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M.Sc. (Semester-IV) Examination, July 2022

BOTANY

(Contemporary Concepts & Methods in Cell Biology)

Time Allowed : Three Hours

Maximum Marks : 70

Minimum Passing Marks : 25

Note : Question paper is divided into **four** sections. Attempt questions of all four sections as per direction. Distribution of marks is given in each section.

SECTION-A

(Objective Type Questions)

1. Attempt **any ten** questions. Each question carries **1** mark. [10×1=10]

(i) Organism having no cell wall :

(a) Root cell of plant

(b) Agrobacterium tumifaciens

(c) Fungal cell

(d) Mycoplasma (PPLO)

(ii) EBP is found in ____.

(iii) Two examples of Fluorescent dyes _____.

(iv) Which component is present in the cell wall of Bacteria?

(a) Peptidoglycan (b) Chitin

(c) Cellulose (d) Hemicellulose

(v) SVP stands for _____.

(vi) Which component of TEM focuses the beam of electrons on the sample_____.

(vii) Voiroids are made up of _____.

(viii) Method of cryopreservation is uesd in ____.

(ix) Endomembrane system is made up of _____ organelles.

(x) PCD stands for _____.

(xi) Site of protein sorting _____.

(xii) Genetic material of HIV viruse.

(a) ds DNA (b) ds RNA

(c) ss DNA (d) ss RNA

SECTION-B

(Very Short Answer Type Questions)

Note: Attempt **any five** questions. Each question carries **02** marks. (word limit **25-30** words) [5×2=10]

2. (i) Cell cycle control

(ii) Golgi complex

(iii) Telome

(iv) Cell wall fluidity

(v) Centromere

(vi) Active transport

(vii) Corona Virus

SECTION-C

(Short Answer Type Questions)

Note: Attempt **any five** questions. Each question carries **04** marks. (word limit **250** words) [5×4=20]

3. (i) Role of Ribosome in protein synthesis.

(ii) Comment on Fluid mosaic model.

(iii) Composition of chromatin.

(iv) Describe in brief suicidal nature of lysosome.

(v) What is Metastasis?

(vi) Role of Nucleolus

(vii) What do you understand by Proteomics?

SECTION-D

(Essay Type Questions)

Note: Attempt **any three** questions. Each question carries **10** marks. (word limit more than **500** words) [3×10=30]

4. (i) Give detailed structure of nuclear pore complex and its role in transport mechanism.

(ii) Describe in detail the cell fractionation and organelle isolation methods.

(iii) Give in detail temporal and spatial dynamic structure of cell wall.

(iv) Give mechanism and types of programmed cell death.

(v) What do you understand by membrane transport. Give its mechanism and how its is regulated.

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