

(i) Printed Pages : 2

Roll No.

(ii) Questions : 9

Sub. Code :

2	5	9	3	6
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Exam. Code :

0	4	3	5
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M.Sc. Bio-Technology 1st Semester
(2125)

CELL BIOLOGY

Paper : MBIO-101

Time Allowed : Three Hours]

[Maximum Marks : 80

Note :— Attempt one question from each Unit. Q. No. I is compulsory.

- I. (a) Which light source is used in confocal microscope and why?
(b) Write a note on facilitated diffusion.
(c) What are cyclins and CDKs?
(d) Write a note on lysosomes. 4×4

UNIT—I

- II. (a) Explain steps in sample preparation for light microscope. 8
(b) Describe the principle and working of fluorescence microscope. 8
- III. (a) What is chemical evolution? 8
(b) Discuss the morphological diversity of prokaryotic cells. 8

UNIT—II

- IV. (a) Explain the mechanism of ABC pump. 8
(b) What are markers and marker enzymes? Explain their importance. 8
- V. (a) Describe the role of chloroplast in cellular energy transactions. 8
(b) Explain the structure of mitochondria. 8

UNIT—III

- VI. (a) How is cell cycle regulated in *Saccharomyces cerevisiae*? 8
(b) What is autocrine signalling? Give example. 8
- VII. Describe signalling pathway of JAK-STAT. 16

UNIT—IV

- VIII. (a) Explain the structure of endoplasmic reticulum. 8
(b) Describe the mechanism of action of cilia in prokaryotes. 8
- IX. (a) What is intracellular protein trafficking? Explain the mechanism. 8
(b) Explain any two post translational modifications. 8