



GOVERNMENT DEGREE COLLEGE

NARASANNAPETA, SRIKAKULAM DIST. - 532421

(Affiliated to Dr. B.R. AMBEDKAR UNIVERSITY, Etcherla, Srikakulam Dist.) (Accredited with NAAC "B" Grade)



DEPARTMENT OF BOTANY

Year: 2023-24

Continuous Internal Assessment (CIA)

Subject: BOTANY

SEMESTER: III

MID -I EXAMINATION

GROUP: II B.Sc (CBZ)

Paper: III

Max. Marks: 20 Marks

(Paper Title: Plant Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity)

I. Answer **One** from the Following Questions. (Draw a labeled diagram whenever necessary) **1 x 5 = 5 Marks**

1. Describe the anomalous growth in Dracena stem with a labeled diagram?
2. Describe the Vascular tissue system in plants?
3. Write an essay on Microsporogenesis?

II. Short answer questions answer any **Five** of the following questions. **5 x 2 = 10 Marks**

1. Xylem
2. Tunica Carpus Theory
3. Anatropous Ovule
4. Meristems
5. Pericycle
6. Teak
7. Anemophily

III. Answer **All** the following Objective Questions. **10 x 1/2 = 5 Marks**

1. Lateral Roots originate in _____.
a) Cortex b) Endodermal cells c) Pericycle d) Cork Cambium
2. Fibres associated with phloem
a) Wood Fibres b) Bast Fibres c) Hard Fibres d) Surface Fibres
3. Bicollateral Vascular bundles are found in the stem of _____.
a) Pumpkin b) Sunflower c) Dracaena d) Gram
4. Double Fertilization is characteristic of
a) Gymnosperms b) Angiosperms c) Monocots d) Bryophytes
5. In angiosperms endosperm is
a) Haploid b) Diploid c) Triploid d) None of the above
6. Monosporic eight nucleated female gametophyte is found in
a) Adoxa b) Onion c) Fritillaria d) Polygonum
7. Match the Columns

List I

- 1) Ovary wall
- 2) Double Fertilization
- 3) Dormancy
- 4) Endosperm

List II

- (A) Food
- (B) Seeds
- (C) Angiosperms
- (D) Pericarp
- (E) Embryo

Signature of the Lecturer
(S. PARAMESWARA RAO)
Lecturer in Botany



GOVERNMENT DEGREE COLLEGE

NARASANNAPETA, SRIKAKULAM DIST. - 532421

(Affiliated to Dr. B.R. AMBEDKAR UNIVERSITY, Etcherla, Srikakulam Dist.) (Accredited with NAAC "B" Grade)



DEPARTMENT OF BOTANY

Year: 2023-24

Continuous Internal Assessment (CIA)

Subject: BOTANY

SEMESTER: III

MID - II EXAMINATION

GROUP: I B.Sc (CBZ)

Paper: III

Max. Marks: 15 Marks

(Paper Title: Plant Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity)

I. Answer **One** from the Following Questions. (Draw a labeled diagram whenever necessary) **1 x 5 = 5 Marks**

1. Give an account on the components of an ecosystem?
2. Describe the effect of Light on vegetation and growth of plants?
3. Give an account on Population Growth?

II. Short answer questions answer any **THREE** of the following questions. **3 x 2 = 6 Marks**

1. Food Chain
2. Ecological Pyramids
3. Ecads
- 4) P/R Ratio
5. Red Data Book
6. IUCN

III. Answer **All** the following Objective Questions. **8 x 1/2 = 4 Marks**

- (1) Plants Growing under direct sunlight are known as
 - (a) Heliophytes
 - (b) Sciophytes
 - (c) Psamophytes
 - (D) Dicots
- (2) Which is not the Characteristic of a Population
 - (a) Natality
 - (b) Mortality
 - (c) Stratification
 - (d) Sex Ratio
- (3) Plant species with wide range of genetic distribution evolve into a local population known as
 - (a) Ecotype
 - (b) Population
 - (c) Ecosystem
 - (d) Biome
- (4) _____ is an example of an Ex-situ conservation
 - (a) Sacred groves
 - (b) Wildlife sanctuary
 - (c) Seed Bank
 - (d) National Park

5. Match the Columns

List I

- 1) How do plants exchange gases with the environment.
- 2) What are the main types of symbiotic relationships involving plants.
- 3) How do plants adapt to extreme environments.
- 4) Plants growing under direct sunlight are known as....

