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PGIIIS-N 1538 B-2K13

M.Sc. IIIrd Semester Degree Examination

Botany

(Plant Physiology)

Paper - HCT 3.1

(New)

Time : 3 Hours Maximum Marks : 80

Instructions to candidates:

*1) Attempt **five** questions.*

2) Question No.1 is compulsory.

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

a) Hup genes.

b) Leg hemoglobin.

c) Passive transport

d) Growth hormone.

e) ATP synthesis.

f) Biological clock

g) Cold stress.

h) Oxidation of fatty acids.

2. Explain the properties of lipids. Add a note on its classifications. **(16)**

3. Explain in detail the transport mechanism of solutes in plants. **(16)**

4. What are phytochromes? Comment on its location and action in plants. **(16)**

5. Describe the mechanism of electron and proton transport system involved during photosynthesis. **(16)**

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

a) Synthesis and degradation of sucrose.

b) Glycolysis process.

c) Oxidative phosphorylation.

d) CAM Pathway.

e) Plant response to drought stress.

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PGIIIS-N 1539 B-2K13

M.Sc. IIIrd Semester Degree Examination

Botany

(Molecular Biology)

Paper - 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** sentences : **(8×2=16)**

a) Cryptic gene

b) Initiation codon.

c) Ribozyme

d) P-cytotype

e) Split gene

f) Attenuator

g) Acquired immunity

h) Onco genes.

2. Discuss the structure of gene and write a note on gene concept. **(16)**

3. Describe the Mechanism of gene expression in eukaryotes. **(16)**

4. Write an account on eukaryotic transposes. **(16)**

5. Explain the methods of detection and treatment of Cancer. **(16)**

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

a) Genetic code.

b) RNA polymerases.

c) Retro transposes

d) Immune responses.

e) Lac-Operon.

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PGIIIS-N 1540 B-2K13

M.Sc. IIIrd Semester Degree Examination

Botany

(Methods in Plant Sciences)

Paper - SCT 3.3.1

(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** sentences: **(8×2=16)**

a) Pour plate method

b) Silica gel

c) Bromophenol blue

d) Single spore isolation

e) VIS

f) Molecular markers.

g) IR

h) Anderson sampler.

2. Comment on the types of microscopes and add a note on their applications. **(16)**

3. Discuss the different types of chromatographic methods and add a note on their applications. **(16)**

4. Describe in detail the components and principles of Electrophoresis. **(16)**

5. Give an account of the types of PCR and comment on its working principles. **(16)**

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

a) Robert Hook.

b) Glass electrode.

c) Types of centrifuges.

d) Polyacrylamide gel.

e) Flow cytometry.

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PGIIIS-N 1541 B-2K13

M.Sc. IIIrd Semester Degree Examination

Botany

(Biofertilizers and Biopesticides)

Paper - BOT:OET 3.4

(New)

Time : 3 Hours Maximum Marks : 80

Instructions to candidates:

1) *Attempt **five** questions.*

2) *Question No.1 is compulsory.*

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

a) Antagonists

b) Bacterial insecticides.

c) Siderophores

d) Frankia

e) Trichoderma

f) Wet sieving method.

g) Chemical pesticides.

h) Viroid.

2. With suitable examples write on the biological control of plant diseases. **(16)**

3. Discuss the role of endophytic fungi in crop improvements. **(16)**

4. Give an account of symbiotic association of cyanobacteria in plants. **(16)**

5. Discuss the importance of biofertilizer in agricultural field. **(16)**

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

a) Mass production of Azotobacter.

b) Azolla as biofertilizer.

c) Fungal biopesticides.

d) Anabeana.

e) Culturing of Mycorrhizae.

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PGIIIS-N 1542 B-2K13

M.Sc. IIIrd Semester Degree Examination

Botany

(Genetic Engineering)

Paper - SCT 3.3.2

(New)

Time :3 Hours Maximum Marks : 80

Instructions to Candidates:-

Attempt **all** questions

All questions carry **equal** marks.

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

a) DNA Ligase

b) Cosmid

c) Restriction endonuclease

d) Colony blotting

e) Binary vector

f) Microinjection

g) RAPD

h) Green fluorescent protein.

2. Explain various cloning vectors used in genetic engineering and their applications. **(16)**

3. Discuss types and construction of DNA libraries. **(16)**

4. Give an account of various molecular markers used in plants and their importance. **(16)**

5. Illustrate different methods of transgenic plants production. Add a note on their significance. **(16)**

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

a) Cry genes

b) Liposome mediated DNA uptake

c) Simple sequence repeat

d) PCR principle and components

e) Southern blotting