

Reg No:.....

K24FY1618

Name :.....

**First Semester FYUGP Zoology and CB Examination**

**November 2024 (2024 Admission onwards)**

**KU1DSCZCB102 (CELL BIOLOGY)**

**(EXAM DATE : 06-12-2024)**

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Time : 90 min

Maximum Marks : 50

**Part A (Answer any 6 questions. Each carries 2 marks)**

1. What are the main differences between prokaryotic and eukaryotic cells in terms of their structure? 2
2. What is the energy currency of cell? Why is it called so? 2
3. What is the role of lysosomes in mitosis. 2
4. What is the significance of the nuclear membrane? 2
5. What changes occur in the nucleus during telophase? 2
6. Differentiate between G2 phase and M phase of the cell cycle. 2
7. What is the outcome of meiosis in terms of chromosome number? 2
8. What is the importance of synapsis during prophase I? 2

**Part B (Answer any 4 questions. Each carries 6 marks)**

9. Explain the structure of fluid mosaic model of plasma membrane? 6
10. Describe the steps of the mitochondrial electron transport system and its role in energy production. 6
11. Discuss the structure and function of lysosomes in cellular waste disposal and recycling. 6
12. Explain how the nucleus, nuclear membrane, and nucleolus contribute to cellular processes. 6
13. Describe the stages of the cell cycle and their importance in cell division. 6
14. Predict what might happen if homologous chromosomes do not separate in Meiosis I 6

**Part C (Answer any 1 question(s). Each carries 14 marks)**

15. Discuss the relationship between the structure of the nucleus and nucleolus and their respective functions in a eukaryotic cell. 14
16. Explain the structure and functions of fluid mosaic model of plasma membrane? 14