Reg. No…… Name…… **25U2092**

B A, B SC, B COM DEGREE END SEMESTER EXAMINATION - APRIL 2025

UGP (HONS.) SEMESTER - 2: DISCIPLINE SPECIFIC COURSE

COURSE: 24UZOODSC102: FOUNDATIONS OF LIVING SYSTEMS

(For Regular 2024 Admission)

Time: 1.5 Hours Max. Marks - 50

PART A

Score a maximum of 10 marks from 12 questions, Each question carries 1 mark. (1 X 10= 10 marks)

1. Fusion of male and female pronuclei is called _____. CO4
2. Give the main function of distal centriole in sperm. CO4
3. Space between zona pellucida and plasma membrane in a mature ovum is known as CO4
4. Name the basic unit of the nervous system. CO3
5. Define Enzyme CO6
6. Define the Central Dogma of molecular biology. CO5
7. Identify the three main components of a nucleotide. CO5
8. Vitamin C is also known as…….. CO6
9. Who discovered that all plants were made of cells, which contributed to the development of the cell theory: CO1
10. What are the two main components of the plasma membrane? CO2
11. What is the simplest level of biological organization? CO2
12. What happens to the surface area-to-volume ratio as body size increases. CO2

PART B

Match each term in Column A with the correct function from Column B and C,
Each question carries 1.5 marks. (CO1, CO2, CO3, CO4, CO5, CO6) **(1.5 X 6= 9 marks)**

Column A	Column B	Column C
13. Leptin	Structural role	Waste disposal
14. Polyspermy	Ribosomes	Cortical granules
15. Monosaccharide	Instant energy source	Glucose
16. Endoplasmic reticulum	Hydrolytic enzymes	Starch
17. Polysaccharide	Adipocyte	Protein synthesis
18. Lysosomes	Slow block	Appetite and weight regulation

PART C

True or False giving reason, Each question carries 1 mark **(1 X 6= 6 marks)**

- **0.5 marks for correctly identifying True or False**
- **0.5 marks for providing the correct reason**

19. Adipose tissue is an example of epithelial tissue. CO3
20. Stratified epithelium contains two or more layers of cells. CO4
21. Pyrimidines are composed of guanine and adenine. Purines are composed of cytosine and thymine CO5
22. The tertiary structure is a linear sequence of amino acids without any folding or bending CO5
23. The tissue level of organization is found in sponges. CO2
24. The nucleus is responsible for producing ATP in the cell CO2

PART D

Short Answers- Quote example wherever required.

Answer any five questions- Each carry 2 marks **(2 X 5= 10 Marks)**

25. Explain the structure of human sperm. CO3
26. Define fibroblasts and give two of their functions. CO2
27. Classify lipids based on their complexity CO5
28. State cell theory CO1
29. Why is the plasma membrane described as selectively permeable? CO2
30. Draw the structure of DNA. CO5

PART E

Answer in a paragraph

Answer any three questions- Each carry 5 marks **(5 X 3= 15marks)**

31. Explain the process of bone formation. CO3
32. Explain the different types of carbohydrates, and their functions CO5
33. Brief the structure and function of a. Lysosomes b. Ribosomes CO1
34. Briefly explain the theories explaining the evolution of multicellular organisms. CO2