

(i) Printed Pages : 3

Roll No.

(ii) Questions : 9

Sub. Code :

0	0	5	3
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Exam. Code :

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B.A./B.Sc. (General) 1st Semester

(2123)

BOTANY

Paper-B : Cell Biology

Time Allowed : Three Hours]

[Maximum Marks : 36

Note :— Q. No. 1 is compulsory. Attempt only **ONE** question from each section. Attempt only **FIVE** questions in total.

1. (A) Fill in the blanks :

- (a) 60s subunit of Ribosome contains _____ number of proteins.
- (b) A chain of amino acids is formed during _____ .
- (c) A double helical structure of D.N.A. was first given by _____ .
- (d) Tryptophan operon is _____ system.

(B) Mark the correct answer :

(e) The nucleolus disintegrates at :

- (i) Prophase
- (ii) Metaphase
- (iii) Anaphase
- (iv) Telophase

- (f) According to Radial loop model, the scaffold proteins hold :
- (i) Nucleosomes
 - (ii) DNA-histone loops
 - (iii) Centromere
 - (iv) None of the above
- (g) The common DNA is :
- (i) L DNA
 - (ii) M DNA
 - (iii) B DNA
 - (iv) None
- (h) The synaptonemal complex is formed during :
- (i) Leptotene
 - (ii) Zygotene
 - (iii) Pachytene
 - (iv) Diplotene
- $8 \times 1 = 8$

SECTION—I

2. Describe with the help of diagrams the structure and functions of Endoplasmic reticulum. 7
3. Write short notes on the following :
- (a) Structure of primary cell wall.
 - (b) Structure of nuclear pore. $3.5 \times 2 = 7$

SECTION—II

4. * Give a brief account of the following :—
- (a) Lampbrush chromosomes.
 - (b) Results of paracentric inversions at anaphase. Explain.
- 3,4
5. What is Aneuploidy ? Explain its various types with suitable examples.
- 7

SECTION—III

6. Describe the process of prophase I with the help of diagrams and mention its significance.
- 7
7. Give a brief account of the following :
- (a) Solenoid model.
 - (b) Semiconservative mode of DNA Replication.
- 3,4

SECTION—IV

8. Write short notes on the following :—
- (a) Concept of Gene
 - (b) One gene one enzyme hypothesis and its significance.
- 3,4
9. How the expression of a gene is regulated in Prokaryotes ? Describe the Lac Operon.
- 7