

E 8171

(Pages : 2)

Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2019

Fifth Semester

Core Course—CELL BIOLOGY AND MOLECULAR BIOLOGY

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

(2013—2016 Admissions)

Maximum Mar

Time : Three Hours

Part A

Answer all questions.

Each question carries 1 mark.

1. What are Lamp Brush Chromosomes ?
2. Define One Gene One Enzyme Hypothesis.
3. What are Viroids ?
4. What is a Cell Cycle ?
5. What is Endomytosis ?
6. What are Transposons ?
7. What are Microvilli ?
8. What are Neurotransmitters ?

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Part B

Answer any six questions.

Answer in one paragraph each.

Each question carries 2 marks.

9. Differentiate between Heterochromatin and Euchromatin.
10. Prepare a brief account on Split genes.
11. What is the function of Reverse transcriptase ?
12. What are the alternative forms of DNA ? Explain the structural characteristics.

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13. Describe fluid mosaic model of plasma membrane.
14. Why are lysosome called the suicide bags ?
15. Briefly describe the Golgi apparatus.
16. What are Okazaki fragments ?
17. Write an account on Cell theory.
18. What is central dogma of molecular biology ?

(6 × 1)

Part C

Answer any four questions.

Answer in one page each.

Each question carries 4 marks.

19. Discuss the role of enzyme and proteins involved in the replication.
20. Give an account on methods of cell signalling.
21. Briefly explain symbiotic hypothesis.
22. Describe tryptophan operon model of regulation of gene expression.
23. Give an account on structure and functions of mitochondria.
24. Explain Griffith experiment in proving DNA as the genetic material

(4 × 1)

Part D

Answer any two questions.

Answer should not exceed four pages.

Each question carries 12 marks.

25. How does transcription in eukaryotes differ from prokaryotes ? Add a short note on transcriptional modifications.
26. Write an essay on movement of molecules across the membrane. How modifications of membrane modify cell permeability ?
27. Explain the initiation, elongation and termination of translation in organisms with suitable diagrams.
28. Write a detailed account on cytoskeleton structures and their functions.

(2 × 12)