2111E735

Candidate's Seat No :_____

M.Sc Sem-3 Examination

502

Zoology

Time : 2-30 Hours] **November-2024** **[Max. Marks : 70**

Q-I	**1**	Write a note on the maternal effect genes.	**(14)**
	2	Explain the process of generating dorsal-ventral patterning.	
		OR	
	1	Write a short note on "Bicoid".	
	2	What is Cre-LoxP? Explain its use in developmental biology.	
Q-II	**1**	Explain the neural crest as a fourth germ layer.	**(14)**
	2	Explain the process of formation of the heart tube with appropriate diagrams.	
		OR	
	1	Describe the process of neuronal induction.	
	2	Describe the process for the partition of truncus arteriosus drawing appropriate diagrams.	
Q-III	**1**	Write an account of the analysis of allometric growth.	**(14)**
	2	Explain three different types of growth observed in multicellular organisms with suitable examples.	
		OR	
	1	Give detailed information about the release of regeneration.	
	2	Advancement in the treatment can be possible by research on regeneration. Explain with suitable examples.	
Q-IV	**1**	What is personalized medicine and why is it important?	**(14)**
	2	What are the key therapeutic applications of RNA technology?	
		OR	
	1	Give a note on the modus operandi of exon skipping therapy.	
	2	Explain briefly: Fluorescence Resonance Energy Transfer	
Q-V		**Answer any SEVEN out of TWELVE.**	**(14)**
	1	Enlist the disadvantages of radioactive probes.	**02**
	2	Name and give characteristics of microtubule-associated motor proteins.	**02**
	3	Give the name and role of two scientists who are associated with developmental biology.	**02**
	4	Name the partitions and apertures present between the auricles during embryonic development.	**02**
	5	What is a hyaloid artery? When does it appear and disappear during development?	**02**
	6	Enlist any four developmental anomalies of kidneys.	**02**
	7	Draw a labeled diagram of the logistic growth curve.	**02**
	8	Write the properties of the activating substances responsible for the regeneration.	**02**
	9	Explain super regeneration with diagram.	**02**
	10	Define: Euthenics	**02**
	11	Give the full form of "ZFPs" and mention its role.	**02**
	12	What is Ayurgenomics?	**02**