**2024/FYUG/EVEN/SEM/
ZOODSM–151T/031**

FYUG Even Semester Exam., 2024

ZOOLOGY

(2nd Semester)

Course No. : ZOODSM–151T

(Cell Biology and Histology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

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

SECTION—A

Answer any *ten* of the following questions :

$2×10=20$

1. Define cell in the light of cell theory.

2. What do you mean by facilitated transport?

3. Differentiate between prokaryotic and eukaryotic cell.

24J/**1068** (*Turn Over*)

(2)

4. Mention the functions of lysosome.

5. Mention important functions of peroxisome.

6. Why is mitochondria called powerhouse of the cell?

7. What are microtubules?

8. What are nucleosomes?

9. Define cell cycle.

10. What is pseudostratified epithelial tissue?

11. Differentiate between tendon and ligament.

12. What is Haversian system?

13. Enlist the locations of smooth muscles in human body.

14. What are glial cells?

15. What is neuromuscular junction?

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(3)

SECTION—B

Answer any *five* of the following questions :

$10 \times 5 = 50$

16. Describe the fluid-mosaic model of plasma membrane with a suitable diagram. Add a note on its functions. $8+2=10$

17. Discuss the structure and functions of tight junctions and gap junctions. $5+5=10$

18. Describe the structure and functions of endoplasmic reticulum. $6+4=10$

19. Describe the structure and functions of nucleus. Add a note on the functions of nucleolus. $8+2=10$

20. What is cytoskeleton? Describe the structure of a microfilament with suitable diagram and mention its functions. $2+6+2=10$

21. Explain the key events that occur in each phase of cell cycle. Add a note on G_1 checkpoint. $7+3=10$

22. What is epithelial tissue? Explain the structure with diagram and functions of simple epithelial tissue. $2+8=10$

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(4)

23. What are adipocytes? Describe the structure of three main types of cartilage. Add a note on the functions of cartilage. 2+6+2=10

24. Describe the structure and functions of a myelinated neuron. Add a note on different types of neuron based on polarity. 7+3=10

25. What is synapse? Differentiate between chemical synapse and electrical synapse. Describe the structure of different chemical synapses. 2+2+6=10

★ ★ ★