SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
FACULTY OF SCIENCE AND HUMANITIES

DEPARTMENT OF MATHEMATICS AND STATISTICS

1 Course Details

Course Name	MATHEMATICS -II
Course Code	UCA15405
Course Credit	4
Semester	2
Class to which the course is offered	BCA
Faculty offering the course	L.SIVAKAMI
Department which the faculty belongs to	Mathematics
Faculty Contact	9445388689
Faculty Office	FSH

2 Course Objective

This course aims at providing the necessary basic concepts of a few integral calculus and Trigonometry and Laplace transforms and give procedures for solving Differential equations of second order equations with constant coefficients occurring in Applied

3 Lesson Plan

Week No.	Period No.	Portions to be Covered	Teaching Methods (BB, PPT, etc)	Text (or) Reference Books (Mention T1 or R1, etc)
		UNIT - I Solution of Equations and Eigen value Problems		
	1	Integral calculus- basic formulas and simple problems-	BB	T1, R1
	2	polynomial and irrational function based problems	BB	T1, R1
	3	partial fraction-based problems solved	BB	T1, R1
	4	Bernoulli's formula based problems	BB	T1, R1
	5	reduction formula- $\int_0^{\frac{\pi}{2}} \sin^n x dx$	BB	T1, R1
	6	reduction formula- $\int_0^{\frac{\pi}{2}} \cos^n x dx$	BB	T1, R1
	7	reduction formula- $\int \cos^n x\, dx$	BB	T1, R1
	8	More problems solved	BB	T1, R1
	9	reduction formula- $\int \sin^n x\, dx$	BB	T1, R1
	10	Trigonometry basic ideas and simple	BB	T1, R1
	11	– Expansion of Sin nθ based problems solved,	BB	T1, R2
	12	Expansion of Cos nθ-based problems solved	BB	T1, R3
	13	Expansion of tan nθ-based problems solved	BB	T1, R1
	14	More problems solved $Sin^n\theta$	BB	T1, R1
	15	Problems solved based on the expansion of- $Sin^n\theta$	BB	T1, R1
	16	Problems solved based on the expansion of - $Cos^n\theta$	BB	T1, R1
	17	Problems solved based on the expansion of Type I &II	BB	T1, R1

	18	Problems solved based on the expansion of $Sin^n\theta.Cos^n\theta$	BB	T1, R1
	20	Revision	BB	T1, R1
	21	cycle test -1		
	22	cycle test -I		
	23	cycle test -I		
	24	Differential Equation- basic problems solved	BB	T1, R1
	25	Second order Differential Equation with constant coefficient concept expla	BB	T1, R1
	26	Problems solved based on the expansion of- 0	BB	T1, R1
	27	Problem based on R.H.S: e^{ax},	BB	T1, R1
	28	Problem based on R.H.S: $Sin\,ax$	BB	T1, R1
	29	Problem based on R.H.S: $Cos\,ax$	BB	T1, R1
	30	Problem based on R.H.S: x	BB	T1, R2
	31	Cimbined problem of type I and II	BB	T1, R1
	32	Cimbined problem of type I and II	BB	T1, R1
	33	Revision	BB	T1, R1
	34	Laplace Transformation	BB	T1, R1
	35	Basic definitions given	BB	T1, R1
	36	basic properties and simple problems	BB	T1, R1
	37	basic properties and simple problems	BB	T1, R1
	38	based problems solved $L[e^{at} f(t)]$	BB	T1, R1
	39	based problems solved- $L[tf(t)]$	BB	T1, R1
	40	based problems solved $L[tf(t)]$	BB	T1, R1
	41	based problems solved $L[e^{at} f(t)]$	BB	T1, R2
	42	More problems solved $L[e^{at} f(t)]$	BB	T1, R1
	43	**More problems solved**	BB	T1, R1
	44	cycle test -II		
	45	Cycle test -II		
	46	Cycle test II		
	47	Inverse Laplace transformation		
	48	Simple Problems based on Inverse Laplace Transformation	BB	T1, R1
	48	Problems solved based on'Partial Fraction Method'.	D, BB, Problem Solvir	T1, R1
	50	Problems solved based on-multiplied by 's	BB	T1, R1
	51	Problems solved based on-multiplied by '1/s	BB	T1, R1
	52	More problems solved	BB, PPT	T1, R1
	53	More problems solved	BB	T1, R1
	54	Revision		
	55	Model Examination		
	56	Model Examination		

Note: BB - Black Board, PPT- Power Point Presentation, GD - Group Discussion

4 Outcomes

a) Ability to understand and apply differential equations, matrix theory .

5 Text Books

1. Singaravelu, A. (2011) ALLIED MATHEMATICS, 3rd Edition, Meenakshi Agency, Chennai.

6 Reference B

1. Vittal, P.R.(2013)Allied Mathematics, 4th Edition Reprint,Margham Publications, Chennai.
2. Venkatachalapathy, S.G.(2007)Allied Mathematics, 1st Edition Reprint, Margham Publications, Chennai.