(i) Printed Pages: 3 Roll No. .....

(ii) Questions : 9 Sub. Code : 0 0 5 3

Exam. Code : 0 0 0 1

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

(2122)

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) Glucose 6 phosphatase is functional in _____ organelle.

(b) Translocation means _____.

(c) Which is equational division in meiosis is _____.

(d) Wobble hypothesis is _____.

(B) Mark the correct answer :

(e) The nuclear envelopes has two membranes which disintegrate 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 grass used in breeding of hexaploid wheat is :

(i) *Aegilops speltoides* (ii) *Aegilops squarrosa*

(iii) Both (i) & (ii) (iv) None

(h) The synapsis during meiosis is formed in :

(i) Leptotene (ii) Zygotene

(iii) Pachytene (iv) Deplotene

8×1=8

SECTION—I

2. Describe with the help of diagrams, the structure of Ribosomes. 7

3. Write short notes on the following :

(a) Cisternae

(b) Resistance of lysosomal enzymes by its own membrane.

(c) Diagram of Fluid-mosaic model. 2,2,3

SECTION—II

4. Give a brief account of the following :

(a) Balbiani rings

(b) Pericentric inversions 3,4

5. What is Aneuploidy ? Explain its various types with suitable examples. 7

SECTION—III

6. Describe the process of mitosis with the help of diagrams and mention its significance. 7

7. Give a brief account of the following :

   (a) Nucleosome

   (b) DNA Replication. 3,4

SECTION—IV

8. Write short notes on the following :

   (a) Characteristics of Genetic Code.

   (b) Processed RNA

   (c) Enzymes of Translation. 3+2+2

9. How the expression of a gene is regulated in Prokaryotes ? Describe the repressible system of gene regulation. 7