List II

- (A) Mutualism, Commensalism, Parasitism
- (B) Ecological Succession
- (C) Photosynthesis and Respiration
- (D) Sciophytes
- (E) Heliophytes

Signature of the Lecturer
(S. PARAMESWARA RAO)
Lecturer in Botany



GOVERNMENT DEGREE COLLEGE

NARASANNAPETA, SRIKAKULAMDIST.-532421

(Affiliated to Dr. B.R. AMBEDKAR UNIVERSITY, Etcherla, Srikakulam Dist.) (Accredited with NAAC "B" Grade)



DEPARTMENT OF BOTANY

Year: 2023-24

Continuous Internal Assessment (CIA)

Subject: BOTANY

SEMESTER: IV

MID -I EXAMINATION

GROUP: II B.Sc (CBZ)

Paper: IV (Paper Title : Plant Physiology & Metabolism)

Max.Marks: 20 Marks

I. Answer **One** from the Following Questions. (Draw a labeled diagram whenever necessary) **1 x 5 = 5 Marks**

1. Describe the mechanism of stomatal Structure and their movement?
2. What is Ascent of Sap? Explain it with various theories put forward about it?
3. Explain Krebs Cycle?

II. Short answer questions answer any **Five** of the following questions.

5 x 2 = 10 Marks

1. Water Potential
2. Diffusion
3. Water Physical Properties
4. Plasmolysis
5. Micro Nutrients
6. Enzyme properties
7. Respiratory Quotient (RQ)
8. C4 Pathway

III. Answer **All** the following Objective Questions. **10 x 1/2 = 5 Marks**

1. Wilting in the plants occurs due to _____.
a) Excessive water uptake by the roots b) High soil salinity c) Loss of turgor pressure in cells
d) Insufficient sunlight exposure
2. The boiling point of water of standard atmospheric pressure is _____.
a) 0°C b) 25°C c) 100°C d) 200°C
3. Water has a unique property that allows it to stick to other substances. This Property is known as _____.
a) Surface tension b) Viscosity c) Cohesion d) Adhesion
4. Enzyme activity can be influenced by _____.
a) Temperature & PH b) Light intensity & humidity c) Pressure and altitude
d) Nutritional status & body weight
5. The final product of the Krebs Cycle is _____.
a) Oxalic Acid b) Citrate c) Acetyl Co-A d) Fumarate
6. Plants can absorb mineral nutrients only through their Root hairs (True / False)
7. Iron deficiency in plants leads to chlorosis, a condition characterized by yellowing leaves
(True / False)

8. Match the Columns

List I

- 1) Total ATP Yield from Respiration
- 2) Anaerobic Respiration
- 3) Krebs Cycle

List II

- (A) 2 ATP
- (B) 36 ATP
- (C) O₂ Present
- (D) O₂ Absent
- (E) Mitochondrial matrix
- (F) Cytoplasm

:

Signature of the Lecturer
(S. PARAMESWARA RAO)
Lecturer in Botany



GOVERNMENT DEGREE COLLEGE

NARASANNAPETA, SRIKAKULAMDIST.-532421

(Affiliated to Dr. B.R. AMBEDKAR UNIVERSITY, Etcherla, Srikakulam Dist.) (Accredited with NAAC "B" Grade)



DEPARTMENT OF BOTANY

Year: 2023-24

Continuous Internal Assessment (CIA)

Subject: BOTANY

SEMESTER: IV

MID -I EXAMINATION

GROUP: II B.Sc (CBZ)

Paper: V (Paper Title : Cell Biology, Genetics & Plant Breeding) Max.Marks: 20 Marks

I. Answer **One** from the Following Questions. (Draw a labeled diagram whenever necessary) 1 x 5 = 5 Marks

1. Describe the Ultra structure of Cell Wall?
2. Explain the structure and functions of Cell membrane?
3. Give an account of Euchromatin and Heterochromatin?

