Koyana Education Society's

Balasaheb Desai College, Patan

Monthly Teaching Plan

2023-2024

Subject Name: Mathematics   **Class:** B. Sc-I

Paper Name: Differential Equations   **Month:** August

Date	Unit/Subunit	Teaching Method
01/08/23	Differential equations of first order but not of first degree: Introduction, equations solvable for p, method & examples	Lecture/ Problem solving
02/08/23	Equations solvable for P, examples	Lecture
03/08/23	Equations solvable for y, method & examples	Lecture
04/08/23	Equations solvable for x, method & examples	Lecture
05/08/23	Clairaut's equation, method & examples	Problem solving
07/08/23	Equations reducible to Clairaut's form	Problem solving
08/08/23	Equations reducible to Clairaut's form	Problem solving
09/08/23	Applications of O. D. E. O. T in cartesian form	Lecture
10/08/23	Orthogonal trajectory in Cartesian form examples	Lecture
11/08/23	Orthogonal trajectory in Polar form examples	Lecture
12/08/23	Unit-II Linear differential equations with constant coefficients	Problem solving
14/08/23	Introduction, definitions, order degree solution etc	Problem solving
17/08/23	General solution, auxiliary equation, complementary function,	Problem solving
18/08/23	Types of complementary function: real and distinct roots, real & repeated roots, complex roots, complex & repeated roots.	Lecture
19/08/23	Examples on different types of C. F.	Problem solving
22/08/23	Examples on different types of C. F.	Problem solving
23/08/23	Particular Integral (P. I.)	Lecture
24/08/23	P. I. when X=e^{ax} & examples	Problem solving
25/08/23	P. I. when X=$sinax \ or \ cosax$ & examples	Problem solving
26/08/23	P. I. when X=x^m & examples	Lecture
27/08/23	P. I. when X=$e^{ax} \cdot V$ & examples	Problem solving
28/08/23	P. I. when X=$x \cdot V$ & examples	Problem solving
29/08/23	Combined examples on P. I.	Problem solving
30/08/23	General method of solution	Problem solving
31/08/23	Combined examples on to find P. I.	Problem solving

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Monthly Teaching Plan

2023-2024

Subject Name: Mathematics **Class:** B. Sc-II

Paper Name: Differential Equations **Month:** August

Date	Unit/Subunit	Teaching Method
01/08/23	Examples on Type III	Problem solving
02/08/23	Examples on Type III	Problem solving
03/08/23	Type IV: Method of variation of parameter	Lecture
04/08/23	Examples on Type IV	Problem solving
05/08/23	Examples on Type IV	Problem solving
07/08/23	Examples on Type IV	Problem solving
08/08/23	**Unit-2: 2.1 Ordinary simultaneous linear differential equations** Introduction, Definition	Lecture
09/08/23	Methods of solving Ordinary simultaneous linear differential equations	Lecture
10/08/23	Examples on Ordinary simultaneous linear differential equations	Problem solving
11/08/23	Examples on Ordinary simultaneous linear differential equations	Problem solving
12/08/23	Examples on Ordinary simultaneous linear differential equations	Problem solving
14/08/23	Geometrical interpretation Ordinary simultaneous linear differential equations	Lecture
17/08/23	**2.1 Total differential equations:** Introduction, Def	Lecture
18/08/23	Necessary condition for integrability of total differential equation	Lecture
19/08/23	Methods of Solving total differential equation a) Method of Inspection	Problem solving
22/08/23	Examples on method a)	Problem solving
23/08/23	Examples on method a)	Problem solving
24/08/23	b) Solution of homogenous equations	Lecture
25/08/23	Examples on method b)	Problem solving
26/08/23	Examples on method b)	Problem solving
27/08/23	c) Treating one variable as constant	Lecture
28/08/23	Examples on method c)	Problem solving
29/08/23	Examples on method c)	Problem solving
30/08/23	Geometrical interpretation Total differential equations	Lecture
31/08/23	Geometrical interpretation Ordinary simultaneous linear differential equations & Total differential equations	Lecture

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Monthly Teaching Plan

2023-2024

Subject Name: Mathematics   **Class:** B. Sc-III

Paper Name: Optimization Techniques   **Month:** August

Date	Unit/Subunit	Teaching Method
01/08/23	**Unit 2: Quantitative Techniques:** Game Theory: Basic Definitions	Lecture/ Problem solving
02/08/23	Minimax criterion & optimal strategy, saddle point.	Lecture
03/08/23	Optimal strategy and value of game	Lecture
04/08/23	Solutions of game with saddle point & examples	Problem solving
05/08/23	Fundamental theorem of game theory	Lecture
07/08/23	2x2 games without saddle point & examples	Problem solving
08/08/23	Algebraic method of 2x2 games & examples	Problem solving
09/08/23	Arithmetic method of 2x2 games & examples	Problem solving
10/08/23	Graphical method for 2xn and mx2 games & examples	Problem solving
11/08/23	Principal of dominance & examples	Problem solving
12/08/23	Examples on 2x2 games without saddle point	Problem solving
14/08/23	Examples on Algebraic method of 2x2 games	Problem solving
17/08/23	Examples on Arithmetic method of 2x2 games	Problem solving
18/08/23	Examples on Graphical method for 2xn and mx2 games	Problem solving
19/08/23	Job Sequencing: Introduction, terminology & notations	Lecture
22/08/23	Principal assumptions & solution of sequencing problem	Problem solving
23/08/23	Processing n jobs through 2 machines	Lecture
24/08/23	Examples on processing n jobs through 2 machines	Problem solving
25/08/23	Processing n jobs through 3 machines	Lecture
26/08/23	Examples on processing n jobs through 3 machines	Problem solving
27/08/23	Processing 2 jobs through n machines	Lecture
28/08/23	Examples on processing 2 jobs through n machines	Problem solving
29/08/23	Processing n jobs through m machines	Lecture
30/08/23	Examples on processing n jobs through m machines	Problem solving
31/08/23	Combined examples on above methods	Problem solving

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