24P1054

Reg. No ..... Name .....

M. Sc. DEGREE END SEMESTER EXAMINATION - NOVEMBER 2024

SEMESTER 1 : BOTANY

COURSE : **24P1BOTT04 : CELL BIOLOGY**

(For Regular - 2024 Admission)

Duration : Three Hours Max. Weights: 30

PART A

Answer any 8 questions **Weight: 1**

1.	Explain MTOC's.	(An)
2.	Give an account on tail anchored protein.	(U)
3.	What are hormones? State two examples.	(E)
4.	Give an account on collagen.	(E)
5.	What is kinesin? Give its functions.	(A)
6.	What are Karyopherins? Give an example.	(R, CO 3)
7.	What is the significance of the cis double bond in the fatty acid chains of phospholipids?	(U, CO 1)
8.	Give an account on the targets of caspase proteins in apoptosis.	(A)
9.	What is CKI? Give an example.	(R)
10.	What are scramblases?	(R, CO 1)

(1 x 8 = 8)

PART B

Answer any 6 questions **Weights: 2**

11.	Explain Adhesion junction and tight junction.	(A)
12.	With the help of suitable examples, explain the uniport, antiport, and symport systems.	(A, CO 1)
13.	Briefly explain the process of uptake of proteins into chloroplast.	(R)
14.	Give an account on various modes of cell signalling.	(E)
15.	Give an account on intrinsic pathway of apoptosis.	(U)
16.	With help of suitable diagrams, explain the structure of nuclear pore complex.	(A, CO 3)
17.	Explain the structure and functions of dynein.	(A)
18.	Explain the mechanism by which proto-oncogenes are converted into viral oncogenes.	(A, CO 1, CO 3, CO 5)

(2 x 6 = 12)

PART C

Answer any 2 questions **Weights: 5**

19.	What is RTK? Explain how insulin regulates blood sugar using RTK.	(A)
20.	Explain the process of protein transport into mitochondria.	(R)
21.	Explain the different mechanisms that regulate CDK activity.	(A, CO 1, CO 3, CO 5)
22.	Explain the role of membrane carbohydrates in ABO blood grouping.	(An, CO 1)

(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Explain the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.	U	7, 10, 12, 18, 21, 22	16
CO 3	Explain about cytoskeleton, endomembrane system, protein trafficking and cell cycle.	R	6, 16, 18, 21	10
CO 5	Develop basic knowledge to prepare for competitive examinations in life science.	A	18, 21	7

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;