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M – 1540

Reg. No. :

Name :

Fifth Semester B.Sc. Degree Examination, December 2021

First Degree Programme Under CBCSS

Zoology

Core Course V

ZO 1541 — CELL AND MOLECULAR BIOLOGY

(2019 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** the questions. (1 mark each).

1. Secretory vesicle.
2. Chaperones.
3. Role of oxygen in electron transport chain.
4. Adenylyl cyclase.
5. Genome.
6. Keratin filaments.
7. Reverse transcription.
8. Second messenger.

P.T.O.

9. Polysome.

10. Cristae.

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** of the following. (2 marks each).

11. Synaptonemal complex.

12. Eukaryotic Ribosome.

13. Microfilaments.

14. M phase of cell cycle.

15. Conrat and Singer's experiment.

16. Wobble hypothesis.

17. Origin of Endoplasmic Reticulum.

18. Photoreactivation.

19. Lysosomal enzymes.

20. G-Protein coupled receptors.

21. Chargaff's role.

22. Electron transport chain.

23. Contribution of Nirenberg.

24. Co-linearity of genes.

25. Mitotic apparatus.

26. Replication fork.

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six** of the following. (4 marks each)

27. Fluid mosaic model of plasma membrane.
28. Operon concept using the example of Lac operon.
29. Conjugation in bacteria.
30. Giant chromosomes.
31. Theories of carcinogenesis.
32. Properties of genetic code.
33. Functions of Endoplasmic Reticulum.
34. Posttranscriptional modification of mRNA.
35. Cellular changes during ageing.
36. Elucidate the structure of Golgi complex.
37. Different types of RNA.
38. Structure of endoplasmic reticulum.

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** of the following (15 marks each)

39. Write an essay on transcription.
40. Elucidate Watson – Crick model of DNA, comment on different type of DNA.
41. Write an essay on interphase nucleus.

42. Elucidate the different steps of meiosis.
43. Illustrate structure and functions of cytoskeleton.
44. Write any three experiments to prove the nature of genetic material.

(2 × 15 = 30 Marks)

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