

MSc Sem.-2 Examination

407

Zoology

May-2025

Time : 2-30 Hours]

[Max. Marks : 70

Q-I	1	Explain the effects of mutation on genotype.	(14)
	2	What are split genes? Discuss.	
	OR		
	1	Outline the mechanism of DNA replication in prokaryotes and draw a diagram.	
	2	Explain how attenuation affects gene expression in the <i>trp</i> operon.	
Q-II	1	Write a detailed note on numerical aberrations.	(14)
	2	What are chromosomal disorders in humans? Discuss with examples.	
	OR		
	1	What is co-dominance? Explain with example.	
	2	Write a note on Mendelian inheritance.	
Q-III	1	Classify the different types of immunoglobulins.	(14)
	2	Describe the cell mediated immune response in brief.	
	OR		
	1	Explain the role of Major Histocompatibility Complex (MHC) in immune response.	
	2	Discuss Myasthenia gravis – its immunological basis, clinical features and complications.	
Q-IV	1	Give a note on "Transplantation".	(14)
	2	Discuss the quantitative immunodiffusion technique briefly.	
	OR		
	1	Describe: Hyper-IgM Syndrome in brief.	
	2	Explain Immunotoxicity in brief	
Q-V	Answer any SEVEN out of TWELVE .		(14)
	1	_____ and _____ are the molecules that play a crucial role exclusively in the positive regulation of the <i>lac</i> operon, without participating in its negative control mechanisms.	02
	2	What is conditional mutation?	02
	3	What is mutagenesis?	02
	4	Write a karyotype of a female with Down syndrome.	02
	5	What is non-disjunction?	02
	6	Define Inborn errors of metabolism. Give one example.	02
	7	What role do CD4+ T helper cells play in an immune response?	02
	8	Give a note on HLA typing.	02
	9	What is a PPD?	02
	10	What is the function of Rho(D) immune globulin?	02
	11	What is the "DiGeorge syndrome"?	02
12	Define: phenomenon of "cross-reactivity".	02	