D1BZL2502 **Name: .....**

Reg. No.: .....

FIRST SEMESTER FYUGP EXAMINATION NOVEMBER 2025
(Regular/Improvement/Supplementary)
MINOR
ZOO1MN102: BASICS IN CELLULAR PHYSIOLOGY

Time: 2 Hrs. **Maximum Marks: 70**

M – Mark BL - Bloom's Taxonomy Level (1 to 6) CO - Course Outcome

Section A: Answer all questions. Each carries 3 marks. Ceiling: 24 Marks				
No.	**Question**	**M**	**BL**	**CO**
1.	How might a cell respond if it fails the G1 checkpoint?	3	3	CO2
2.	How does the leading strand differ from the lagging strand during replication?	3	2	CO2
3.	How would a mutation in DNA polymerase affect DNA replication?	3	3	CO2
4.	What is the difference between linkage and crossing over?	3	1	CO2
5.	Discuss the features of an individual having trisomy 13.	3	6	CO2 CO4
6.	Explain the significance of multiple alleles in determining blood type.	3	2	CO3 CO6
7.	How would you set up a cross to demonstrate incomplete dominance using snapdragon flowers?	3	3	CO3 CO6
8.	Explain how Galactosemia is inherited and its genetic basis.	3	2	CO4
9.	Define Edward's syndrome and its typical chromosomal pattern.	3	1	CO4
10.	What are the cause and symptoms of Turner's syndrome?	3	1	CO4
Section B: Answer all questions. Each carries 6 marks. Ceiling: 36 Marks				
No.	**Question**	**M**	**BL**	**CO**
11.	Analyse the importance of the cytoskeleton in maintaining cell shape and facilitating intracellular transport.	6	4	CO1
12.	Design a diagram that illustrates the stages of differentiation in a specific cell type, such as a nerve cell or blood cell, from a stem cell.	6	6	CO1
13.	Illustrate the steps of DNA replication, focusing on the contributions of various enzymes.	6	3	CO2
14.	Assess the importance of karyotyping in diagnosing chromosomal anomalies.	6	5	CO2 CO4
15.	Describe the process and significance of a test cross in determining unknown genotypes.	6	2	CO3
16.	Explain monohybrid cross with a suitable example.	6	2	CO3
17.	Describe co-dominance with a suitable example.	6	3	CO3 CO6
18.	Create a visual comparison chart of the features associated with Down's syndrome, Edward's syndrome, and Cri du chat syndrome.	6	6	CO4
Section C: Answer any one question. Each carries 10 marks. (1 x 10 = 10 marks)				
No.	**Question**	**M**	**BL**	**CO**
19.	Discuss the process of meiosis.	10	4	CO2
20.	Explain the genetic mechanisms underlying albinism, phenylketonuria, alkaptonuria including their inheritance patterns and phenotypic effects.	10	2	CO4