

Curriculum Plan (EVEN SEM 2025): B.Sc. (H) Mathematics 3 Year (Semester VI)
Paper SEC: MATHEMATICAL MODELING WITH EXCEL

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				Practical	80 Marks
			Classes Assigned	Practical	4 Practical per week
References		1. Albright, Brian, & Fox, William P. (2020). Mathematical Modeling with Excel (2nd ed.)			
	Week	Topics			
	Beginning/1st week with 2 days 02 nd Jan. - 10 th Jan.	Monte Carlo simulation: Flipping a coin; [1] Chapter 6 (Section 6.1, 6.2, Example 6.2.1)			
	2nd week 12 th Jan. – 17 th Jan	Monte Carlo simulation: Area under a curve; [1] Chapter 6 (Section 6.2, Example 6.2.2)			
	3rd week 19 th Jan. – 24 th Jan.	Monte Carlo simulation: Car dealership contest, and the birthday problem; [1] Chapter 6 (Section 6.2, Example 6.2.3)			

	4th week 26 th Jan. – 31 st Jan.	Formulation of linear programming; [1] Chapter 7 (Section 7.1, 7.2)	
	5th week 02 rd Feb.- 07 th Feb.	Transportation and their solutions using Excel Solver tool; [1] Chapter 7 (Section 7.3)	
	6th week 09 th Feb. – 14 th Feb.	Assignment problems and their solutions using Excel Solver tool; [1] Chapter 7 (Section 7.4)	
	7th week 16 th Feb. – 21 st Feb.	Traveling salesman problem. [1] Chapter 8 (Section 8.8)	
	8th week 23 rd Feb. – 28 th Feb.	Long-term behavior and equilibria [1]: Chapter 4 (Sections 4.1, and 4.2).	
	9th week 09 th Mar.– 14 th Mar.	Discrete log equation. [1]: Chapter 4 (Sections 4.3)	
	10th week 16 th March. – 21 st Mar.	Linear predator-prey model, [1]: Chapter 4 (Sections 4.4)	
	11th week 23 rd Mar. – 28 th Mar.	SIR model of epidemics, and SIS model. [1]: Chapter 4 (Sections 4.6)	

	12th week 30 th Mar. – 04 th Apr.	SIR model of epidemics, and SIS model. [1]: Chapter 4 (Sections 4.6).	
	13th week 06 th Apr. – 11 th Apr.	Revision	
	14th week 13 th Apr. – 18 th Apr.	Revision	
	15th week with 3 Days 20 th Apr. – 29 th Apr.	Revision	
Dispersal of classes, preparation leave and practical examination begin- 30 April, 2026.			