Lesson Plan

Name of Faculty: **Monika**
Discipline: **Applied Science**
Semester/Year: **1st**
Subject: **Applied Math**
Lesson Plan Duration: **30 weeks**
Work load (Lecture /Tutorial) per week (in hours): Lectures—03, Tutorial—01

Week	Lecture Day	Theory
1st	1	Law of Indices, Formula of Factorisation and expansion i.e. (a+b)2, (a3+b3) etc.
	2	Law of Indices, Formula of Factorisation and expansion i.e. (a+b)2, (a3+b3) etc.
	3	Partial fraction:- Definition of Polynomial fraction proper & improper fractions definition of partial fractions
	4	Students of Group A will discuss mutually last three days class work & interact with the teacher
	5	Students of Group B will discuss mutually last three days class work & interact with the teacher
2nd	6	To resolve proper fraction into partial fraction with denominator containing non-repeated linear factors,
	7	Complex numbers: definition of complex number, real and imaginary parts of a complex number
	8	Polar and Cartesian Form and their inter conversion
	9	Students of Group A will discuss mutually last three days class work & interact with the teacher
	10	Students of Group B will discuss mutually last three days class work & interact with the teacher
3rd	11	Conjugate of a complex number, modulus and amplitude
	12	Addition, subtraction
	13	Multiplication and division of complex number
	14	Students of Group A will discuss mutually last three days class work & interact with the teacher
	15	Students of Group B will discuss mutually last three days class work & interact with the teacher
4th	16	Logarithms and its basic properties
	17	Logarithms and its basic properties
	18	Determinants and Matrices – Evaluation of determinants (up to 3 order) by laplace method
	19	Students of Group A will discuss mutually last three days class work & interact with the teacher
	20	Students of Group B will discuss mutually last three days class work & interact with the teacher
5th	21	Solution of equations (up to 3 unknowns) by Cramer's Rule
	22	Definition of Matrices and types,
	23	addition subtraction and multiplication of Matrices (up to 2 order).
	24	Students of Group A will discuss mutually last three days class work & interact with the teacher
	25	Students of Group B will discuss mutually last three days class work & interact with the teacher

6th	26	Permutation, combination formula and definition.
	27	Values of nPr and nCr and simple problems
	28	Binomial theorem for positive integral index , General term, simple problems
	29	Students of Group A will discuss mutually last three days class work & interact with the teacher
	30	Students of Group B will discuss mutually last three days class work & interact with the teacher
7th	31	Binomial theorem for positive integral index , General term, simple problems
	32	Assignment of unit -1
	33	Assignment checked & viva -voce
	34	Students of Group A will discuss mutually last three days class work & interact with the teacher
	35	Students of Group B will discuss mutually last three days class work & interact with the teacher
8th	36	Problem taken and test
	37	Analysis of test
	38	Concept of angle: measurement of angle in degrees, grades, radians and their conversions
	39	Students of Group A will discuss mutually last three days class work & interact with the teacher
	40	Students of Group B will discuss mutually last three days class work & interact with the teacher
9th	41	T-Ratios of standard angle (00,300,450 etc) and fundamental Identities, Allied angles(without proof)
	42	Sum, Difference formulae and their applications (without proof).
	43	Product formulae (Transformation of product to sum, difference and vice versa)
	44	Students of Group A will discuss mutually last three days class work & interact with the teacher
	45	Students of Group B will discuss mutually last three days class work & interact with the teacher
10th	46	Product formulae (Transformation of product to sum, difference and vice versa)
	47	Applications of Trigonometric terms in engineering problems such as to find an angle of elevation, height, distance etc.
	48	Applications of Trigonometric terms in engineering problems such as to find an angle of elevation, height, distance etc.
	49	Students of Group A will discuss mutually last three days class work & interact with the teacher
	50	Students of Group B will discuss mutually last three days class work & interact with the teacher
11th	51	Point: Distance Formula, Mid Point Formula
	52	Centroid of triangle and area of triangle
	53	Straight line: Slope of a line, equation of straight line in various standards forms (without proof)
	54	Students of Group A will discuss mutually last three days class work & interact with the teacher
	55	Students of Group B will discuss mutually last three days class work & interact with the teacher
12th	56	Straight line: Slope of a line, equation of straight line in various standards forms (without proof)
	57	Angle between two straight lines.

