

Code No. 23J124 /NC/BOT

Nizam College (Autonomous)
Faculty of Science
B.SC. I- Semester Examinations, January - 2023
Botany : Paper - I
(Microbial Diversity and Lower Plants)

Time : 3 Hours

Max. Marks : 80

Section – A

I. Answer any EIGHT of the following questions.

[8 x 4 = 32]

1. Archaeobacteria
2. Transformation
3. Bacterial cell
4. Heterocyst
5. Carposporophyte
6. Globule in Chara
7. Structure of Uridospores
8. Lichens as Medicine
9. Conidia
10. T.S of thallus of Marchantia
11. Rhynia
12. Heterospory

Section – B

II. Answer the following questions using internal choice.

[4 x 12 = 48]

13. (a) What are Mycoplasmas? Describe their structure?
[OR]
(b) Define conjugation? Describe the process of conjugation in Bacteria?
14. (a) Write an account on classification of algae (Fritch)?
[OR]
(b) Describe the life cycle of Polysiphonia?
15. (a) Give an account on life cycle of Penicillium?
[OR]
(b) Discuss the Life cycle on Barberry bushes of Puccinia gaminis?
16. (a) Explain in detail L.S of sporophyte of Polytrichum?
[OR]
(b) What is stele? Write an essay on types of Steles?

Code No. 23M124 /NC/BOT

Nizam College (Autonomous)
Faculty of Science

B.SC. I- Semester Examinations, May - 2023

Botany: Paper - I

(Microbial Diversity and Lower Plants)

Max. Marks : 80

Section – A

[8 x 4 = 32]

Time : 3 Hours

I. Answer any **EIGHT** of the following questions.

1. Mycoplasma
2. Transformation
3. Little leaf of Brinjal
4. Nucule
5. Heterocyst
6. Anabeana
7. Types of Ascocarp
8. Fruiting body of Penicillium
9. Asexual reproduction in *Mucor*
10. L.S. Strobilus of *Equisetum*
11. Types of Stele
12. Internal structure of Thallus of *Anthoceros*

Section – B

[4 x 12 = 48]

II. Answer the following questions using internal choice.

13. (a) Write an essay on Actinomycetes? [OR]
(b) Describe the structure of TMV add a note on replication?
14. (a) Give an account on thallus organization in Algae? [OR]
(b) What is Nannandria? Discuss sexual reproduction in Nannandrous species of *Oedogonium*?
15. (a) Explain sexual reproduction in *Albugo*? [OR]
(b) Write an essay on general characters of fungi?
16. (a) Discuss about the spore producing organs in *Equisetum*? [OR]
(b) Evolution of Saprophyte in Bryophytes?

NIZAM COLLEGE (AUTONOMOUS)
FACULTY OF SCIENCE
B.SC. I- SEMESTER EXAMINATIONS, DECEMBER – 2023
BOTANY : PAPER - 1
(MICROBIAL DIVERSITY AND LOWER PLANTS)

TIME: 3 HOURS

MAX. MARKS: 80

SECTION – AI. Answer any *EIGHT* of the following questions.

[8 x 4 = 32]

1. Actinomycetes
2. Bacterial Blight of Rice
3. Tobacco Mosaic Disease
4. Akinetes
5. *Oscillatoria*
6. Coenobium
7. Heterothallism
8. Sporangiospores
9. Perithecium
10. Protonema
11. Gemma
12. Sporocarp

SECTION – B

Answer the following questions.

[4 x 12 = 48]

13. (a) Write about the Economic Importance of Bacteria.

[OR]

(b) Write about the Virus Replication and explain Lytic and Lysogenic Cycles.

14 (a) Describe the Cyanobacteria cell structure and economic importance.

[OR]

(b) Explain the Isomorphic Alternation of Generation with *Ectocarpus* as an example.15 (a) Describe about the *Puccinia* life cycle

[OR]

(b) Explain the Economic Importance of Lichens.

16 (a) Explain about the Anthoceros Sporophyte structure.

[OR]

(b) Write about the *Lycopodium* Stem anatomical structure and its stellar variations.

