

PGIIS-N 1539 B-15
M.Sc.IIIrd Semester (CBCS) Degree Examination
Botany
(Plant Physiology)
BOT HCT 3.1
(New)

Time :3 Hours

Maximum Marks : 80

Instructions to candidates :

- 1) Answer any five questions.
- 2) Question No. 1 is Compulsory.

1. Answer in one or two sentence :**(8×2=16)**

- a) Capillary force
- b) Evaporation
- c) Kranz anatomy
- d) NADPH
- e) Acetyl CO-A
- f) Nitrogenase
- g) HUP genes
- h) CAM

2. Write an account on extraction and purification of enzymes**(16)****3. Explain in detail the transport mechanism of solutes in plants****(16)****4. Give an account of oxidative phosphorylation and ATP synthesis****(16)**

5. Describe the molecular mechanism of nitrogen fixation in plants . (16)

6. Write short notes on any **four** of the following : (4×4=16)

- a) Oxidation of fatty acids
- b) Physiological effects of ethylene
- c) Photo respiration
- d) Plant responses to cold stresses
- e) Phytochrome.

PGIIS-N 1540 B-15
M.Sc. IIIrd Semester(CBCS) Degree Examination
Botany
(Molecular Biology)
Paper : BOT HCT 3.2
(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to candidates :

- 1) Answer any **Five** questions.
- 2) Question No. 1 is Compulsory.

1. Answer in one or two sentence : (8×2=16)
 - a) Cryptic gene
 - b) Monocistronic RNA
 - c) TATA box
 - d) RNA Polymerase
 - e) Transposons
 - f) Insertion sequences
 - g) P-53 gene
 - h) Oncogenes
2. Give an account of genetic code add a note on contribution of nirenberg and khorana (16)
3. Describe Lac- Operon mechanism (16)
4. Write an account of molecular basis of spontaneous and induced mutations (16)
5. Give a detailed account on natural and acquired Immunity. (16)

6. Write short notes on **any four** of the following :

(4×4=16)

- a) Split genes in mitochondria
 - b) Splicing
 - c) Applications of transposons
 - d) Detection and treatment of cancer .
 - e) Role of RNA in protein synthesis
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PGIIS-N 1541 B-15
M.Sc.IIIrd Semester Degree Examination
Botany
(Genetic Engineering)
Paper No-SCT 3.3.2
(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to candidates :

- 1) Answer any **five** questions.
- 2) All questions Carry **equal** marks
- 3) Question No. 1 is Compulsory.

1. Answer in **one** or **two** sentence : (8×2=16)
 - a) T₄ Ligase
 - b) Plasmid.
 - c) GFP
 - d) R-DNA
 - e) YEP
 - f) Genomictibrary
 - g) Klenow Fragment
 - h) BOT blotting .
2. Describe in detail the protocols involved in the southern blotting technique and add a note on its importance. (16)
3. Give an account of Restriction Endonucleases , and add a note on their nomenclature and applications. (16)
4. What is a C-DNA Library? Describe in detail the procedure involved in constructing a C-DNA Library? (16)
5. Describe in detail Agrobacterium tumifaciens mediated genetic transformation of plants. (16)

6. Write short notes on any **four** of the following :

(4×4=16) λ

- a) Polymerase chain reaction .
 - b) RAPD Technique.
 - c) PBE - 322
 - d) BT - Toxin gene.
 - e) GUS gene.
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