	58	Circle: General equation of a circle and identification of centre and radius of circle.
	59	Students of Group A will discuss mutually last three days class work & interact with the teacher
	60	Students of Group B will discuss mutually last three days class work & interact with the teacher
13th	61	To find the equation of a circle, given:* Centre and radius.*
	62	Coordinates of end points of a diameter .
	63	Assignment of unit -1
	64	Students of Group A will discuss mutually last three days class work & interact with the teacher
	65	Students of Group B will discuss mutually last three days class work & interact with the teacher
14th	66	Assignment checked & viva -voce
	67	Problem taken and test
	68	Analysis of test
	69	Students of Group A will discuss mutually last three days class work & interact with the teacher
	70	Students of Group B will discuss mutually last three days class work & interact with the teacher
15th	71	Definition of function
	72	Concept of limits
	73	1st standard limits
	74	Students of Group A will discuss mutually last three days class work & interact with the teacher
	75	Students of Group B will discuss mutually last three days class work & interact with the teacher
16th	76	2nd standard limits
	77	3rd standard limits, 4th standard limits
	78	Differentiation of standard function (Only formulas)
	79	Students of Group A will discuss mutually last three days class work & interact with the teacher
	80	Students of Group B will discuss mutually last three days class work & interact with the teacher
17th	81	Differentiation of Algebraic function.
	82	Differentiation of Algebraic function.
	83	Trigonometric functions
	84	Students of Group A will discuss mutually last three days class work & interact with the teacher
	85	Students of Group B will discuss mutually last three days class work & interact with the teacher
18th	86	Differentiation of Algebraic function.
	87	Differentiation of Algebraic function.
	88	Trigonometric functions
	89	Students of Group A will discuss mutually last three days class work & interact with the teacher
	90	Students of Group B will discuss mutually last three days class work & interact with the teacher
19th	91	Exponential function

	92	Exponential function
	93	Logarithmic function
	94	Students of Group A will discuss mutually last three days class work & interact with the teacher
	95	Students of Group B will discuss mutually last three days class work & interact with the teacher
20th	96	Differentiation of sum
	97	Differentiation of product
	98	Differentiation of quotient
	99	Students of Group A will discuss mutually last three days class work & interact with the teacher
	100	Students of Group B will discuss mutually last three days class work & interact with the teacher
21st	101	Successive differentiation (up to 2nd order)
	102	Successive differentiation (up to 2nd order)
	103	Application of differential calculus in : (a) Rate measures
	104	Students of Group A will discuss mutually last three days class work & interact with the teacher
	105	Students of Group B will discuss mutually last three days class work & interact with the teacher
22nd	106	Application of differential calculus in: (b) maxima and minima
	107	Application of differential calculus in: (b) maxima and minima
	108	Integration as inverse operation of differentiation with simple examples
	109	Students of Group A will discuss mutually last three days class work & interact with the teacher
	110	Students of Group B will discuss mutually last three days class work & interact with the teacher
23rd	111	Simple standard integrals,
	112	Simple standard integrals
	113	Integrations by parts and related Simple problems
	114	Students of Group A will discuss mutually last three days class work & interact with the teacher
	115	Students of Group B will discuss mutually last three days class work & interact with the teacher
24th	116	Integrations by parts and related Simple problems
	117	Evaluation of $\int_0^{\pi/2} \sin^n x\, dx$, $\int_0^{\pi/2} \cos^n x\, dx$, $\int_0^{\pi/2} \sin mx \cos x\, dx$
	118	Applications of integration: for evaluation of area under a curve and axes (Simple problems where the limits are given).
	119	Students of Group A will discuss mutually last three days class work & interact with the teacher
	120	Students of Group B will discuss mutually last three days class work & interact with the teacher
25th	121	Numerical integration by Trapezoidal Rule and Simpson's 1/3rd Rule using pre-existing mathematical models
	122	Numerical integration by Trapezoidal Rule and Simpson's 1/3rd Rule using pre-existing mathematical models

	123	Assignment of unit -4,5
	124	Students of Group A will discuss mutually last three days class work & interact with the teacher
	125	Students of Group B will discuss mutually last three days class work & interact with the teacher
26th	126	Assignment checked and viva- voce
	127	Problem taken and test
	128	Analysis of test
	129	Students of Group A will discuss mutually last three days class work & interact with the teacher
	130	Students of Group B will discuss mutually last three days class work & interact with the teacher
27th	131	Definition, order, degree and linearity, of an ordinary differential equation
	132	Solution of Ist order and Ist degree differential equation by variable separable method (Simple problems)
	133	Measures of Central Tendency: Mean, Median, Mode
	134	Students of Group A will discuss mutually last three days class work & interact with the teacher
	135	Students of Group B will discuss mutually last three days class work & interact with the teacher
28th	136	Measures of Central Tendency: Mean, Median, Mode
	137	Measures of Dispersion: Mean deviation from mean
	138	Measures of Dispersion: Mean deviation from mean
	139	Students of Group A will discuss mutually last three days class work & interact with the teacher
	140	Students of Group B will discuss mutually last three days class work & interact with the teacher
29th	141	Standard deviation
	142	Standard deviation
	143	Correlation coefficient and Coefficient of rank correlation (Simple problems)
	144	Students of Group A will discuss mutually last three days class work & interact with the teacher
	145	Students of Group B will discuss mutually last three days class work & interact with the teacher
30th	146	Correlation coefficient and Coefficient of rank correlation (Simple problems)
	147	Assignment of unit -4,5
	148	Assignment checked and viva- voce
	149	Problem taken and test
	150	Analysis of test