

C 33308

(Pages : 2)

Name.....

Reg. No.....

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2017

(CUCBCSS–UG)

Biotechnology

BTY 1B 01—CELL BIOLOGY

Time : Three Hours

Maximum : 80 Marks

Section A

*Answer any two out of four questions in 1500 words each.
Each question carries 10 marks.*

1. Explain protein synthesis, with neat diagrams.
2. Explain cell biology of fertilization.
3. Explain the cell cycle.
4. Explain the Molecular organization and functional role of the Mitotic apparatus.

(2 × 10 = 20 marks)

Section B

*Answer any seven out of fourteen questions in 750 words.
Each question carries 5 marks.*

5. Explain the events in Meiosis.
6. Discuss the organization of the heterochromatin.
7. Write briefly on viruses as oncogenic agents.
8. Write briefly on cytoplasmic streaming (cyclosis) observed in large plant cells.
9. Explain ion transport machinery in red cells.
10. Compare the cell organization in prokaryotes and eukaryotes.
11. Bell and spot desmosomes in mechanical adhesion.
12. Explain the immotile cilia syndrome.
13. Explain the different animal cell communication mechanisms.
14. Discuss the Golgi complex and its functions.
15. Detail the mechanism of cell signaling in animal cells.
16. Detail the mitochondrial ATP pump and its working.

Turn over

17. What are Cancer cells ? How are they structurally and biochemically different from normal cells ?
18. Explain the biogenesis of the mitochondria.

(7 × 5 = 35 marks)

Section C

Answer all questions in about 300 words.

Each question carries 3 marks.

19. Differentiate between prokaryotic and eukaryotic ribosomes.
20. Explain the lymphokines, nerve growth factors and platelet derived growth factors and their functions.
21. Write briefly on telomeres and telomerases.
22. Write a note on hematopoietic stem cells.
23. Explain Cytokinesis in plant cells.

(5 × 3 = 15 marks)

Section D

Answer all questions in about 200 words.

Each question carries 2 marks.

24. Central dogma of molecular biology.
25. Watson-Crick DNA double helix.
26. Normal human karyotype—characteristics.
27. Euploidy and Aneuploidy.
28. Diakinesis.

(5 × 2 = 10 marks)

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