LESSON PLAN(2025-26(W))

Discipline Civil / Elect / Meta	Semester- 1st	Name of the teaching faculty: - Sri Sarada Kumar Nayak, Sr. Lect. in Mathematics, Math. & Sc. Department., Govt. Polytechnic, Jajpur.	
Subject – Appl. Math-I	No. of days/per week-04	Semester from date:06.08.25 to 04.12.2025 No. of weeks: - 15 (excluding vacation & Holidays)	
Week	Class Day	Chapter	Theory
1st	1st -01	Permutations & Combinations	General introduction, introduction to the Topic.
	2nd -02		Fundamental Principle of Counting, Illustrative Examples.
	3rd -03		Principles of multiplication, Addition, Illustrative examples.
	4th -04		Permutations when all the objects are distinct.
2nd	1st -05		Factorial Notation, illustrative examples.
	2nd -06		Permutations under various cases.
	3rd -07		Combinations of 'n' different objects.
	4th -08		Problem discussion with doubt clearing, Exercise problem discussion
3rd	1st -09		. Binomial Theorem for positive integral index.
	2nd -10		Binomial Theorem for any index.
	3rd -11		Problems on approximation by the Binomial Theorem.
	4th -12		Problem discussion(Application on real life/Industrial)
4th	1st -13		Class Test.
	2nd -14	Trigonometry	Concept of angels, Measurement of angel in degree, grades, radian
	3rd -15		Conversion of degree, grade, radian
	4th-16		Continue, illustrative examples.
5th	1st -17		Introduction to Trigonometry & T-ratios.
	2nd -18		Continue
	3rd -19		Even function, odd function, periodic function
	4th -20		Addition, differences formula of trigonometry and their transformations to products
6th	1st -21		Problem discussion
	2nd -22		Problem discussion
	3rd -23		Trigonometrical ratios of angle 2A, 3A
	4th -24		Trigonometrical ratios of sub-multiple angle i.e .A/2 Continue

7th	1st -25		Illustrative examples
	2nd -26		Graphs of Trigonometric Functions, Exponential & Logarithm functions.
	3rd -27		Continue
	4th -28		Problem discussion Exercise problem discussion
8th	1st -29		continue
	2nd -30		Class Test
	3rd -31	**Differential Calculus**	Definition of function, different types of functions , illustrative examples
	4th -32		continue
9th	1st -33		Introduction to Limit. Limit of a function
	2nd -34		Evaluation of L.H.L.& R.H.L., Exitance of Limit
	3rd -35		Methods of Evaluation of Limit (direct substitution, factorization, rationalization,)
	4th -36		dividing highest power of x by both Nr. &Dr. Evaluation using standard identities.
10th	1st -37		Problem Discussion
	2nd -38		Problem Discussion
	3rd -39		Problem Discussion
	4th -40		Introduction to differentiation, ab-intio method
11th	1st -41		Algebra of differentiation, Derivative of composite functions, illustrative examples
	2nd -42		Derivatives of explicit/implicit function
	3rd -43		Derivatives of trigonometry, inverse trigonometry, logarithm, exponential functions.
	4th -44		Problem discussion
12th	1st -45		Class test
	2nd -46	**Algebra** **Complex numbers**	Introduction, Geometrical Representation. iota
	3rd -47		Conjugate, Modulus, addition, subtraction, multiplication, division of complex numbers and their properties.
	4th -48		Square root, cube root and cube roots of unity of a complex number.
13th	1st -49		De-Moivre's Theorem and its application
	2nd -50		Problem Discussion
	3rd -51		Class Test
	4th -52	**Partial Fractions**	Definition of Polynomial fraction, Proper & Improper fraction, Conversion from Improper to proper fraction .

14th	1st -53		To resolve proper fraction into partial fraction with denominator containing non-repeated linear factors, illustrative examples.
	2nd -54		To resolve proper fraction into partial fraction with denominator containing repeated linear factors, illustrative examples.
	3rd -55		To resolve proper fraction into partial fraction with denominator containing irreducible non repeated quadratic factors, illustrative examples.
	4th -56		To resolve proper fraction into partial fraction with denominator containing irreducible repeated quadratic factors, illustrative examples.
15th	1st -57		Class Test
	2nd -58	**probable questions answer discussion &VST**	Problem Practice & Doubt Clearing
	3rd -59		Problem Practice & Doubt Clearing
	4th -60		Problem Practice & Doubt Clearing

30/7/25

Prepared By
Sri Sarada Kumar Nayak
Sr.Lect.in Mathematics.
Math & Sc. Department,
Govt. Polytechnic, Jajpur

30/7/25

HOD (Math. & Sc.)
Govt. Polytechnic, Jajpur

Academic Co-Ordinator
Govt. Polytechnic, Jajpur