E 2946 (Pages : 2) Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2022

Fifth Semester

Core Course—CELL BIOLOGY AND MOLECULAR BIOLOGY

(Common for B.Sc. Zoology Model I, Model II, B.Sc. Industrial Microbiology and Zoology, B.Sc. (BT and SP)

[2013 to 2016 Admissions]

Time : Three Hours Maximum Marks : 60

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What is GERL ?
2. What is virion and viroids.
3. Comment on Lamp brush chromosomes.
4. What are okazaki fragments ?
5. What is active transport ?
6. What are introns and exons ?
7. Comment on Cis-Trans splicing.
8. What is heterochromatin ?

(8 × 1 = 8)

Part B

Answer any **six** *questions.*
Answer in **one** *paragraph each.*
Each question carries 2 *marks.*

9. What are desmosomes ?
10. What are overlapping genes ?
11. Differentiate between Diffusion and Osmosis.
12. Give an account on the significance of meiosis.
13. Differentiate between Prokaryotic and Eukaryotic cell.
14. Explain Fluid Mosaic model of plasma membrane.
15. What is the role of cyclic AMP in cell signalling ?

16. Explain cell theory.
17. What is central dogma of molecular biology ?
18. Explain the structure and function of interphase nucleus.

(6 × 2 = 12)

Part C

Answer any **four** *questions.*
Answer in **one** *page each.*
Each question carries 4 *marks.*

19. Explain the structure and function of mitochondria.
20. With suitable diagram, explain the structure of a chromosome.
21. Explain the structural differences of different forms of DNA.
22. Explain post transcriptional change of mRNA.
23. Explain one-gene one polypeptide hypothesis.
24. Compare mitosis and meiosis.

(4 × 4 = 16)

Part D

Answer any **two** *questions.*
Answer should not exceed **four** *pages.*
Each question carries 12 *marks.*

25. Explain the structure and function of nucleus with suitable diagrams.
26. Explain the different phases of cell cycle.
27. Describe the structure and functions of lysosomes.
28. Explain Lac operon concept.

(2 × 12 = 24)