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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 the mathematics in Business through modelling.	K3	CO3
	(OR)			
	11.b.	Explain the mathematical model behind the motion of planets.		
2	12.a.	Formulate and solve a linear growth and decay model.	K3	CO4
	(OR)			
	12.b.	Explain non-linear growth and compartment models.		
3	13.a.	Explain the prey–predator model.	K2	CO3
	(OR)			
	13.b.	Explain the SIS epidemic model.		
4	14.a.	Explain the need for difference equations.	K4	CO2
	(OR)			
	14.b.	Solve a first-order linear difference equation.		
5	15.a.	Explain the Cobweb model.	K5	CO3
	(OR)			
	15.b.	Explain the Harrod or Samuelson model.		

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	Describe the twelve -point procedure for solving problems through mathematical modelling.	K2	CO2
2	17	Derive the logistic growth model and analyze equilibrium and stability.	K4	CO2
3	18	Formulate and analyze a competition model between two species.	K5	CO3
4	19	Solve a second-order linear difference equation and discuss cases.	K3	CO4
5	20	Explain Samuelson's multiplier-accelerator model and analyze stability.	K4	CO5

Z-Z-Z

END