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**M.Sc. (IVth Semester) Examination, 2020
BOTANY**

**(Contemporary Concept and
Methods in Cell Biology)**

Time Allowed : Three Hours

Maximum Marks : 70

Note : Attempt all sections. Scheme of questions and marks are indicated against the sections.

SECTION - A

Note : Attempt any ten questions. Each question carries one mark. **1×10=10**

Q. 1. Objective Type :

(i) What organism lacks cell wall :

- (a) Plant cell
- (b) Bacterial cell

(2)

- (c) Protozoa
- (d) Algae

(ii) Which component is present in cell wall of fungi :

- (a) Cellulose
- (b) Hemicellulose
- (c) Chitin
- (d) Pectin

(iii) How are the cells stored ?

- (a) By dilution plating
- (b) By differential weight
- (c) By electrostatic force
- (d) By magnetic force

(iv) What is S layer :

- (a) Secondary layer

(3)

- (b) Soluble layer
 - (c) Surface layer
 - (d) Solid layer
- (v) Which of the following component of TEM focuses the beam of electrons on the sample ?
- (a) Occular lens
 - (b) Condensor lens
 - (c) Stage
 - (d) Column
- (vi) Virus like particle (VLP) are :
- (a) Immunogenic and infectious
 - (b) Immunosuppressive and infections
 - (c) Infectious but not immunogenic
 - (d) Immunogenic but not infectious

(4)

- (vii) The integrated genetic material of virus is called _____.
- (viii) Corona disease virus has _____ as its genetic material.
- (ix) The cathode of transmission electron microscope consist of _____ wire.
- (x) Rhodamine fluorescent dye is used for _____ coloured fluorescence.
- (xi) In TEM, the tissue is stained by floating on drops of _____ metal solution.
- (xii) Epstein - Barr Virus (EBV) is found in _____.

SECTION - B

Note : Attempt any five questions. Very short answer type (25-30 words). Each question carries 2 marks. **5×2=10**

(5)

- Q. 2.** (i) What is Environment ?
(ii) Define cell polarity.
(iii) What is cell theory ?
(iv) What is cytoskeleton ?
(v) What is Lysosome ?
(vi) Define cell cycle.
(vii) What is chromatin ?

SECTION - C

Note : Attempt any five questions. Short answer type (250 words). Each question carries 4 marks. **5×4=20**

- Q. 3.** (i) What is Endomembrane ?
(ii) What is Cancer ?

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P.T.O.

(6)

- (iii) Describe in brief dynamics of cell wall.
(iv) Comment on PLP model.
(v) What do you know by organellar architecture ?
(vi) How nuclear transport occur ?
(vii) Describe in brief the structure of chromosome.

SECTION - D

Note : Attempt any three questions. Each question carries 10 marks. **3×10=30**

Q. 4. Essay Type (more than 500 words) :

- (i) Describe origin and evolution of various life forms of infective life particles.
(ii) Explain the transport through membrane.

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(7)

(iii) Describe the structure and function of

Nucleus.

(iv) Write an essay on PCD.

(v) Describe replication and transcription.

