

Lesson Plan (New Course)

Semester: - II

Title :- Engineering Mathematics-II

Course No. :- BS-MATHS-124

Credits :- 3(2+1)

Lecture No.	Topics to be covered	Article No.
	<u>Matrices :-</u>	
1	Rank of Matrix	2.8(1)
2.	Elementary transformations	2.8(2)
3	Gauss Jordon method of finding the inverse	2.8(1)
4	Reduction to normal form	2.8(7)
5	Consistency of linear system of equations	2.11(1)
6	Rouche's theorem	2.11(2)
7	Linear transformation	2.13(1)
8	Orthogonal transformation	2.13(2)
9-10	Eigen values and Eigen vectors	2.14(1,2)
11	Cayley Hamilton theorem	2.16
	<u>Function of complex variable:</u>	
12	Limit, continuity	20.2(1,2)
13	Derivative of complex function	20.3(1)
14	Cauchy Reimann equation with proof	20.3(2)
15	Analytic function	20.4
	<u>Fourier series</u>	
16	Euler's formulae	10.2
17	Dirichlet's conditions	10.3
18-19	Function having points of discontinuities	10.4
20-21	Even and odd function	10.6(1,2)
22-23	Half range series	10.7
	<u>Partial differential equations</u>	
24-26	a) Formation of Partial differential equations	17.2
27-28	b) Lagrange's linear equation	17.5

29-30	c) Non linear equation of the first order	17.6
	<u>Infinite series and its convergence</u>	
31-36	Tests of convergence: Ratio test, Rabbe's test, logarithmic test	9.3,9.10
	Altrnating series and Leibnitz rule	
	Power series	9.12
	Convergence of exponential series, logarithmic series & binomial series	9.14
		9.15(1,2,3)

Books

- 1) Applied mathematics – Volume I by P. N. Wartikar & J. N. Wartikar.
- 2) Applied mathematics – Volume II by P. N. Wartikar & J. N. Wartikar.
- 3) Higher Engineering mathematics by Dr. B. S. Grewal.(38th Edition)