

(i) Printed Pages : 4

Roll No.

(ii) Questions : 9

Sub. Code :

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Exam. Code :

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

1125

BOTANY

Paper– B : Cell Biology

Time Allowed : Three Hours]

[Maximum Marks : 36

Note:– Attempt **five** questions in all. Q. No. 1 is compulsory and select **one** question from each Unit.

1. (A) Multiple Choice Questions :

(i) Chromosome number of a hexaploid is 48 then its basic number is :

(a) 8

(b) 16

(c) 24

(d) 32

(ii) Stage connecting meiosis I and meiosis II is :

(a) Interphase I

(b) Interphase II

(c) Interkinesis

(d) Anaphase I

(iii) Energy currency of a cell is :

- (a) ADP
- (b) ATP
- (c) GDP
- (d) NAD

(iv) Subunits of 80 s Ribosomes are :

- (a) 40 s
- (b) 60 s
- (c) 60 s and 40 s
- (d) None of the above

(v) DNA differs from RNA in having :

- (a) Thymine
- (b) Adenine
- (c) Uracil
- (d) Guanine

(vi) Haploid set of chromosome is called :

- (a) Nucleus
- (b) Genome
- (c) Gene
- (d) All the above

(B) Fill in the blanks :

- (i) Metacentric chromosomes appear _____ shaped in anaphase.

- (ii) A nucleotide consists of sugar, phosphate and a ____.
- (iii) ____ is the phenomenon of having more than two sets of chromosomes or genomes.
- (iv) ____ proposed one gene one enzyme hypothesis.
- (v) The pairing of non homologous chromosome is termed as ____.
- (vi) Nucleus was discovered by ____ in 1831. $12 \times 1 = 12$

UNIT-I

2. Explain :
- (a) Fluid Mosaic Model of cell membrane 4
- (b) Types of Plastids. 2
3. Write :
- (a) Functions of Endoplasmic reticulum or Golgi apparatus 3
- (b) Structure of Mitochondrion. 3

UNIT-II

4. Write notes on :
- (a) Polytene Chromosomes 3
- (b) Types of Aneuploids. 3
5. What are chromosomal alterations ? Discuss types and significance of Deletions or Inversions. 6

UNIT-III

6. Describe the process of DNA replication. 6
7. Write notes on : 3
- (a) Prophase I of Meiosis 3
 - (b) Nucleosome. 3

UNIT-IV

8. Explain only diagrammatically an operon model in Prokaryotes for regulation of gene activity. 6
9. Write notes on any **two** : 3,3
- (a) Genetic Code
 - (b) Transcription
 - (c) Wobble Hypothesis.