II. Short answer questions answer any **Five** of the following questions. 5 x 2 = 10 Marks

1. Prokaryotic Cell
2. Cell theory
3. Nucleolus
4. Mitochondria
5. Karyotype
6. Ideogram
7. Autosome
8. B- Chromosome

III. Answer **All** the following Objective Questions. 10 x 1/2 = 5 Marks

1. Which of the following cell organelles is absent in animal cells and present in a plant cell?

- (a) Cell wall (b) Cytoplasm (c) Vacuoles (d) Mitochondria

2. Which of the following cell organelles is called a suicidal bag?

- (a) Mitochondria (b) Golgi bodies (c) Cell membrane (d) Lysosomes

3. Which of the following statements is true about chromosomes?

- (a) It is present within the nucleus (b) It carries genes and helps in inheritance
(c) It is composed of DNA in the form of Chromatin and protein (d) All of the above

4. _____ is involved in the synthesis of phospholipids.

- (a) Mitochondria (b) Smooth Endoplasmic Reticulum (c) Endoplasmic Reticulum (d) Cytoplasm

5. Unicellular microscopic organisms were first studied by -----

- (a) Robert Hooke (b) Priestley (c) Pasteur (d) Leeuwenhoek

6. Cells without a nucleus are eukaryotic cells. (True/False)

7. DNA is a nucleic acid found in cells. (True/False)

8. Match the components of DNA structure

List I

- 1) Phosphate
- 2) Deoxyribose sugar
- 3) Nitrogenous base

List II

- (A) Forms the backbone of the DNA strand
- (B) Determines the genetic code
- (C) Provides the energy for bonding between nucleotides

Signature of the Lecturer
(S.PARAMESWARA RAO)



GOVERNMENT DEGREE COLLEGE

NARASANNAPETA, SRIKAKULAMDIST.-532421

(Affiliated to Dr. B. R. AMBEDKAR UNIVERSITY, Etcherla, Srikakulam Dist.) (Accredited with NAAC "B" Grade)



DEPARTMENT OF BOTANY

Year: 2023-24

Continuous Internal Assessment (CIA)

Subject: BOTANY

SEMESTER: IV

MID -II EXAMINATION

GROUP: II B.Sc (CBZ)

Paper: IV

(Paper Title : Plant Physiology & Metabolism)

Max. Marks: 15 Marks

I. Answer **One** from the Following Questions. (Draw a labeled diagram whenever necessary) 1 x 5 = 5 Marks

1. Explain the C3 Cycle?
2. Explain Biological Nitrogen Fixation?
3. Explain Beta Oxidation?

II. Short answer questions answer any **Three** of the following questions.

3 x 2 = 06 Marks

1. CAM
2. Emerson Enhancement Effect
3. Nitrogenase enzyme
4. Nif gene
5. Ethylene
6. Phytochrome

III. Answer **All** the following Objective Questions.

4 x 1 = 4 Marks

1. Photosynthesis occurs in _____.
a) Chloroplast b) Golgi body c) Endoplasmic reticulum d) Nucleus
2. Kranz anatomy is found in the leaves of _____.
a) Wheat b) Mustard c) Sweet potato d) Sugarcane
3. Non-cyclic photophosphorylation results in the production of _____.
a) NADH b) NADPH c) ATP d) ATP and NADPH
4. Match the Columns

List I

- 1) Free living Nitrogen fixation Bacteria
- 2) Symbiotic Nitrogen fixing Cyanobacteria

List II

- (A) Rhizobium
- (B) Beijerinckia, Clostridium
- (C) Azolla
- (D) Aulosira

:

