Reg. No. : ....

Name : ....

Fifth Semester B.Sc. Degree Examination, December 2022

First Degree Programme Under CBCSS

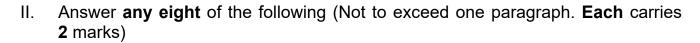**Zoology**

Core Course

ZO 1541 : CELL AND MOLECULAR BIOLOGY

(2019 Admission Onwards)

Time : 3 Hours   Max. Marks : 80

I.   Answer the following questions (In **one** or **two** sentences. **1** mark each)

1.   Peroxisomes

2.   Hetrochromatin

3.   Endomitosis

4.   Lymphoma

5.   Senile dementia

6.   Nucleotide

7.   Replication fork

8.   Conjugation

9.   Wobble hypothesis

10. SOD

(10 × 1 = 10 Marks)

II. Answer **any eight** of the following (Not to exceed one paragraph. **Each** carries **2** marks)

11. Chargaff's rule

12. Central dogma of molecular biology

13. Biogenesis of ribosomes

14. Smooth Endoplasmic Reticulum

15. Genetic code

16. Apoptosis

17. Cytoskeleton

18. Solenoid fibre

19. Polytene chromosome

20. Oncogenes

21. Oeteoporosis

22. RNA polymerase

23. Peptidoglycan

24. Autophagosome

25. Mitotic apparatus

26. TATA box

(8 × 2 = 16 Marks)

III. Answer **any six** of the following (Not to exceed **120** words. Each carries 4 marks)

27. Endo symbiont hypothesis

28. Clover leaf model of t. RNA

29. Types of ribosomes

30. Nucleolar organizer

31. Metaphase chromosome

32. Lamp brush chromosomes

33. Synaptonemal complex

34. One gene one enzyme hypothesis

35. Lac operon

36. Philadelphia chromosome

37. Anaphase promoting complex

38. Functions of microfilaments

(6 × 4 = 24 Marks)

IV. Answer **any two** of the following (Each carries **15** marks)

39. Write an essay on DNA replication in prokaryotes, and describe about the repair mechanism of DNA.

40. Give an account on fluid mosaic model of plasma membrane. Add a note on functions of plasma membrane.

41. Write an essay on bacterial recombination.

42. Explain the characteristics and types of cancer. Add a note on theories on the origin of cancer.

43. Write an essay on polymorphism of lysosomes. Add a note on functions of lysosomes.

44. Write an essay on cell cycle. Add a note on significance of meiosis.

(2 × 15 = 30 Marks)

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