

2022

5th Semester Examination

BOTANY (General)

Paper : DSE 1A/2A/3A-T

[CBCS]

Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

[Cell and Molecular Biology]

Group - A

1. Answer any *five* of the following : 2×5=10
- (a) What are the major hypotheses of "Cell Theory"?
 - (b) How is the DNA replication semi-conservative in nature?
 - (c) Write down the roles of glyoxisomes.
 - (d) What is MPF?
 - (e) Mention the difference between SEM and TEM.
 - (f) Write two characteristics of B-DNA.
 - (g) Mention the roles of r-RNA and t-RNA during translation.
 - (h) Why cell membrane is called selectively permeable?

P.T.O.

(2)

Group - B

2. Answer any *four* of the following : $5 \times 4 = 20$

- (a) Write down the properties of genetic code.
- (b) Illustrate the different parts of t-RNA and their significance with suitable labelled drawing.
- (c) Briefly describe the principle of functioning of light microscope.
- (d) Draw and describe the structure of nuclear pore complex.
- (e) Briefly describe the endosymbiont hypothesis. Mention the significance of marker enzymes.
- (f) Write down the major roles of plasma membrane.

Group - C

3. Answer any *one* of the following : $10 \times 1 = 10$

- (a) Describe the positive and negative control of Lac operon. $5+5$
- (b) Illustrate the stages of division of meiosis. Briefly describe the roles of different proteins in regulating cell cycle. $5+5$

বঙ্গানুবাদ

বিভাগ - ক

১। যেকোনো পাঁচটি প্রশ্নের উত্তর দাও : $২ \times ৫ = ১০$

(ক) “কোষ তত্ত্ব” এর প্রধান মতবাদগুলি কী কী?