D 13802 **(Pages : 2)** **Name**.....

Reg. No.....

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2016

(CUCBCSS—UG)

Core Course—Biotechnology

BTY 1B 01—CELL BIOLOGY

Time : Three Hours **Maximum : 80 Marks**

Section A

Answer any **two** *out of four questions in* 1,500 *words.*
Each question carries 10 *marks.*

1. Explain the origin and evolution of cells.
2. Explain the various models put forth to describe membrane structure and function.
3. Illustrate and elaborate mitochondrial electro transport and oxidative phosphorylation.
4. Discuss in details, the various events in mitosis and meiosis.

(2 × 10 = 20 marks)

Section B

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

5. Explain mitochondrial structure and function.
6. With neat diagram explain the functions of plasma membrane.
7. Explain programmed cell death.
8. Explain the functions of micro tubules.
9. Write a note on glycoseminoglycans and proteoglycans.
10. Explain the organisation of the ciliary apparatus.
11. Explain the contractile machinery in muscle cells.
12. Write briefly on the different proteins involved in cell adhesion.
13. Explain the general morphology of the endo membrane system.
14. Explain the special functions of the SER.
15. Discuss the morphology of the Golgi complex.

16. With neat diagram explain the processing of secretary proteins in a typical glandular cell.

17. Briefly explain morphology and functions of Peroxisomes.

18. Write briefly on the chlorophyll-protein complexes in thylakoid membranes.

(7 × 5 = 35 marks)

Section C

Answer **all** *questions in about* 300 *words.*
Each question carries 3 *marks.*

19. The nucleosome.

20. Growth factors affecting cell proliferation.

21. Meselson and stahl experiment.

22. The components of the prokaryotic and eukaryotic ribosomal subunits.

23. transfer RNA.

(5 × 3 = 15 marks)

Section D

Answer **all** *questions in about* 200 *words.*
Each question carries 2 *marks.*

24. C-value paradox.

25. Heterochromatin.

26. Plastid types and their function.

27. Oncogenes.

28. Cancer stem cells.

(5 × 2 = 10 marks)