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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2016

Fifth Semester

Core Course—CELL BIOLOGY AND MOLECULAR BIOLOGY

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

[2013 Admission onwards]

Time : Three Hours

Maximum : 60 Marks

Part A

Answer all questions.

Each question carries 1 mark.

1. What is axoneme ?
2. Who proposed cell theory ?
3. What is Endomitosis ?
4. What are cytokines ?
5. Define Priming.
6. What is Transposons ?
7. What is Central Dogma of Molecular Biology ?
8. What are overlapping genes ?

(8 × 1 = 8)

Part B

Answer any six questions.

Each question carries 2 marks.

9. List the major functions of Golgi body.
10. Differentiate between euchromatin and heterochromatin.
11. What are Tight Junctions ?
12. What are Polyribosomes ?
13. Define Active Transport.
14. What are the functions of cyclic AMP ?
15. Distinguish between Introns and Exons.
16. Write down the contributions of Har Gobind Khorana.

Turn over

17. What is Wobble concept ?
18. Comment on Viral Genome.

(6 × 2 = 12)

Part C

Answer any **four** questions.
Each question carries 4 marks.

19. Give a brief account on Griffith's transformation experiments.
20. With the help of diagram, explain Fluid Mosaic Model of Plasma membrane.
21. Why is Lysosome called polymorphic organelle ?
22. Discuss the characteristics of genetic code.
23. Describe the arrangement of microtubules in Cilia and Flagella.
24. Describe prophase I of Meiosis with the help of labelled sketches.

(4 × 4 = 16)

Part D

Answer any **two** questions.
Each question carries 12 marks.

25. Discuss the semi-conservative model of DNA replication.
26. Explain the Lac Operon concept of gene regulation.
27. Give an account on the structure of Nucleus. Discuss the functions of different components of Nucleus.
28. Give an account on the structure and functions of Mitochondria.

(2 × 12 = 24)