Reg. No. : ....

Name : ....

K19U 0085

VI Semester B.Sc. Degree (CBCSS – Reg./Supple./Improv.) Examination, April 2019
(2014 Admission Onwards)
CORE COURSE IN BOTANY/PLANT SCIENCE
6B13BOT/PLS : Cell and Molecular Biology

Time : 3 Hours

Max. Marks : 40

SECTION – A

Answer **all**.

1. Which among the following is a semi autonomous organelle ?
   - a) Lysosomes
   - b) Mitochondria
   - c) Ribosomes
   - d) Endoplasmic reticulum

2. The basic structural unit of chromatin
   - a) Nucleus
   - b) Nucleolus
   - c) Chromosome
   - d) Nucleosome

3. An individual with an extra chromosome over the normal diploid number
   - a) Monosomic
   - b) Trisomic
   - c) Nullisomic
   - d) Tetrasomic

4. The segment of DNA coding for one polypeptide
   - a) Cistron
   - b) Muton
   - c) Recon
   - d) Codon

(4×1=4)

SECTION – B

Answer **any eight**.

5. What is Chargaff's Rule ?

6. Name any four chemical mutagens.

P.T.O.

7. What are the functions of Golgi apparatus ?

8. Write a note on Klinefelter's syndrome.

9. Enumerate any four characteristics of Genetic code.

10. Differentiate heterochromatin and euchromatin.

11. Comment on the structure of endoplasmic reticulum.

12. Why DNA replication is considered to be semidiscontinuous ?

13. What are transposons ? Write its characteristics.

14. Write the significance of vacuoles in plants.

15. What are polytene chromosomes ? Write its significance.

16. Differentiate 70S and 80S ribosomes.

(8×2=16)

SECTION – C

Answer **any four**.

17. Explain the structure of nuclear pore complex.

18. Give an account of different types of RNA.

19. Explain the ultra structure of plasma membrane.

20. Explain structural aberrations of chromosomes.

21. Draw a neat diagram of chloroplast and label its parts.

22. With labeled diagram explain the various components of lac Operon.   (4×3=12)

SECTION – D

Answer **any one**.

23. With suitable diagrams, explain the mechanism of protein synthesis.

24. Explain the experiments which lead to the establishment of DNA as genetic material.

25. Giving suitable sketches, explain various stages and important events in Mitosis.

(1×8=8)