

MSc Sem.-1 Examination

402

Human Genetics

February-2025

Time : 2-30 Hours]

[Max. Marks : 70

Q-I	1	Explain: V_{max} and K_m . Derive the Michaelis-Menten equation.	(14)
	2	Describe three modes of reversible enzyme inhibition, with examples.	
	OR		
	1	Discuss the classification system and explain the nomenclature of enzymes.	
	2	Why is enzyme immobilization important? Describe any three methods.	
Q-II	1	Explain the detailed mechanism of reaction for the enzyme Aldolase.	(14)
	2	Write a note on the structure of glycogen.	
	OR		
	1	Explain the detailed mechanism of reaction for enzyme pyruvate dehydrogenase.	
	2	Write a note on anaplerotic reactions associated with the TCA cycle.	
Q-III	1	Explain in detail: Diagnosis and treatment of Chronic kidney disease and Glomerulonephritis.	(14)
	2	Explain the process of systemic and pulmonary circulation of blood in the human circulatory system.	
	OR		
	1	Explain the symptoms, diagnosis and treatment of Chronic obstructive pulmonary disease, Emphysema and Tuberculosis.	
	2	What is Homeostasis? Write down the feedback mechanism, control of homeostasis and homeostatic imbalances in detail.	
Q-IV	1	Discuss the sliding filament theory of contraction.	(14)
	2	Describe cells responsible for gastric juice production.	
	OR		
	1	Give a note on stimulatory and inhibitory events of gastric juice secretion.	
	2	Explain briefly: Neuromuscular Junction.	
Q-V	Answer any SEVEN out of TWELVE.		(14)
	1	Define Isoenzymes. Explain their significance.	02
	2	Give examples of enzymes used in therapy and analysis.	02
	3	What are ribozymes? Give an example.	02
	4	Why phosphofructokinase is considered very important enzyme of glycolysis.	02
	5	Briefly describe Glutathione.	02
	6	What is the Cori cycle? Give its functions.	02
	7	What are the main symptoms of Acute Kidney Injury (AKI)?	02
	8	Give the full name: ASD & VSD.	02
	9	What is Embolism? What are the causes of it?	02
	10	Explain "vagovagal reflex".	02
	11	What is the pathology of "pernicious anaemia"?	02
12	What is Curare and Botulin?	02	