions.

(Essay Type Questions)

2. ~~(a)~~ Give an account of tissue culture techniques.
Or
(b) Write an essay on Protoplast culture.
3. (a) Write an account on applications of tissue culture.
Or
(b) Give an account on production and uses of synthetic seeds.
4. (a) Plasmids as cloning vehicles - Discuss.
Or
~~(b)~~ Define biotechnology. Discuss its applications.
5. ~~(a)~~ What is Polymerase Chain Reaction (PCR)? Write about the steps in PCR and its applications.
Or
(b) Write the method of gene transfer in plants through *Agrobacterium*.

[P.T.O.]

4588/19

FACULTY OF SCIENCE

B.Sc. (VI Semester) Examination

BOTANY

Paper VIII (a)

(Tissue Culture and Biotechnology)

(Under CBCS)

Time : 2 Hours]

[Max. Marks : 80

Section A – (Marks: $4 \times 10 = 40$)

Answer any four questions.

1. M.S. Medium
2. Callus induction
3. Cybrids
4. Somaclonal variations
5. Restriction enzymes
6. p^{BR} 322
7. C-DNA Libraries
8. Microprojectile gun.

Section B – (Marks: $2 \times 20 = 40$)

Answer any two questions.

9. What is tissue culture? Describe the steps involved in it.
10. Define meristem. Explain the production of pathogen-free plants.
11. Define r-DNA and give the applications of r-DNA technology.
12. Explain the steps involved in PCR for DNA amplification and enumerate its applications.

4588/5

FACULTIES OF SCIENCE
B.Sc. (VI Semester) Examination
BOTANY
Paper VIII (a)
(Tissue Culture and Biotechnology)
(Under CBCS)

Time : 2 Hours]

[Max. Marks : 80

Section A – (Marks: $4 \times 10 = 40$)
Answer any four questions.

1. Micropropagation
2. Embryo culture
3. Synthetic seed
4. Virus-free plants
5. Cosmid
6. Restriction enzymes
7. Bt. Cotton
8. PCR.

Section B – (Marks: $2 \times 20 = 40$)
Answer any two questions.

9. Describe protoplast isolation and culture method.
10. Production of hairy roots and its applications in secondary metabolites production.
11. Write a note on restriction enzymes.
12. Explain the method of Agrobacterium mediated gene transfer.

43A68395-477D-4666-9A88-5FDF9DF1DDDA

5082
FACULTY OF SCIENCE
B.Sc. (III Semester) Examination
BOTANY
Paper III
(Plant Anatomy and Embryology)
(New)
(Under CBCS)

Time : 3 Hours]

[Max. Marks : 80

Section A – (Marks: 4 × 10 = 40)
Answer any four questions.

1. Root apex theories.
2. Hydathodes.
3. *Pterocarpus Santalinus* (Red Sander).
4. Anomalous secondary growth in *Dracaena*.
5. Nemece phenomenon.
6. Structure of embryosac.
7. Apomixis and its application.
8. Seed structure.

Section B – (Marks: 2 × 20 = 40)
Answer any two questions.

9. Describe different types of simple tissue.
10. Write about the anomalous secondary growth in *Boerhaavia* stem.
11. Describe different types of ovules in Angiosperms.
12. Write an essay on polyembryony.

3562/4

632193010

FACULTY OF SCIENCE
B.Sc. (III Semester) Examination

BOTANY

Paper III

(Taxonomy of Angiosperms and Medicinal Botany)

Time: 3 Hours]

[Max. Marks : 80

Answer all questions.

Section A – (Marks: 8 × 4 = 32)

(Short Answer Questions)

1. Answer any **eight** questions:
- APG
 - Cytotaxonomy
 - Artificial classification
 - Tendrils in cucurbitaceae
 - Spiklet
 - Pollination mechanism in Lamiaceae
 - Folk Medicine
 - Unani system of Medicine
 - AYUSH
 - Aswagandha
 - Nela Usiri
 - Brahmi.

Section B – (Marks: 4 × 12 = 48)

Answer all questions.

(Essay Type Questions)

2. (a) Give an account of Engler and Prantl. System of Classification.
Or
(b) Write an essay on herbarium.
3. (a) Describe the floral characters of Orchidaceae.
Or
(b) Mention the floral characters of Asclepiadaceae.
4. (a) Write an essay on basic concepts of Ayurveda.
Or
(b) Write a note on common medicinal plants used in primary healthcare.
5. (a) What is Pharmacognosy? Mention its aspects studied by you.
Or
(b) Write an essay on adulteration of crude drugs and methods of identification.

[P.T.O.]

6322-43

4795/4

FACULTY OF SCIENCE
B.Sc. (I Semester) Examination
BOTANY
Paper I
(Microbial Diversity of Lower Plants)

Time: 3 Hours]

[Max. Marks: 80

Answer all questions.

Section A - (Marks: 8 x 4 = 32)

Attempt any eight questions in short-form:

- (f) Mycoplasma
- (g) Bacteriophage
- (h) Angular leaf spot of cotton
- (i) Biofertilizers
- (j) Chara nucle
- (k) Isomorphic alternation of generation
- (l) Yeasts
- (m) Puccinia Uredospores
- (n) Economic Importance Lichens
- (o) Marchantia Gemma cup
- (p) Equisetum cone L.S.
- (q) Heterospory.

Section B - (Marks: 4 x 12 = 48)

Answer all questions.

- (a) Write about the Reproduction process in Bacteria.
- Or
- (b) Describe the plant diseases caused by virus and their control measures.

2

- 3. (a) Write about the Thallus organisation of Algae.
Or
(b) Describe the reproduction and life cycle of *Vibrio*.
- 4. (a) Write about the Reproduction and life cycle to *Albugo*.
Or
(b) Describe the Reproduction and life cycle in *Penicillium*.
- 5. (a) Write about the sporophyte evolution in bryophytes.
Or
(b) Describe the *Lycopodium* stem Internal structure.

TELEGU VERSION

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయుము.
విభాగము A - (మార్కులు: 8 x 4 = 32)

- 1. ఏవని ఎనిమిది ప్రశ్నలకు సంక్షిప్త సమాధానములు వ్రాయుము:
 - (a) మైకోప్లాస్మా
 - (b) బాక్టీరియోఫేజ్
 - (c) ప్రత్తి కోడియ అకుమచ్చ తెగులు
 - (d) జీవన ఎరువులు
 - (e) కారా న్యూక్లియోస్
 - (f) నసురూప ఏకాంతర జీవన దశలు
 - (g) ఛార్లెటలు
 - (h) పక్షినియా యురిడోస్పోర్లు
 - (i) లైకెన్ల ఆర్థిక ప్రాముఖ్యత
 - (j) మార్చాంటియా జెమ్మా కప్

Handwritten signature and scribbles.

4795/1

FACULTY OF SCIENCE
B.Sc. (I Semester) Examination
BOTANY
Paper I
(Microbial Diversity and Lower Plants)
(New)
(Under CBCS)

[Max. Marks : 80]

Time : 2 Hours]

Section A – (Marks: $4 \times 10 = 40$)
Answer any four questions.

1. Archaeobacteria
2. TMV
3. Chara Globule
4. Polysiphonia Cystocarp
5. Albugo Asexual
6. Economic importance of Lichens
7. Marchantia Antheridiophore
8. Equisetum stem - T.S.

Section B – (Marks: $2 \times 20 = 40$)
Answer any two questions.

9. Write about the reproduction process in Bacteria.
10. Explain the characters of Cyanophyceae.
11. Write about reproduction and life cycle of Puccinia.
12. Explain about the evolution of Sperophyte in Bryophytes.