0102E1291

Candidate's Seat No :_____

MSc Sem.-1 Examination

401

Bio-Medical Technology

February-2025

Time : 2-30 Hours] **[Max. Marks : 70**

Q-I	**1**	Write a note on intracellular transport by COP vesicles.	**(07)**
	2	Write a note on mitochondrial complex IV.	**(07)**
		OR	**OR**
	1	Write a detailed note on biogenesis of ribosomes.	**(07)**
	2	Write a note on microtubules.	**(07)**
Q-II	**1**	Explain the structure of gap junctions.	**(07)**
	2	Write a note on stem cells and its types.	**(07)**
		OR	**OR**
	1	Write a note on tumor suppressor genes.	**(07)**
	2	Explain the adherence junctions.	**(07)**
Q-III	**1**	Provide a thorough description of the nucleosome along with a labelled diagram.	**(07)**
	2	Write a description of X-chromosome inactivation and the Lyon hypothesis.	**(07)**
		OR	**OR**
	1	Make a labeled diagram and describe the various types of chromosomes.	**(07)**
	2	Write a description of the distinct types of heterochromatin.	**(07)**
Q-IV	**1**	What are optimum conditions for tissue culture? Discuss.	**(07)**
	2	Write a detailed note on cell lines.	**(07)**
		OR	**OR**
	1	Write a note on maintenance of monolayer cultures.	**(07)**
	2	What are the different methods for separation of cells from tissue? Discuss.	**(07)**
Q-V		**Answer any SEVEN out of TWELVE.**	**(14)**
	1	What are clathrin coat vesicles?	**02**
	2	What is the function of TGN?	**02**
	3	What is UCP? Give its function.	**02**
	4	Briefly explain Knudsen's two hit hypothesis.	**02**
	5	Give justification for the presence of tight junctions in epithelium.	**02**
	6	Briefly explain that the development of cancer is multistep process.	**02**
	7	What type of DNA has a left-handed orientation? In this DNA, how many base pairs are there every turn?	**02**
	8	The full form of XIC is _____ and XIST is _____.	**02**
	9	Write the name of any four structural non-histone proteins associated with DNA.	**02**
	10	What are key features of cryopreservation?	**02**
	11	What are suspension cultures?	**02**
	12	What is the log phase of cell cultures?	**02**