2022/TDC(CBCS)/EVEN/SEM/ ZOOHCC–202T/086

TDC (CBCS) Even Semester Exam., 2022

ZOOLOGY

(Honours)

(2nd Semester)

Course No. : ZOOHCC–202T

(Cell Biology)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

SECTION—A

Answer any *ten* questions :　　　　　　　2×10=20

1. Define cell. Who discovered the cell?

2. Why are viruses not true cells?

3. Name the factors that control shape of the cells.

(Turn Over)

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4. What are the main functions of plasma membrane?

5. Differentiate between gap junctions and desmosomes.

6. Mention the important functions of rough endoplasmic reticulum (RER).

7. Why is mitochondrion regarded as semi-autonomous organelle?

8. Define oxidative phosphorylation. Where does it occur in the cell?

9. Why are ATP considered as energy currency of the cell?

10. Briefly define cytoskeleton.

11. Write a note on nuclear envelope.

12. What are the main functions of nucleolus?

13. What are nucleosomes?

14. Write the significance of reductional cell division.

15. Define cell cycle. Name the different phases of cell cycle.

(Continued)

SECTION—B

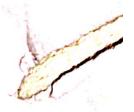Answer any *five* questions :   6×5=30

16. Give a detailed account of the cell cycle.   6

17. Write short notes of the following :   3+3=6

     (a) Viroids

     (b) Mycoplasma

18. Give an account of the fluid mosaic model of plasma membrane with labelled diagram.   5+1=6

19. Describe the ultrastructure of Golgi apparatus. Write about its role in cell secretion.   5+1=6

20. Describe the ultrastructure of mitochondria with neat labelled diagram.   4+2=6

21. Write short notes of the following :   3+3=6

     (a) Endosymbiotic hypothesis

     (b) Chemiosmotic hypothesis

22. What are microtubules? Write about their structure and functions.   1+5=6

(Turn Over)

23. Differentiate between the following :   3+3=6

   (a) Nucleus and Nucleolus

   (b) Euchromatin and Heterochromatin

24. Describe the prophase I of first meiotic division with proper diagrams.   4+2=6

25. Write short notes of the following :   3+3=6

   (a) GPCR with special reference to its role in cell signalling

   (b) cAMP as secondary messenger

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