CODE NO. 23M224/NC/BOT

NIZAM COLLEGE (AUTONOMOUS)

FACULTY OF SCIENCE

B.SC. II- SEMESTER EXAMINATIONS, MAY – 2023

BOTANY : PAPER - 2

(GYMNOSPERMS, TAXONOMY OF ANGIOSPERMS AND ECOLOGY)

TIME: 3 HOURS

MAX. MARKS: 80

SECTION – A

I. Answer any EIGHT of the following questions.

[8 x 4 = 32]

1. General characters of gymnosperms.
2. Importance of Fossils
3. Structure of *Pinus* Ovule
4. Phylogenetic classification
5. Numerical Taxonomy
6. Herbarium techniques
7. Inflorescence in Poaceae
8. Vegetative characters of Caesalpiniaceae family
9. Economic importance of Annonaceae
10. Food webs in ecosystem
11. Ecological adaptation of Hydrophytes
12. Plant succession and Climax formation

SECTION – B

II. Answer the following questions.

[4 x 12 = 48]

13. (a) Write an account of economic importance of Gymnosperms.
[OR]
(b) Explain the female reproductive structure in *Gnetum* with suitable diagrams.
14. (a) Give a brief account on Angiosperm Phylogeny Group (APG).
[OR]
(b) Explain the role of Chemotaxonomy in plant classification.
15. (a) Explain the floral characters in Euphorbiaceae family.
[OR]
(b) Give an account of economic importance of Rutaceae family.
16. (a) Explain the ecological adaptation of Mesophytes.
[OR]
(b) Discuss the various stages in plant succession with reference to Xerosere.

Code No. 23J3S24/NC/BOT-SEC

Nizam College (Autonomous)
Faculty of Science
B.SC. III- Semester Examinations, January - 2023
Botany: SEC - I
(Nursery and Gardening)

Time : 2 Hours

Max. Marks : 40

Section – A

I. Answer any *FOUR* of the following questions.

[4 x 4 = 16]

1. Seed Certification
2. Vegetative Propagation.
3. Shade House.
4. Parks
5. Water garden
6. Manuring
7. Lawn
8. Seed viability

Section – B

II. Answer the following questions using internal choice.

[3 x 8 = 24]

- 9 (a) Give an account on Planting with reference to direct seeding and transplants.

[OR]

- (b) Explain about Seed Dormancy and causes & methods to break seed dormancy.

- 10 (a) Give an account on objectives and scope of Gardening.

[OR]

- (b) Explain about various methods of Vegetative Propagation.

- 11 (a) Describe about storage and marketing procedures of vegetables.

[OR]

- (b) Give an account on some important famous gardens of India.

Code No. 23M324/NC/BOT

Nizam College (Autonomous)
Faculty of Science
B.SC. III- Semester Examinations, May - 2023
BOTANY: Paper - III
(Plant Anatomy and Embryology)

Time : 3 Hours

Max.Marks : 80

Section – A

I. Answer any EIGHT of the following questions.

[8 x 4 = 32]

1. Histogen Theory
2. Fires
3. Hydathodes
4. Porous and non porous wood
5. Cork
6. Seasonal changes in Cambial activity
7. Pollen tetrads
8. Egg apparatus
9. Integuments
10. Aleuron layer
11. Suspensor
12. Apomixes

Section – B

II. Answer the following questions using internal choice.

[4 x 12 = 48]

13. (a) Mention different kinds of Complex tissues with suitable Diagrams?
[OR]
(b) Write a note on structure and Distribution of Stomata?
14. (a) Describe the Secondary growth of Boerhaavia Stem with suitable Diagrams?
[OR]
(b) Briefly explain importance of Red Sanders (*Pterocarpus santalinus*).Mention the properties of Red Sanders?
15. (a) Give an account development of male gametophyte in Angiosperms?
[OR]
(b) Discuss in detail bisporic types of Embryo Sacs?
16. (a) What is endosperm? Add a note on different kinds of Endosperms?
[OR]
(b) Explain development of embryo in Dicotyledons?

