

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 3

NBIO-166

M.Sc. (Ist Semester) Examination, Jan.-2023

BIOTECHNOLOGY

Paper - BT-102

(Cell Biology)

Time : 3 Hours]

[Maximum Marks : 40

The question paper contains three Sections.

Section-A

(Marks : 1 × 10 = 10)

Note :- The candidate is required to answer all the *ten* questions carries 1 mark each. The answer should not exceed **50** words.

Section-B

(Marks : 3 × 5 = 15)

Note :- The candidate is required to answer *five* questions by selecting at least *one* question from each Unit. Each question carries **3** marks. Answer should not exceed **200** words.

Section-C

(Marks : 5 × 3 = 15)

Note :- The candidate is required to answer *three* questions by selecting *one* question from each Unit. Each question carries **5** marks. The answer should not exceed **500** words.

BRI-1048

(1)

NBIO-166 P.T.O.

Section–A

1. (i) What is Peroxysome ?
- (ii) Why is Plasma membrane called selectively permeable membrane ?
- (iii) Write about the types of endoplasmic reticulum.
- (iv) What is Leucoplast ?
- (v) What is MPF ?
- (vi) What are Cyclins ?
- (vii) What is Cell Cycle ?
- (viii) What is Bacterial Quorum Sensing ?
- (ix) What is Gap Function ?
- (x) What is Second Messenger ?

Section–B

Unit–I

2. Write the functions of Mitochondria.
3. Explain the structure of Golgi Bodies.
4. Explain the Polymorphism in Lysosomes.

Unit–II

5. Write the significance of Mitosis.
6. What is Cytokinesis ? Explain.
7. What is Chiasmata ? Explain.

Unit–III

8. What is Signal Transduction ? Explain.
9. Write the general principles of Cell Communications.
10. Write the functions of Intergrins.

Section–C

Unit–I

11. Explain the structure and functions of mitochondria.
12. Explain the structure and functions of Nucleus.

Unit–II

13. Explain different stages of mitosis.
14. Explain the mechanism of regulation of cell cycle.

Unit–III

15. What is Cell Signaling ? Explain the cell surface receptors.
16. Explain the regulation of hematopoiesis.