Email Id:-gpblselectricalengg@gmail.com

DEPARTMENT OF ELECTRICAL ENGINEERING
Govt. Polytechnic, Balasore

LESSON PLAN FOR ACADEMIC SESSION - 2023-2024
MATH-III

Course Code : Th-1	**Semester : 3RD**
Total Periods : 60	**Examination : 3 Hours**
Theory Periods : 4 P/Week	**Internal Assessment : 20 Marks**
Tutorial :	**End Semester Examination : 80 Marks**
Maximum Marks : 100	
Semester From Date : 01.08.2023	**To Date :** 09.12.23
Name of Teaching Faculty : Er. BISWAJIT MALLIK	

Week	Class day	Theory
1st	1st	Real Numbers, Imaginary Numbers Complex Numbers and it's properties
	2nd	Conjugate of complex number and Modulus of complex number
	3rd	Amplitude of complex number and Geometrical representation
	4th	Determination of three cube roots of unity and their properties with examles
2nd	1st	De Moivre's Theorem and examples based on De Moivre's Theorem
	2nd	Problem Solve
	3rd	Introduction about matrix, Define rank of matrix Elementary row operations to determine rank of matrix
	4th	Rouche's Theorem for consistency of a system of linear equations in n unknowns
3rd	1st	Problem Solve based on previous class
	2nd	Problem Solcve
	3rd	Define Homo. And Non-Homo. Linear Diff. Equations, Examples
	4th	General solution of Linear diff. equations in terms of C.F. and P.I.

4th	1st	Derive rules for finding C.F. and P.I. in terms of operator D
	2nd	Derive rules for finding C.F. and P.I. in terms of operator D
	3rd	Problem Solve
	4th	Define Partial Differential Equations (P.D.E) , Examples
5th	1st	Form P.D.E by eliminating arbitrary constants and functions with examples
	2nd	Solve P.D.E of the form Pp+Qq=R
	3rd	Problem Solve based on previous class
	4th	Problem Solve
6th	1st	Introduction, Laplace transform and Doubble Integral
	2nd	Define Gamma function with examples
	3rd	Laplace transform of function f(t)
	4th	Define Inverse Laplace transform with examples
7th	1st	Define Laplace transform of standard functions and explain existence of conditions of L.T
	2nd	Explain Linear shifting property of L.T.
	3rd	Formulate L.T. of derivatives, integrals
	4th	Formulate L.T. by multiplication by t^n and division by t
8th	1st	Solve problem
	2nd	Derive formulae of the inverse L.T. with examples
	3rd	Explain the method of partial fractions
	4th	Solve problem
9th	1st	Introduction of Periodic function
	2nd	Dirchilet's conditions for the Fourier expansion of a function and it's convergence
	3rd	Dirchilet's conditions for the Fourier expansion of a function and it's convergence continue
	4th	Express periodic function f(x) satisfying Dirchilet's conditions as a Fourier series

10th	1st	Problem Solve
	2nd	State Euler Formulae
	3rd	Define even function and find Fourier series in $0 \leq x \leq 2\pi$ and $-\pi \leq x \leq \pi$
	4th	Define odd function and find Fourier series in $0 \leq x \leq 2\pi$ and $-\pi \leq x \leq \pi$
11th	1st	Problem Solve
	2nd	Fourier series of continuous function in $0 \leq x \leq 2\pi$ and $-\pi \leq x \leq \pi$
	3rd	Fourier series of function having point of discontinuity in $0 \leq x \leq 2\pi$ and $-\pi \leq x \leq \pi$
	4th	Problem Solve
12th	1st	Appraise limitation of analytical methods of solutions of Algebraic Equation
	2nd	Derivation of iterative formula for bisection method and examples
	3rd	Derivation of iterative formula for Newton-Raphson method and examples
	4th	Problem Solve
13th	1st	Explain finite difference and form table of forward and backward difference
	2nd	Define shift operator and establish relation between E and difference operator (Δ)
	3rd	Derive Newton's forward interpolation formula for equal intervals with examples
	4th	Derive Newton's backward interpolation formula for equal intervals with examples
14th	1st	Problem Solve
	2nd	State Lagrange's interpolation formulae for for unequal intervals.
	3rd	Newton's Cote's formula and examples
	4th	Trapezoidal Rule and examples.
	1st	Problem Solve
	2nd	Simpsons 1/3rd rule and examples.

15th	3rd	Problem Discussion
	4th	Problem Discussion

B. Mallu 01/05/23

Lect. Elect Dept.
G.P, BLS
Teaching Faculty

B. Mallu 01/05/23

HOD, Dept of EE
Government Polytechnic,
Balasore

Principal
Government Polytechnic, Balasore