CODE NO. 23D/324/NC/BOT

NIZAM COLLEGE (AUTONOMOUS)

FACULTY OF SCIENCE

B.SC. III- SEMESTER EXAMINATIONS, DECEMBER – 2023

BOTANY : PAPER - III

(PLANT ANATOMY AND EMBRYOLOGY)

TIME: 3 HOURS

MAX. MARKS: 80

SECTION – A

[8 x 4 = 32]

I. Answer any EIGHT of the following questions.

1. Simple tissues
2. Hydrophytes
3. Root apex theory
4. Types of vascular cambium
5. Vascular bundles in Boerhaavia.
6. Neem (Azadirachta indica) economic Importance.
7. T.S of Anther
8. Nucellus
9. Importance of embryology
10. Seed dispersal
11. Hibiscus pollen grains
12. Apomixes

SECTION – B

[4 x 12 = 48]

I. Answer the following questions.

13. (a) Give an account of different types of Stomata.
[OR]
(b) General account of adaptations in xerophytes.
14. (a) Anomalous secondary growth of Stem - Dracena,
[OR]
(b) Wood structure of Teak (Tectona grandis),
15. (a) Write a note on development of male gametophyte
[OR]
(b) Describe different types of ovules.
16. (a) Explain Pollen - pistil interaction.
[OR]
(b) Define Endosperm add a note on types endosperms.

CODE NO. 23D/3S24/NC/BOT-SEC

NIZAM COLLEGE (AUTONOMOUS)
FACULTY OF SCIENCE

B.SC. III - SEMESTER EXAMINATIONS, DECEMBER - 2023
BOTANY : SEC - 1

(BIOFERTILIZERS AND ORGANIC FARMING)

Max. Marks : 40

Section – A

: 2 Hours

Answer any **FOUR** of the following questions.

[4x 4 = 16]

1. Azospirillum
2. Cynobacterial biofertilizers
3. Azolla
4. Rhizobium
5. Glomus
6. Panchakvya
7. Nitrogen fixation
8. Neem

Section – B

[3 x 8 = 24]

Answer the following questions.

9. (a) Write an account on manure composition and crop productivity.

[OR]

(b) Explain in detail about bacterial biofertilizers?

10. (a) Discuss Isolation and inoculum production of VAM

[OR]

(b) Discuss in detail about biological pest control.

11. (a) Describe the association of Azolla and Anebaena association as biofertilizers..

[OR]

(b) Write in detail influence of VAM in growth and yield of crop plants.

CODE NO. 23M424/NC/BOT

NIZAM COLLEGE (AUTONOMOUS)
FACULTY OF SCIENCE
B.SC. IV- SEMESTER EXAMINATIONS, MAY – 2023
BOTANY : PAPER - IV
(CELL BIOLOGY, GENETICS AND PLANT PHYSIOLOGY)

TIME: 3 HOURS

MAX. MARKS: 80

SECTION – A

I. Answer any EIGHT of the following questions.

[8 x 4 = 32]

1. Write about semi-permeable Plasma membrane
2. Explain semi-autonomous nature of Cell organelles
3. Describe Mitosis
4. What is Poly-genic inheritance?
5. Describe Crossing over
6. Write about Aneuploidy
7. Explain Osmotic and Pressure potential
8. List out the Micro-nutrients
9. What is the nomenclature of Enzymes?
10. Describe CAM pathway
11. What is Glycolysis
12. Describe Nitrogen fixation

SECTION – B

II. Answer the following questions using internal choice.

[4 x 12 = 48]

13. (a) Differentiate Euchromatin and Heterochromatin of a Chromosome.

[OR]

(b) Give an account of types and functions of DNA .

14. (a) Explain the types of Inversions and Translocations.

[OR]

(b) Give an account of Gene mutations.

15. (a) Explain the deficiency symptoms of Macro nutrients.

[OR]

(b) Give an account of Stomatal structure and movement during Transpiration.

16. (a) Describe Cyclic and Non-cyclic Photophosphorylation.

[OR]

(b) Write an essay on physiological role of Phyto hormones.

