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**M – 1522**

Reg. No. : .....

Name : .....

**Fifth Semester B.Sc. Degree Examination, December 2021**

**First Degree Programme Under CBCSS**

**Zoology**

**Core Course – V**

**ZO 1542 : CELL BIOLOGY AND MOLECULAR BIOLOGY**

**(2014 Admission)**

Time : 3 Hours

Max. Marks : 80

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

1. Cisternae
2. Kinetochore
3. Heterochromatin
4. Primary messengers
5. Polysome
6. Keratin filaments
7. Endomitosis
8. Reverse transcription
9. Adenylyl cyclase
10. Centrosome

**(10 × 1 = 10 Marks)**

P.T.O.

II. Answer **any eight** of the following. (Not to exceed one paragraph, each carries **two** marks)

11. Eukaryotic Ribosome
12. Characteristics of Z DNA
13. Intermediate filaments
14. Replication fork
15. Repressible operon
16. FraenkelConrat and Singer's experiment
17. Endomembrane system
18. Chargaff's role
19. Functions of peroxisomes
20. DNA Polymerase
21. Lysosomal enzymes
22. Transcription factors

**(8 × 2 = 16 Marks)**

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

23. Basic elements of signal transduction across the cell
24. Operon concept using the example of Trp operon
25. Structure of endoplasmic reticulum
26. Clover leaf model of tRNA
27. Translation in prokaryotes
28. Morphological, anatomical and physiological changes during ageing
29. Write an experiment to prove the semiconservative replication of DNA
30. Fluid mosaic model of plasma membrane
31. Different stages of prophase I of meiosis.

**(6 × 4 = 24 Marks)**

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

32. Illustrate bacterial recombination techniques.

33. Write an essay on interphase nucleus

34. Explain the posttranscriptional modifications of RNA

35. Elucidate cell cycle

**(2 × 15 = 30 Marks)**

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