

**D 73105**

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Name.....

Reg. No.....

**FIRST SEMESTER B.A./B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**

(CUCBCSS—UG)

Biotechnology

BTY 1B 01—CELL BIOLOGY

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Answer any two out of four questions in about 1,500 words.*

*Each question carries 10 marks.*

1. Explain cell cycle mechanism and regulation.
2. Write a note on structure and function of plasma membrane.
3. Write a note on protein synthesis.
4. How can you differentiate a prokaryotic cell from a eukaryotic cell ?

(2 × 10 = 20 marks)

**Section B**

*Answer any seven out of fourteen questions in about 750 words.*

*Each question carries 5 marks.*

5. Write a note on microfilaments and microtubules.
6. Explain the difference between an embryonic stem cell and an adult stem cell ?
7. Explain the structure of chloroplast.
8. What is Apoptosis ?
9. What is the role of Golgi complex in process of cell secretion ?
10. Which organelle is called as power house of the cell. Explain, why ?
11. Explain phenomenon of osmosis, how it differ from diffusion ?
12. Explain human Y chromosome.
13. Comment on different membrane models.
14. Comment on organization of Chromatin.

**Turn over**

15. Explain Na-K pump.
16. Distinguish between centromere and kinetochore.
17. Explain the role of Mitogens in stimulating the cell division.
18. Explain the functions of extracellular matrix proteins.

(7 × 5 = 35 marks)

### Section C

*Answer all questions in about 300 words.*

*Each question carries 3 marks.*

19. Where is ATPase found ?
20. Explain karyotyping.
21. Write functions of lysosome.
22. What is peroxisomes ?
23. What are oncogenes ?

(5 × 3 = 15 marks)

### Section D

*Answer all questions in about 200 words.*

*Each question carries 2 marks.*

24. Describe pachytene phase.
25. Photolysis of water.
26. Explain the Exocytosis.
27. Cancer stem cells.
28. Define Mitotic spindles.

(5 × 2 = 10 marks)