Signature of the Lecturer
(S. PARAMESWARA RAO)
Lecturer in Botany



GOVERNMENT DEGREE COLLEGE

NARASANNAPETA, SRIKAKULAMDIST.-532421

(Affiliated to Dr. B.R. AMBEDKAR UNIVERSITY, Etcherla, Srikakulam Dist.) (Accredited with NAAC "B" Grade)



DEPARTMENT OF BOTANY

Year: 2023-24

Continuous Internal Assessment (CIA)

Subject: BOTANY

SEMESTER: IV

MID -II EXAMINATION

GROUP: II B.Sc (CBZ)

Paper: V (Paper Title : Cell Biology, Genetics & Plant Breeding) Max. Marks: 15 Marks

I. Answer **One** from the Following Questions. (Draw a labeled diagram whenever necessary) 1 x 5 = 5 Marks

1. Explain Mendel's Laws of Inheritance?
2. Describe the structure of DNA?
3. Explain the Linkage?

II. Short answer questions answer any **Three** of the following questions. 3 x 2 = 06 Marks

1. Test Cross
2. Incomplete Dominance
3. t RNA
4. Co-dominance
5. Cistron
6. Lac operon

III. Answer **All** the following Objective Questions.

4x 1 = 4 Marks

1. An individual's collection of genes is called _____

- (a) Genotype (b) Phenotype (c) Trait (d) Gametes

2. There are 4 pairs of chromosomes in a Drosophila. The Linkage groups present in it are _____

- (a) One less than the pair of chromosomes (b) One more than (c) Four (d) Eight

3. In DNA, the enzyme which breaks the H₂ Bonds is _____

- (a) Ligase (b) Helicase (c) Topoisomerase (d) Polymerase

4. Match the components of Meiosis

List I

List II

- | | |
|------------------------------|----------------|
| 1) Crossing over takes place | (A) Zygotene |
| 2) Termination of chiasmata | (B) Diakinesis |
| | (C) Leptotene |
| | (D) Pachytene |

:

Signature of the Lecturer
(S. PARAMESWARA RAO)
Lecturer in Botany



GOVERNMENT DEGREE COLLEGE

NARASANNAPETA, SRIKAKULAM DIST. - 532421

(Affiliated to Dr. B.R. AMBEDKAR UNIVERSITY, Etcherla, Srikakulam Dist.)(Accredited with NAAC "B" Grade)



DEPARTMENT OF BOTANY

Year: 2023-24

Continuous Internal Assessment (CIA)

Subject: BOTANY

SEMESTER: VI

MID - I EXAMINATION

GROUP: III B.Sc (CBZ)

Paper: 6C

(Paper Title 6C: Plant Tissue Culture)

Max.Marks: 20 Marks

I. Answer **One** from the Following Questions. (Draw a labeled diagram whenever necessary) **1 x 5 = 5 Marks**

1. What are the important aspects in tissue culture?
2. Explain the preparation of M.S. Medium?
3. Describe different methods of sterilization ?

II. Short answer questions answer any **Five** of the following questions.

5 x 2 = 10 Marks

1. Plant Tissue Culture Objectives
2. De-differentiation
3. Hot Air Oven
4. Explant
5. Types of Culture media
6. Incubation
7. Autoclave
8. Single Cell Culture

III. Answer **All** the following Objective Questions.

10 x 1/2 = 5 Marks

1. Which of the following chemicals are most widely used for protoplast fusion ?
a) Mannitol b) Polyethylene glycol c) Sorbitol d) Mannol
2. Which of the following growth hormones produces apical dominance
a) Ethylene b) Cytokinin c) Gibberellins d) Auxin
3. Which of the following medium is composed of chemically defined compounds _____
a) Natural media b) Artificial media c) Synthetic media d) None of the above
4. Which of the following plant cell shows totipotency?
a) Cork cells b) Meristems c) Sieve tube d) Xylem vessels
5. Which of the Following vectors is used in crop improvement and crop management?
a) Agro bacterium b) plasmid c) Cosmid d) Phasmid
6. Haploid plants can be obtained from _____.
7. The pair of hormones required for a callus to differentiate are _____.
8. Plant tissue culture is also called as micropropagation..... (A) True (B) False
9. Match the Columns