CODE NO. 23M/4S24/NC/BOT-SEC

NIZAM COLLEGE (AUTONOMOUS)
FACULTY OF SCIENCE
B.SC. IV - SEMESTER EXAMINATIONS, MAY - 2023
BOTANY : SEC - 3
(MUSHROOM CULTURE TECHNOLOGY)

Time : 2 Hours

Max. Marks : 40

Section - A

I. Answer any **FOUR** of the following questions.

[4x 4 = 16]

1. What are poisonous mushrooms?
2. Explain about *Agaricus*.
3. Describe the substrates .of mushroom cultivation .
4. Explain the medium preparation for mushroom multiplication.
5. Describe the refrigeration process of mushroom storage.
6. What are the types of proteins found in mushrooms.
7. List out the research centers of mushrooms at national level.
8. What is the export value of mushrooms?

SECTION - B

II. Answer the following questions.

[3X8=24]

9. (a) Explain the history of mushrooms as a source of food.

[OR]

(b) Describe the cultivation technology of mushrooms in brief.

10. (a) Explain the various materials used for mushroom bed preparation.

[OR]

(b) Explain the composting technology in mushroom production.

11. (a) Explain various processes of long-term storage of mushrooms.

[OR]

(b) What are the different types of foods prepared from mushrooms?

CODE NO. 23J524/NC/BOT

Nizam College (Autonomous)
Faculty of Science
B.SC. V- Semester Examinations, January - 2023
Botany : Paper - V
(Biodiversity and Conservation)

Time : 3 Hours

Max. Marks : 80

Section – A

I. Answer any *EIGHT* of the following questions.

[8 x 4 = 32]

1. Genetic Diversity
2. Ecosystem Diversity
3. Uses of Plants
4. Loss of Species Diversity
5. NBPGR
6. IUCN red list of threatened categories
7. National Parks
8. Gene bank
9. Cryopreservation
10. Avenue trees
11. Wood & its uses
12. Alcoholic Beverages

Section – B

II. Answer the following questions using internal choice.

[4 x 12 = 48]

13. (a) Give an account on the scope of Biodiversity?
[OR]
(b) Describe briefly about the values & uses of Biodiversity?
14. (a) Critically evaluate the loss of Biodiversity?
[OR]
(b) Write in detail about objectives & achievements of IUCN?
15. (a) Give a detailed account on In-situ Conservation?
[OR]
(b) Illustrate various steps to be taken to conserve Biodiversity?
16. (a) Explain about the importance of forestry with special reference to its utilization & Commercial aspects?
[OR]
(b) Give an account on important of fruit crops and their importance?

CODE NO. 23M524/NC/BOT-5B (B/L)

NIZAM COLLEGE (AUTONOMOUS)

FACULTY OF SCIENCE

B.Sc. V- SEMESTER EXAMINATIONS, MAY – 2023

BOTANY : PAPER –V (B)
(SEED TECHNOLOGY)

TIME : 3 HOURS

MAX. MARKS : 80

SECTION – A

I. Answer any EIGHT of the following questions.

[8 x 4 = 32]

1. Pollinators
2. Characteristic features of quality seed
3. Emasculation
4. Types of seed dormancy
5. Causes of seed dormancy
6. a. Seed mobilization
b. Seed Imbibition
7. Seed testing laboratories
8. a. Threshing
b. Winnowing
9. Methods of harvesting of sunflower
10. Millenium seed banks
11. Genetic erosion
12. a. Recalcitrant seeds
b. Orthodax seeds

S SECTION – B

II. Answer the following questions using internal choice.

[4 x 12 = 48]

13 a) Illustrate about the seed structure and its types.

[OR]

b) What are the pollen collection and storage techniques ? Explain how these techniques are useful for artificial pollination?

14 a) Write a detailed note on the physiological process that occurs during seed germination?

[OR]

b) What are the methods used to break the seed dormancy and mention the role of phytohormones in breaking of seed dormancy?

15 a) What is the importance of seed testing and mention the seed testing procedures?

[OR]

b) Write a general account on seed borne diseases and mention the precautionary treatment of seeds for disease control and prevention?

16 a) What is seed viability and what are the factors affecting seed viability?

[OR]

b) What are the seed certification agencies and write about the general standards of certification?

