Progressive Education Society's

Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16

NEP 2020 (Autonomous)

End Semester Examination: OCT / NOV 2024

***Total No. of Questions**: 5/31* ***Total No. of Pages**: 2*

SECOND YEAR (BIOTECHNOLOGY)
BIO2311: CELL BIOLOGY
(Semester III)

Program: Biotechnology (04) **Credits:** 4
Program Specific: Biotechnology **Time:** 3 Hours
Course Type: Core **Max. Marks:** 60
Paper: - **SET: A**

Instructions to the candidate:

1) *All questions are compulsory.*
2) *Figures to the right indicate full marks.*
3) *Draw a well labelled diagram wherever necessary.*

SECTION: A

Q1) Answer the following **[1 X 10 =10]**

1. Define prokaryotic cell.
2. Who discovered nucleus?
3. Define ferroptosis.
4. What are plasmodesmata?
5. Define neoplasia.
6. Define symport.
7. What is chiasmata?
8. Define pinocytosis.
9. What are Cdks?
10. Justify lysosomes are suicidal bags.

SECTION: B

Q2) Answer the following (Attempt any 5/7) **[5 X 2 = 10]**

1. Write the modern concept of cell theory.
2. Give the composition of extra cellular matrix.
3. Differentiate in plant cell and animal cell.
4. Enlist the check points and mention their role in regulation of cell cycle.
5. What is active transport?
6. State the components of plasma membrane.

SECTION: C

Q3) Answer the following (Attempt any 5/7) **[5 X 3 = 15]**

1. Comment on any two theories of ageing.
2. Explain chaperons.
3. What are desmosomes?
4. Write any four functions of endoplasmic reticulum.
5. Explain facilitated diffusion.
6. What are ligands and comment on autocrine signaling?

SECTION: D

Q4) Answer the following (Attempt any 3/5) **[3 X 5 = 15]**

1. Describe the structure and functions of mitochondria.
2. Give an account on structure and functions of microfilaments.
3. Explain protein trafficking through vesicular transport system.
4. Discuss fluid mosaic model of plasma membrane with a neat labelled diagram.
5. How bulk transport is carried out by cell? Explain the process of phagocytosis.
6. Discuss the role of cyclins and Cdks in cell cycle regulation.

SECTION: E

Q5) Answer the following (Attempt any 2/4) **[2 X 5 = 10]**

1. With the help of well labeled diagram explain the structure and functions of golgi complex.
2. Discuss extrinsic pathway of apoptosis in animals.
3. Elaborate the GPCR pathway of signal transduction.
4. Justify why mitosis is called as an equational division and explain different phases.

*****