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MZO-001

MASTER OF SCIENCE

(ZOOLOGY)

(MSCZOO)

Term-End Examination

June, 2026

MZO-001 : MOLECULAR CELL BIOLOGY

Time : 2 Hours

Maximum Marks : 50

Note : (i) Attempt any **five** questions.

(ii) All questions carry equal marks.

1. (a) Describe the structure and functions of mitochondria with the help of a diagram. 5

(b) Write short notes on the following :

2×2.5=5

(i) Microbodies

(ii) Functions of plasma membrane

2. (a) Explain the role of actin and myosin filaments in muscle organization and contraction. 5

(b) Describe the assembly and disassembly processes of microtubules. 5

3. Differentiate between the following pairs of terms :

(a) Simple diffusion and facilitated diffusion. 5

(b) Primary cell culture and secondary cell culture. 5

4. (a) Explain the mechanism of acidification of stomach. 5
- (b) Define the cell cycle and describe its various phases. 5
5. (a) Draw a schematic diagram to explain the activation of post-synaptic receptors and cell response. 5
- (b) What is endocytosis ? Describe Clathrin independent and Clathrin dependent pathways of endocytosis. 5
6. What are cyclin-dependant kinases (CDKs) ?
Write a brief note on the relationship between cyclin and CDKs. 10

7. (a) Explain the role of ubiquitin in
proteasome pathway. 5
- (b) Explain the different techniques used to
assess the cytotoxicity. 5

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