CODE NO. 23M524/NC/BOT

Nizam College (Autonomous)
Faculty of Science
B.SC. V- Semester Examinations, May - 2023
Botany : Paper - V
(Biodiversity and Conservation)

Time : 3 Hours

Max. Marks : 80

Section - A

I. Answer any EIGHT of the following questions.

[8 x 4 = 32]

1. Species Diversity
2. Ecosystem Diversity
3. Uses of Microbes
4. UNEP
5. IUCN red list of threatened categories
6. Loss of Genetic Diversity
7. Sanctuaries
8. Seed Bank
9. Cryopreservation
10. Ornamental plants
11. Fruits and Nuts
12. Wood & its uses

Section - B

II. Answer the following questions using internal choice.

[4 x 12 = 48]

1. (a) Give an account on the scope of Biodiversity?
[OR]
(b) Describe briefly Ethical & Aesthetic values of Biodiversity?
14. (a) Explain about various effects of Biodiversity loss & means to conserve Biodiversity?
[OR]
(b) Write in detail about objectives and contributions of IUCN?
15. (a) Give a detailed account on Ex-situ Conservation and its drawbacks?
[OR]
(b) Explain the various steps taken to conserve the Biodiversity?
16. (a) Explain the role of plants in relation to human welfare?
[OR]
(b) Describe about various important fruit crops and their commercial importance?

NIZAM COLLEGE (AUTONOMOUS)
FACULTY OF SCIENCE
B.SC. V - SEMESTER EXAMINATIONS, DECEMBER - 2023
BOTANY : PAPER - V
(BIODIVERSITY CONSERVATION)

TIME: 3 HOURS

MAX. MARKS: 80

SECTION - A

I. Answer any *EIGHT* of the following questions.

[8 x 4 = 32]

1. Genetic Diversity
2. Wild taxa
3. Ethical values of biodiversity
4. Loss of ecosystem biodiversity
5. IUCN
6. NBPGR
7. Sacred grooves
8. Seed bank
9. Conservation of genetic diversity
10. Avenue trees in India
11. Commercial timber
12. Fruits of India

SECTION - B

II. Answer the following questions.

[4 x 12 = 48]

13. (a) Define species diversity and its importance?

[OR]

(b) Give a detailed note on use of plants?

14.(a) Describe the threats to loss of agrobiodiversity?

[OR]

(b) Write about the following organizations associated with biodiversity?

i. WWF

ii. UNEP

15.(a) Write about the ex-situ conservation of biodiversity?

[OR]

(b) Write about the National parks and their conservation strategies in India?

16.(a) Describe the role of plants in human welfare?

[OR]

(b) Write about important fruit crops in India and their commercial importance?

CODE NO. 23M624/NG/BOT

NIZAM COLLEGE (AUTONOMOUS)
FACULTY OF SCIENCE
B.SC. VI- SEMESTER EXAMINATIONS, MAY – 2023
BOTANY : PAPER - VI
(TISSUE CULTURE & BIOTECHNOLOGY)

MAX. MARKS: 80

TIME: 3 HOURS

SECTION – A

I. Answer any *EIGHT* of the following questions.

[8 x 4 = 32]

1. Preparation of Culture medium
2. Embryo Culture
3. Organogenesis
4. Haploids
5. Somaclonal variants
6. Production of pathogen free plants
7. Ligases
8. Bacterial transformation
9. Plasmids
10. Electroporation
11. Oligonucleotide probes
12. Gene libraries

SECTION – B

II. Answer the following questions using internal choice.

[4 x 12 = 48]

13. (a) Define Tissue Culture and explain about various steps involved in Tissue Culture.

[OR]

(b) Define and explain about Embryogenesis.

14. (a) Give a detailed account on various applications of Tissue Culture.

[OR]

(b) Explain about Somatic hybridization and its applications.

15. (a) Define Biotechnology? Explain about its role in various fields.

[OR]

(b) Give a brief account on procedure of r-DNA technology.

16. (a) What are Transgenic plants? Write about their production & applications.

[OR]

(b) Write about the process of gene transfer through Agrobacterium in higher plants.
