0105N112

Candidate's Seat No :_____

MSc Sem.-2 Examination

407

Biomedical Technology

Time : 2-30 Hours] **May-2025** **[Max. Marks : 70**

Q-I	1	Write a note on effect of mutation on phenotype.	(14)
	2	What are interrupted genes? Discuss.	
		OR	
	1	Describe extranuclear inheritance with reference to *Mirabilis jalapa* as an example.	
	2	With the help of a diagram, explain how the *lac* operon is negatively controlled.	
Q-II	1	Write a detailed note on: aneuploidy & euploidy.	(14)
	2	Differentiate between autosomal & sex chromosomal disorders with examples.	
		OR	
	1	Explain incomplete dominance with examples.	
	2	Write a note on the extension of Mendelian inheritance with examples.	
Q-III	1	Define antigen and its characteristics.	(14)
	2	Give a note on humoral immune response.	
		OR	
	1	Explain the type III hypersensitivity reaction in detail.	
	2	What is autoimmunity? Describe any one autoimmune disease in brief.	
Q-IV	1	Discuss the role of graft in transplantation.	(14)
	2	Give a short note on immunoelectrophoresis.	
		OR	
	1	Explain how "class switching" affects immune responses.	
	2	Explain the principle of agglutination tests for detecting antigens and antibodies.	
Q-V		**Answer any SEVEN out of TWELVE.**	(14)
	1	Splicing is the process of altering _____ after it is transcribed from _____. This process includes the removal of non-coding regions called _____ and the joining of coding regions called _____ to produce the final transcription product.	02
	2	Which two molecules are essential for the positive regulation of the *lac* operon and do not participate in its negative regulation?	02
	3	What is nonsense mutation?	02
	4	Write the karyotype for normal male and female.	02
	5	Define: nondisjunction.	02
	6	What is multifactorial inheritance? Give examples.	02
	7	Add a note on "APC".	02
	8	What is the epitope and paratope?	02
	9	Give a note on Allergy.	02
	10	Add a note on "titer".	02
	11	What is a CVID?	02
	12	Give one example of a cytokine used as immunotherapy.	02