Name Of the Faculty:- Ravi Kumar
Discipline:-Applied Science
Year:-Ist
Subject:-Mathematics
Lesson Plan Duration:-30 weeks(from 18 Oct. 2021 to 30 June 2022)
** Work Load(Lecture/Practical) per week(in hours):- 03(Lectures)+01(Tutorial)

Week	Theory/Tutorial	
	Lecture day	Topic (Including assignment/test)
Ist	1st	Introduction to syllabus and evaluation scheme
	2nd	**Unit1 :Algebra**:- Law of indices
	3rd	Formula of factorisation and expansion i.e. (a+b)2,(a2+b2)etc.
	4th	Tutorial - Problems of above topics
2nd	5th	Practice on Law of Indices
	6th	Complex Numbers:-Definition of a complex number,real and imaginary parts of a complex number
	7th	Polar and Cartesian form and their inter conversion
	8th	Tutorial-Problems of above topics
3rd	9th	Conjugate of a complex number,modulus and amplitude
	10th	Addition,subtraction,multiplication and division of a complex number
	11th	Logarithms and its basic proprerties-part-1
	12th	Tutorial-Problems of above topics
4th	13th	Logarithms and its basic proprerties-part-2
	14th	Logarithms and its basic proprerties-part-3
	15th	Determinants and Matrices-Evaluation of determinants (upto 3rdorder)by Laplace
	16th	Tutorial-Problems of above topics
5th	17th	Solution of Equations(upto 3 unknowns)by Cramer's rule.
	18th	Definition of Matrices and its Types
	19th	Addition, Subtraction of matrices(upto 2nd order)
	20th	Tutorial-Problems of above topics
6th	21st	Multiplication of Matrices upto (2nd order)
	22nd	Permutation and Combination:-Formula i.e. value of $^{n}P_{r}$ and $^{n}C_{r}$
	23rd	Binomial Theorem for positive integral index:-Expansion only
	24th	Tutorial Problems of above topics(Ist Assignment)
7th	25th	General term of Binomial Theorem,Simple problems
	26th	Partial Fractions
	27th	Partial Fractions
	28th	Partial Fractions
8th	29th	Revision
	30th	Revision
	31st	Revision
	32nd	Revision
9th	33rd	First Sessional Test
	34th	First Sessional Test
	35th	First Sessional Test
	36th	First Sessional Test
10th	37th	Unit2: Trignometry:- Concept of Angle,Measurement of Angle in degrees,grades,radians and their conversion
	38th	T-Ratios of standard angles(0^{0},30^{0},45^{0} etc)and fundamental Identities,Allied angles(without proof)
	39th	Sum.Difference formulae and their applications(without proof)
	40th	Tutorial-Problems of above topics
11th	41st	Product Formulae(Transformation of product to sum,difference and vice versa)
	42nd	elevation ,height,distance etc.part-1
	43rd	elevation ,height,distance etc.part2
	44th	Tutorial-Problems of above topics(2nd Assignment)

Week	Theory/Tutorial	
	Lecture	**Topic (Including assignment/test)**
12th	45th	Unit3: Co-ordinate Geometry:- Point:Distance Formula,Mid Point Formula
	46th	Centroid of Triangle and Area of Triangle
	47th	Straight Line:Slope of line
	48th	Tutorial-Problems of above topics
13th	49th	Equation of a straight line in various standard forms (without proof):(slope intercept form,intercept form,one point form)
	50th	form,normal form,general form)
	51st	Angle between two straight lines
	52nd	Tutorial-Problems of above topics
14th	53rd	Circle:-General Equation of circle and identification of centre and radius of circle
	54th	To find the equation of circle ,given centre and radius
	55th	To find the equation of circle ,given coordinate of end points of a diameter.
	56th	Tutorial-Problems of above topics(3rd Assignment)
15th	57th	Second Sessional
	58th	Second Sessional
	59th	Second Sessional
	60th	Second Sessional
16th	61st	Unit:-4-Differential Calculus:Definition of Function:Concept of Limits(Introduction only)
	62nd	Problems related to four standard limits.
	63rd	Differentiation of standard functions(only formulas)
	64th	Tutorial-Problems of above topics
17th	65th	Differentiation of algebraic function,Trignometric functions
	66th	Differentiation of exponential functions,Logarithmic functions
	67th	Differentiation of sum of functions.
	68th	Tutorial-Problems of above topics
18th	69th	Differentiation of product of functions.
	70th	Differentiation of quotient of functions.
	71st	Successive differentiation (up to 2nd order)
	72nd	Tutorial-Problems of above topics
19th	73rd	Application of Differential Calculus in :-Rate Measure
	74th	Application of Differential Calculus in :-Maxima& Minima
	75th	Application of Differential Calculus in :-Maxima& Minima
	76th	Tutorial-Problems of above topics(4th Assignment)
20th	77th	Unit5:-Integral Claculus:-Integration as inverse operation of differentiation with simple examples.
	78th	Simple standard integral.
	79th	Integration of sum, difference of functions.
	80th	Tutorial-Problems of above topics
21st	81th	Integration by parts.
	82th	Evaluation of definite Integral of functions with given limits.
	81th	Evaluation of definite integral of sinx power n and limit is 0 to ∏/2
	82th	Tutorial-Problems of above topics
22nd	83rd	Evaluation of definite integral of cosx power n and limit is 0 to ∏/2
	84th	Evaluation of definite integral of product of sinx power n and cosx power n and limit is 0 to ∏/2
	85th	Application of Integration :- for evaluation of area under the curve and axis.(simple problems where the limits are given)
	86th	Tutorial-Problems of above topics
23rd	87th	Continuation of evaluation of area under curve and axes
	88th	Numerical integration by Trapezoidal rule
	89th	Continuation of Trapezoidal rule
	90th	Tutorial-Problems of above topics
24th	91th	Numerical integration by simpson's 1/3 rule
	92nd	Continuation of Simpson's rule
	93rd	Problems related to Numerical Integration
	94th	Tutorial-Problems of above topics(5th Assignment)

Week	Theory/Tutorial	
	Lecture	Topic (Including assignment/test)
25th	95th	Unit6:-Differential Equations:-Definition,Order,Degree and linearity of an ordinary differential Equation
	96th	Problems of Differential Equations related to order,degree and linearity
	97th	Solution of first order and first degree differential equations by variable seperable method(simple problems)part-1
	98th	Tutorial-Problems of above topics
26th	99th	Solution of first order and first degree differential equations by variable seperable method(simple problems)part-2
	100th	Unit:-7:-Statistics:-Measure of Central Tendency:Mean
	101th	Measure of Central Tendency:Median
	102nd	Tutorial-Problems of above topics
27th	103rd	Measure of Central Tendency:Mode
	104th	Measure of Dispersion:Mean Deviation from Mean
	105th	Problems of Mean Deviation
	106th	Tutorial-Problems of above topics
28th	107th	Standard Deviation-1
	108th	Standard Deviation-2
	109th	Coffecient of Rank Correlation
	110th	Tutorial-Problems of above topics(6th Assignment)
29th	111th	Measure of Central Tendency:Mode
	112nd	Measure of Dispersion:Mean Deviation from Mean
	113rd	Problems of Mean Deviation
30th	114th	Standard Deviation-1
	115th	Standard Deviation-2
	116th	Coffecient of Rank Correlation