



**DCT-003-1191001**

Seat No. \_\_\_\_\_

**M. Sc. Microbiology (Sem. I) (CBCS) Examination**

**August - 2022**

**MICRO-101 : Cell Biology**

**Faculty Code : 003**

**Subject Code : 1191001**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

**Instruction** : Attempt any **five** questions.

- 1** Answer the following : (Each of 02 marks) **14**
- (1) What is MTOC?
  - (2) Enlist components of the plasma membrane.
  - (3) What is the role of GTP in microtubules polymerization?
  - (4) What are the functions of a nucleus?
  - (5) What are microtubules associated proteins?
  - (6) Give the order of various stages of the cell cycle?
  - (7) What is the internal structure of chloroplast?
- 2** Answer the following : (Each of 02 marks) **14**
- (1) What is the nuclear pore complex?
  - (2) Enlist three functions of the lysosome.
  - (3) How do microtubules grow?
  - (4) How do cell surface receptors work?
  - (5) How does the second messenger system work?
  - (6) What causes apoptosis?
  - (7) What is juxtacrine signaling?
- 3** Answer the following : (Each of 07 marks) **14**
- (a) Describe the regulation of CDK- cyclin activity
  - (b) Write a short note on cyclin and cyclin-dependent kinases.

- 4 Answer the following : (Each of 07 marks) 14
- (a) Describe the ultrastructure of microbial cell walls.
  - (b) Describe the ultrastructure of the nuclear envelope pore complex.
- 5 Answer the following : (Each of 07 marks) 14
- (a) Write a short note on biogenesis of Chloroplasts.
  - (b) Write a note on Peroxisomes.
- 6 Answer the following : (Each of 07 marks) 14
- (a) What are exocytosis and endocytosis? Explain.
  - (b) Write a note on the ultrastructure of mitochondria.
- 7 Answer the following : (Each of 07 marks) 14
- (a) Describe Active transport.
  - (b) Describe : Microtubules
- 8 Answer the following : (Each of 07 marks) 14
- (a) Write a short note on intermediate filaments.
  - (b) Provide an account on an intracellular junction.
- 9 Answer the following : (Each of 07 marks) 14
- (a) Describe: Ultrastructure of lysosome.
  - (b) Describe: MDP kinase pathways.
- 10 Answer the following : (Each of 07 marks) 14
- (a) Write a note on AIDS
  - (b) Explain the mechanism and give the significance of apoptosis.
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