

## M.Sc. (Sem.-II) Examination

407

Botany

May-2017

Time : 3 Hours]

[Max. Marks : 70

Q.1 Describe:

A. Role of Cyclins and cyclin dependent Kinases.

[07]

OR

A. Describe structure and functions of Plasmodesmata.

[07]

B. PCD.

[07]

OR

B. Commercial enzyme isolation and purification.

[07]

Q.2 Describe:

A. Regulation and expression of gene in Eukaryotes.

[07]

OR

A. Cancer and Cell cycle.

[07]

B. Jumping gene.

[07]

OR

B. Transcriptome analysis.

[07]

Q.3 Describe:

A. Fluorescence microscope.

[07]

OR

A. Cytophotometer.

[07]

B. Density gradient centrifuge.

[07]

OR

B. Applications of Camera Lucida.

[07]

Q.4 Describe:

A. Karyotyping.

[07]

OR

A. Protein isolation and purification.

[07]

B. Principle and types of Electrophoresis.

[07]

OR

B. TLC

[07]

Q.5 ANSWER IN SHORT

[14]

1. What is the significance of Fluid Mosaic model?
2. First cell organelle to be discovered is \_\_\_\_\_
3. Who proposed the Sandwich model for Plasma membrane?
4. What are the names of structures included in cytoskeleton?
5. Name any two genomic soft wares.
6. What is cell signaling?
7. Who proposed the model showing the regulation of gene expression in prokaryotes?
8. Mention the methods for transcriptome analysis.
9. Mention any two significance of Camera Lucida.
10. Mention the phases and sub phases of cell cycle.
11. What is the significance of centrifugation?
12. What is the difference between light microscope and phase contrast microscope?
13. What is the difference between HPLC and HPTLC?
14. What is the difference between FISH and GISH?

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Q.1. Describe:

(a) Water potential OR (a) Water Transport 07

(b) Mineral Nutrition OR (b) Carbohydrates 07

Q.2. Describe:

(a) Photosynthesis OR (a) Carbon fixation 07

(b) Respiration OR (b) Glycolysis 07

Q.3. Give a short note on:

(a) Seed Germination OR (a) Dormancy 07

(b) Auxin OR (b) Gibberellins 07

Q.4. Describe:

(a) Phytochrome OR (a) Plant movements 07

(b) Photoperiodism OR (b) Vernalization 07

Q.5. Short Questions:

(1) Define: Transpiration 02

(2) What are the deficiency symptoms of Nitrogen and Potassium in plants? 02

(3) Give the full form of: CAM 02

(4) Name any two methods to break Dormancy. 02

(5) Name any two auxins. 02

(6) Define: Phytochrome. What does Pfr stand for? 02

(7) Define: Photomorphogenesis 02

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Q.1. Describe:

(a) Principles of limiting factors. OR (a) Biotic Factors 07

(b) Autecology OR (b) Mortality 07

Q.2. Describe:

(a) Phytosociological Methods OR (a) Ecological Niche 07

(b) Hydrosere OR (b) Xerosere 07

Q.3. Write a note on:

(a) Ozone Layer OR (a) Climate Change 07

(b) Air Pollution OR (b) Water Pollution. 07

Q.4. Describe:

(a) Types of Remote sensing. OR (a) Data acquisition 07

(a) IRS OR (b) GPS 07

Q.5. Short Questions: 14

(a) Define: Energy flow. 02

(b) What is ecosystem? 02

(3) What is succession? 02

(4) Give full form of PBR and GSBB. 02

(5) Name any two GreenHouse Gases. 02

(6) What is adaptation? 02

(7) Give the full form of RADAR and GIS 02

(P.T.O)