

Hour	Unit	Topic	Teaching Methodology	Remarks
1	I	Differential Equations: First Order and First Degree	Whiteboard	
2	I	Exact Equations	Whiteboard	
3	I	Equations Reducible to Exact Form	Whiteboard	
4	I	Linear Differential Equations	Whiteboard	
5	I	Bernoulli's Equations	Whiteboard	
6	I	Newton's Law of Cooling	Whiteboard	
7	I	Law of Natural Growth and Decay	Whiteboard	
8	I	Applications to Electrical Circuits	Whiteboard	
9	II	Linear Differential Equations of Higher Order	Whiteboard	
10	II	Definitions: Homogeneous & Non-Homogeneous	Whiteboard	
11	II	Complementary Function	Whiteboard	
12	II	Particular Integral	Whiteboard	
13	II	General Solution	Whiteboard	
14	II	Method of Variation of Parameters	Whiteboard	
15	II	L-C-R Circuit Problems	Whiteboard	
16	III	Introduction to Partial Differential Equations	Whiteboard	
17	III	Formation by Elimination of Arbitrary Constants	Whiteboard	
18	III	Formation by Elimination of Arbitrary Functions	Whiteboard	
19	III	Solutions: First Order Linear PDE (Lagrange's Method)	Whiteboard	
20	III	Homogeneous Linear PDEs with Constant Coefficients	Whiteboard	
21	IV	Scalar and Vector Point Functions	Whiteboard	
22	IV	Vector Operator (Del)	Whiteboard	
23	IV	Del Applied to Scalars: Gradient	Whiteboard	
24	IV	Del Applied to Vectors: Divergence	Whiteboard	
25	IV	Del Applied to Vectors: Curl	Whiteboard	
26	IV	Vector Identities	Whiteboard	

27	V	Vector Integration: Line Integral & Circulation	Whiteboard	
28	V	Work Done	Whiteboard	
29	V	Surface Integral & Flux	Whiteboard	
30	V	Green's Theorem in the Plane (Statement & Problems)	Whiteboard	
31	V	Stoke's Theorem (Statement & Problems)	Whiteboard	
32	V	Volume Integral	Whiteboard	
33	V	Divergence Theorem (Statement & Problems)	Whiteboard	
34	All	Practice Problems – Differential Equations	Whiteboard	
35	All	Practice Problems – PDEs	Whiteboard	
36	All	Practice Problems – Vector Calculus	Whiteboard	
37	All	Recap: Units I & II	Whiteboard	
38	All	Recap: Units III–V	Whiteboard	
39	All	Discussion: Applications & Real-world Examples	Whiteboard	
40	All	Revision & Q&A Session	Whiteboard	