22ZOU102N/22ZOU102/18ZOU02

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(First Semester)

Branch - **ZOOLOGY**

CELL BIOLOGY

Time: Three Hours | Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following microscope is best suited for studying biofilms? a) Fluorescence microscope b) Confocal Microscope c) Interference microscope d) Bright field microscope	K1	CO1
	2	What is Cell biology? a) Study of cell division only b) Study of Cancerous cell c)Study of cell Structure and function d)Study of metaphase of a cell	K2	CO2
2	3	Which of the following cell organelle is responsible for transporting, modifying, and packaging proteins and lipids? a) Mitochondria b) Endoplasmic Reticulum c) Golgi Complex d) DNA	K1	CO1
	4	RNA is present in which of the following cell organelles? a) Cell Wall b) Ribosome c) Nucleus d) Cytoplasm	K2	CO2
3	5	What is the function of the centrosome? a) Osmoregulation b) Secretion c) Photosynthesis d) Formation of spindle fibres	K1	CO1
	6	In which of the following type of cells the Gap junctions are absent? a) Sperm Cells b)Brain Cells c)Reproductive Cells d)Cardiac Cells	K2	CO2
4	7	Which of the following site is represented by loops in lamp brush chromosomes? a) Crossing over b) Cell Division c) Replication d)Transcription	K1	CO2
	8	The G-Protein bind only to a) Cytosine b) Guanine c)Thymine d) Adenine	K2	CO2
5	9	Caspases can be activated by a) Cytochrome b) IAP c) DNase d) RNase	K1	CO1
	10	Apoptosis can't kill which of the following a) Cell infected with viruses b) Cell with DNA damage c) Cancer cell d) Immune cells	K2	CO2

SECTION - B (35 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Summarize the significance of meiosis.	K2	CO2
		(OR)		
	11.b.	Compare the prokaryotic and Eukaryotic Cell.		

Cont...

2	12.a.	Outline the function of plasma membrane.	K2	CO2
	(OR)			
	12.b.	Explain the origin and function of Golgi bodies		
3	13.a.	Analyze the chemical composition and functions of nucleolus.	K4	CO4
	(OR)			
	13.b.	Classify the inner and outer membrane of mitochondria.		
4	14.a.	Identify the Semi conservative methods of replication.	K3	CO3
	(OR)			
	14.b.	Construct the structure of Lampbrush Chromosome		
5	15.a.	Assess the characteristics of Cancer cells.	K5	CO5
	(OR)			
	15.b.	Criticize the G-Protein receptors and how do they start a signal cascade.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain the principle and working of the microscope used for viewing living unstained cells.	K2	CO2
2	17	Discuss the origin and function of Lysosomes.	K6	CO6
3	18	Examine the ultra-structure of mitochondria and its functions.	K4	CO4
4	19	Explain the structure and model of tRNA.	K3	CO3
5	20	Elaborate the TGF β signaling pathway and its significance in the cell signal transduction?	K6	CO6

Z-Z-Z END