

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	What Cot curve measures? (i) Enzyme kinetics (ii) Mutation rate (iii) DNA reassociation kinetics (iv) RNA transcription rate	K1	CO1
	2	Where IS elements are found? (i) Bacteria (ii) Fungi (iii) Animals (iv) Plants	K1	CO1
2	3	Where Kinetoplast DNA is found? (i) Plants (ii) Fungi (iii) Protozoa (iv) Animals	K1	CO2
	4	What Polyploidy refers to? (i) Extra gene (ii) Mutation (iii) Extra chromosome set (iv) Deletion	K1	CO2
3	5	Spell that transformation involves uptake of: (i) Naked DNA (ii) Naked RNA (iii) Nascent Protein (iv) Virus	K1	CO3
	6	What mRNA vaccines encode? (i) Antibody (ii) Antigen protein (iii) DNA (iv) Enzyme	K1	CO3
4	7	Infer that Progeria is caused by mutation in: (i) LMNA gene (ii) BRCA1 (iii) p53 (iv) MYC	K2	CO4
	8	What is X-inactivation also called as? (i) Replication (ii) Mutation (iii) Lyophilisation (iv) Lyonization	K2	CO4
5	9	What a recombination frequency of 10% indicates? (i) 1 cM distance (ii) 10 cM distance (iii) 100 cM distance (iv) No linkage	K1	CO5
	10	What a Polygenic inheritance results in? (i) Discontinuous variation (ii) Single gene trait (iii) Continuous variation (iv) Sex linkage	K1	CO5

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain multiple alleles.	K2	CO2
		(OR)		
	11.b.	Demonstrate bacterial transposons.		
2	12.a.	Organise and present your knowledge of mitochondrial genome.	K3	CO3
		(OR)		
	12.b.	Identify the types of structural chromosomal aberrations.		
3	13.a.	Contrast generalized vs specialized transduction.	K4	CO3
		(OR)		
	13.b.	Analyse sex-duction.		
4	14.a.	Evaluate diagnosis of XDR <i>Mycobacterium tuberculosis</i> .	K5	CO4
		(OR)		
	14.b.	Appraise the role of heat shock proteins in steroid receptor function.		
5	15.a.	Assess Mendel's law of independent assortment.	K5	CO5
		(OR)		
	15.b.	Evaluate linkage analysis.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain complementation testing.	K2	CO2
2	17	Identify the difference between homologous and illegitimate recombination.	K3	CO3
3	18	Analyze drug targets in HIV therapy based on its molecular biology.	K4	CO5
4	19	Compare Down syndrome and Turner syndrome based on chromosomal changes.	K5	CO4
5	20	Discuss QTL mapping and its significance.	K6	CO4

Z-Z-Z

END