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 oapparatus.

(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 in animal cells.
16. Detail the mitochondrial ATP pump and its working.

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 item 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 helic.

26. Normal human karyotype–characteristics.

27. Euploidy and Aneuploidy.

28. Diakinesis.

(5 × 2 = 10 marks)