

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(First Semester)

Branch – BIOCHEMISTRY

SUB CELLULAR BIOCHEMISTRY

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	Apoptosis can kill which of the following a) Cell infected with viruses b) Cell with DNA damage c) Cancer cell d) Immune cells	K1	CO1
	2	The mobility of integral proteins can be measured by physical state of --- a) amino acids b) external phospholipids c) membrane phospholipids d) membrane appendages	K2	CO1
2	3	Fatty acids can be transported into and out of cell membrane by (a) Active transport (b) Facilitated Transport (c) Diffusion (d) Osmosis	K1	CO2
	4	The ability of the cell membrane to act as a selective barrier depends upon (a) The lipid composition of the membrane (b) The pores which allows small molecules (c) The special mediated transport systems (d) All of these	K2	CO2
3	5	Which of the following is a microtubules inhibitor a) Colchicine b) Aspirin c) Lamin d) Actionomycin	K1	CO1
	6	What is the PH of a Lysosomes a) Acidic b) Basic c) Neutral d) Depends of the cell type	K1	CO1
4	7	The mitochondrial DNA in humans encode for how many poplypeptides? a) 15 b) 13 c) 12 d) 11	K1	CO2
	8	Resting phase of the cell where it undergoes growth and DNA replication a) Interphase b) G1 Phase c) Mitosis phase d) M phase	K2	CO1
5	9	In the CAMP pathway the G protein stimulates a) Phospholipase C b) Endoplasmic reticulam c) Adenylyl cyclase d) Calmodulin	K1	CO1
	10	----- is involved in anchoring of cell to ECM K1 & CO2) a) Integrins b) Interleukin c) Cyclin d) Statin	K2	CO2

Cont...

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.	Differentiate prokaryotic and eukaryotic cell	K1	CO1
	(OR)			
	11.b.	Draw and explain the models of plasma membrane		
2	12.a.	Mention and explain the transport mechanism in cell membrane	K2	CO2
	(OR)			
	12.b.	State the mechanism of calcium pump in cell		
3	13.a.	Write the structure and functions of peroxisomes	K2	CO3
	(OR)			
	13.b.	Importance of microfilaments in muscle contraction		
4	14.a.	Compare mitotic cell division and meiotic division with diagram	K1	CO5
	(OR)			
	14.b.	What is extracellular matrix? Explain the composition of ECM?		
5	15.a.	What is extracellular matrix? Explain the composition of ECM?	K1	CO5
	(OR)			
	15.b.	Write a short note on 1.Elastin 2. Fibronectin 3.Collagen		

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 ultra-structure and functions of animal cell wall	K3	CO1
2	17	Interpret an active transport with example.	K2	CO2
3	18	Outline the structure, composition, and functions of Golgi	K2	CO3
4	19	Describe the structure, composition, and functions of mitochondria	K1	CO3
5	20	Elaborate gap junctions and desmosomes	K2	CO5