

(i) Printed Pages : 4]

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  
Examination**

**1127**

**BOTANY**

**(Cell Biology)**

**Paper : B**

**Time : 3 Hours]**

**[Max. Marks : 36**

**Note :-** (i) Attempt *five* questions in all, selecting *one* question from each Unit.

(ii) Question No. 1 is compulsory.

1. (A) Choose the correct answer. (MCQ's).

(i) All are membrane bound organelles except :

(a) Lysosomes

(b) Peroxisomes

(c) Ribosomes

(d) Sphaerosomes

(ii) Nucleus was discovered by :

(a) Schwann

**NA-24**

( 1 )

Turn Over

- (b) Brown
- (c) Koch
- (d) Leeuwenhock
- (iii) The organelle where glycoxylate cycle operates :
- (a) Peroxisomes (b) Nucleus
- (c) Golgibodies (d) Glyxisome
- (iv) Chemical substance present in the middle lamella is :
- (a) Pectin (b) Matrix
- (c) Hemicellulose (d) Lignins
- (v) Terminalization is related to :
- (a) Diakinesis (b) Meiosis
- (c) Mitosis (d) Cytokinesis
- (vi)  $2n-2$  genetic constitution represents :
- (a) Tetrasomy (b) Nullisomy
- (c) Disomy (d) Trisomy
- (B) Fill in the blanks :
- (vii) Structural elements of chloroplast are known as .....
- (viii) Two major functions of DNA are ..... and .....

- (ix) The discontinuous strand formed during replication is known as ..... fragment.
- (x) A nutritionally wild type organism which does not require any additional growth supplements is .....
- (xi) DNA replication occurs during ..... phase.
- (xii) The pairing of non-homologous chromosome is termed as ..... .  $1 \times 12 = 12$

### Unit-I

- 2. (a) Describe the structure and function of Nucleus.
- (b) Give function of endoplasmic reticulum. 3,3
- 3. Write notes on any *two* of the following :
  - (a) Mitochondrion
  - (b) Ribosomes
  - (c) Golgi apparatus 3,3

### Unit-II

- 4. (a) Explain physical structure of chromosome.
- (b) Lampbrush chromosome. 4,2
- 5. Explain any *two* of the following :
  - (a) Role of polyploidy in crop improvement
  - (b) Translocation
  - (c) Duplication 3,3

### Unit-III

6. Write notes on any *two* of the following :

- (a) Nucleosome
- (b) Prophase-I of Meiosis
- (c) Experiment to prove semiconservative replication of DNA.

3,3

7. Differentiate any *three* of the following :

- (i) Pachytene and Diplotene
- (ii) Meiosis-I and Meiosis-II
- (iii) Leading strand and Lagging strand
- (iv) Purines and Pyrimidines

2×3=6

### Unit-IV

8. Attempt any *two* of the following :

- (a) Genetic code
- (b) *t*-RNA
- (c) Transcription

3,3

9. What are inducible and repressible operon systems ?

Discuss repressible (Tryptophan) operon system in detail.

6