List I

- 1) Dry Air type sterilizer
- 2) Sterilize noncarbohydrate media and agar media

List II

- (A) Autoclave
- (B) Laminar Airflow
- (C) Hot Air Oven

Signature of the Lecturer
(S.PARAMESWARA RAO)
Lecturer in Botany



GOVERNMENT DEGREE COLLEGE

NARASANNAPETA, SRIKAKULAM DIST. - 532421

(Affiliated to Dr. B.R. AMBEDKAR UNIVERSITY, Etcherla, Srikakulam Dist.)(Accredited with NAAC "B" Grade)



DEPARTMENT OF BOTANY

Year: 2023-24

Continuous Internal Assessment (CIA)

Subject: BOTANY

SEMESTER: VI

MID - II EXAMINATION

GROUP: III B.Sc (CBZ)

Paper: 6C

(Paper Title 6C: Plant Tissue Culture)

Max.Marks: 15 Marks

I. Answer **One** from the Following Questions. (Draw a labeled diagram whenever necessary) **1 x 5 = 5 Marks**

1. Describe Anther Culture and its significance?
2. Explain Somatic Embryogenesis?
3. Give an account of Transgenic plants?

II. Short answer questions answer any **Four** of the following questions.

4 x 2 = 8 Marks

1. Cryopreservation
2. Embryo Culture
3. Morphogenesis
- 4) Cybrids
5. Bt Cotton
6. Bioreactors

III. Answer **All** the following Objective Questions.

4 x 1/2 = 2 Marks

(1) Which of the following is not a benefit of callus culture in plant tissue culture?

- A) Production of large quantities of cells for genetic engineering B) Clonal propagation of plants
C) Induction of genetic variation D) Development of disease-resistant plants

(2) Callus culture is commonly used in plant tissue culture for:

- A) Micropropagation of plants B) Somatic embryogenesis C) Cryopreservation of plant cells D) All of the above

(3) Which of the following is an application of plant tissue culture?

- A) Production of virus-free plants B) Production of synthetic seeds C) Production of secondary metabolites D)
All of the above

(4)What is the main advantage of using callus culture for the production of secondary metabolites?

- A) It allows for the production of a wide range of secondary metabolites
B) It provides a higher yield of secondary metabolites compared to intact plants
C) It reduces the time required for secondary metabolite production
D) It eliminates the need for specialized equipment in secondary metabolite production

Signature of the Lecturer
(S.PARAMESWARA RAO)
Lecturer in Botany



GOVERNMENT DEGREE COLLEGE

NARASANNAPETA, SRIKAKULAM DIST. - 532421

(Affiliated to Dr. B.R. AMBEDKAR UNIVERSITY, Etcherla, Srikakulam Dist.)(Accredited with NAAC "B" Grade)



DEPARTMENT OF BOTANY

Year: 2023-24

Continuous Internal Assessment (CIA)

Subject: BOTANY

SEMESTER: VI

MID - I EXAMINATION

GROUP: III B.Sc (CBZ)

Paper: 7C

(Paper Title 7C: Mushroom Cultivation)

Max.Marks: 20 Marks

I. Answer **One** from the Following Questions. (Draw a labeled diagram whenever necessary) **1 x 5 = 5 Marks**

1. Explain the life cycle of Mushroom?
2. Write an account on Morphological features of Button Mushroom and Milky mushroom?
3. Write an essay on Composting Unit Machinery?

