Progressive Education Society's
Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16
(Autonomous)
End Semester Examination: April 2024
Faculty: Science and Technology

Program: B.Sc. Biotech (04) **Semester: IV** **SET: B**
Program (Specific): Biotechnology **Course Type: Core**
Class: S.Y.B.Sc. **Max. Marks: 35**
Name of the Course: Cell Biology II
Course Code: 23 BBT-401 **Time: 2 Hr.**

Instructions to the candidate:

1) ***There are 4 sections in the question paper. Write each section on separate page.***
2) ***All Sections are compulsory.***
3) ***Figures to the right indicate full marks.***
4) ***Draw a well labelled diagram wherever necessary.***

SECTION: A

Q1) Answer any <u>FIVE</u> of the following (5/6) **5**

1. What is recombination nodule?
2. Enlist different types of peptide hormone.
3. Enlist any two examples of initiator caspases.
4. State the role of cohesins.
5. What is an effector molecule?
6. Name any two cyclin-CDK complexes that are expressed in the cell cycle.

SECTION: B

Q2) Answer any <u>FIVE</u> of the following (5/6) **10**

1. State the changes in a cell undergoing apoptosis.
2. Draw structure of G-protein coupled receptor.
3. State the types of meiosis in different organisms.
4. What is the difference between G1 and G0 phases of cell cycle?
5. Describe various checkpoints of the cell cycle.
6. Explain cell signaling through direct contact.

[P.T.O]

SECTION: C

Q3) Answer any <u>TWO</u> of the following (2/4) **8**

1. Give a brief overview on microtubule dynamics during anaphase.
2. Explain the role of protein tyrosine kinase receptors.
3. Write a short note on- Ferroptosis.
4. With a neat labelled diagram describe the cell cycle

SECTION: D

Q4) Answer any <u>TWO</u> of the following (2/4) **12**

1. Diagrammatically explain extracellular pathway of apoptosis.
2. Describe any two extracellular messengers in detail.
3. Illustrate on the phases of mitosis in detail
4. Comment on cAMP as a second messenger.