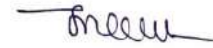
II. Short answer questions answer any **Four** of the following questions. **5 x 2 = 10 Marks**

1. Pleurotus florida
2. Importance of mushroom
3. Edible mushroom
- 4)
5. Paddy straw mushroom
6. Farm hygiene
7. Pasteurization tunnels
8. Advantages of using bunkers

III. Answer **All** the following Objective Questions. **5 x 1/2 = 10 Marks**

1. Which of the following is not a characteristic of mushrooms?
a) They are a type of fungus b) They have a stem and a cap c) They reproduce through spores
d) They are a type of vegetable
2. What is the primary role of mushrooms in the ecosystem?
a) Decomposition and nutrient recycling b) Pollination and seed dispersal c) Photosynthesis and oxygen production d) Pest control and crop protection
3. Which of the following statements best describes the nutritional value of mushrooms?
a) Mushrooms are high in protein and low in carbohydrates b) Mushrooms are high in carbohydrates and low in protein c) Mushrooms are high in fiber and low in vitamins and minerals d) Mushrooms are low in fiber and high in vitamins and minerals
4. Which of the following cultural values is associated with mushrooms in many societies?
a) Wealth and prosperity b) Longevity and immortality c) Beauty and aesthetics d) Wisdom and knowledge
5. What is the term used to describe the symbiotic relationship between certain mushrooms and tree roots?
a) Mycorrhiza b) Lichen c) Hyphae d) Fruiting body

6. Mushroom cultivation typically involves growing mushrooms in not composted materials.(True / False)
7. The layout of mushroom forms refers to the arrangement of growing containers or beds for cultivating mushrooms. .(True / False)
8. Match the compost ingredient with its role in the composting process:
- | | |
|--------------------|---|
| A. Straw | (i) Enhances aeration and drainage in the compost |
| B. Nitrogen source | (ii) Provides carbon and structure to the compost |
| C. Gypsum | (iii) Adds moisture and nutrients to support microbial activity |



Signature of the Lecturer
(S.PARAMESWARA RAO)
Lecturer in Botany



GOVERNMENT DEGREE COLLEGE

NARASANNAPETA, SRIKAKULAM DIST. - 532421

(Affiliated to Dr. B.R. AMBEDKAR UNIVERSITY, Etcherla, Srikakulam Dist.)(Accredited with NAAC "B" Grade)



DEPARTMENT OF BOTANY

Year: 2023-24

Continuous Internal Assessment (CIA)

Subject: BOTANY

SEMESTER: VI

MID - II EXAMINATION

GROUP: III B.Sc (CBZ)

Paper: 7C

(Paper Title 7C: Mushroom Cultivation)

Max.Marks: 15 Marks

I. Answer **One** from the Following Questions. (Draw a labeled diagram whenever necessary) **1 x 5 = 5 Marks**

1. Give an account of common problems associated with Mushroom growing?
2. Write an essay on the production of Button (Agaricus) mushroom?
3. Write an essay on canning of mushrooms?

II. Short answer questions answer any **Four** of the following questions.

4 x 2 = 8 Marks

1. Casing
2. Good Spawn
3. Oyster mushroom
4. Mushroom Cutlet
5. Common pests and Diseases observed in mushroom cultivation
6. Drying method

III. Answer **All** the following Objective Questions.

4 x 1/2 = 2 Marks

(1) Which of the following best describes mushroom spawning?

- (A) The process of introducing mycelium onto a substrate B) The process of harvesting mature mushrooms
C) The process of preparing the growing medium for mushroom cultivation D) The process of controlling temperature and humidity during mushroom cultivation

(2) What is the purpose of casing in mushroom cultivation?

- A) To provide nutrients to the growing mushrooms B) To protect the mushrooms from pests and diseases
C) To create a favorable microclimate for mushroom growth D) To improve the texture and appearance of the harvested mushrooms

(3) Which of the following factors is crucial for successful mushroom cultivation?

- A) Adequate ventilation B) Low humidity C) High light intensity D) Acidic pH of the growing medium

(4) Which type of mushroom cultivation involves growing mushrooms on logs or stumps?

- A) Indoor cultivation B) Hydroponic cultivation C) Outdoor cultivation D) Vertical farming

Signature of the Lecturer
(S.PARAMESWARA RAO)
Lecturer in Botany