Online Class Program (OCP)
Mathematics Road Map for Term-I (2020-2021) wef.01 jul 2020

DATE	XII		XI	
	TOPIC	SUB-TOPIC	TOPIC	SUB-TOPIC
07-Jul-20	PROBABILITY	Exercise on Conditional Probability	Trigonometric Functions	Identities related to sin 2x, cos 2x, tan 2x, Sin 3x, Cos 3x and tan 3x
8-Jul-20		Multiplication Theorem on Probability		General solution of trigonometric equations of the type sin y = sin a, cos y= cos a and tan y= tan a
9-Jul-20		Exercise on Multiplication Theorem on Probability	Principal of Mathematical Induction	Process of proof by Induction
10-Jul-20		Independent Events		Motivating the application of the method by looking at natural numbers as the least inductive subset of real numbers
11-Jul-20		Bayes' theorem		Motivating the application of the method by looking at natural numbers as the least inductive subset of real numbers
12-Jul-20	SUNDAY			
13-Jul-20	PROBABILITY	Exercise on Bayes' Theorem	Principal of Mathematical Induction	The principle of mathematical induction and simple Applications.
14-Jul-20		Random Variables and its probability Distributions		The principle of mathematical induction and
15-Jul-20		Bernouli Trails and Binomial Distribution		Exercise Problems on Principal of Mathematical Induction
16-Jul-20	VECTOR ALGEBRA	Introduction to Vector Algebra		Exercise Problems on Principal of Mathematical Induction
17-Jul-20		Some Basic concepts of Vector Algebra		simple Applications.
18-Jul-20		Exercise on Some Basic concepts of Vector Algebra	COMPLEX NUMBERS AND QUADRATIC EQUATIONS	Need for complex numbers, specifically , to be motivated by inability to solve some of the quadratic equations.
19-Jul-20	SUNDAY			
20-Jul-20	VECTOR ALGEBRA	Types of Vectors	COMPLEX NUMBERS AND QUADRATIC EQUATIONS	Motivated by inability to solve some of the quadratic equations.
21-Jul-20		Exercise on Types of Vectors		Algebraic properties of complex numbers.
22-Jul-20		Addition of vectors		Modulus and Conjugate of a complex number

Date	Subject	Topic	Subject	Topic
23-Jul-20		Multiplication of vector by a scalar	COMPLEX NUMBERS AND QUADRATIC EQUATIONS	Exercise on Algebric Properties
24-Jul-20		Multiplication of vector by a scalar		Exercise on Modulus and Conjugate of a complex number
25-Jul-20		Product of Two Vectors		Argand plane and polar representation of Complex numbers.
26-Jul-20	SUNDAY			
27-Jul-20	VECTOR ALGEBRA	Product of Two Vectors	COMPLEX NUMBERS AND QUADRATIC EQUATIONS	Exercise on Argand plane and polar representation of Complex numbers.
28-Jul-20	THREE DIMENSIONAL GEOMETRY	Introduction to Three Dimensional Geometry		Statement of Fundamental Theorem of Algebra
29-Jul-20		Direction Cosines and Direct Ratios of a Line		Exercise on Fundamental Theorem of Algebra
30-Jul-20		Equation of a Line in Space		solution of Quadratic equations (with real coefficients) in the Complex number system.
31-Jul-20		Angle Between Two Lines		Exercise problems on solution of Quadratic equations (with real coefficients) in the Complex number system.
1-Aug-20	Eid-Ul-Adha(Bakrid)			
2-Aug-20	SUNDAY			
3-Aug-20	THREE DIMENSIONAL GEOMETRY	Plane	COMPLEX NUMBERS AND QUADRATIC EQUATIONS	Exercise problems on solution of Quadratic equations (with real coefficients) in the Complex number system.
4-Aug-20		Coplanarity of Two Lines		Square root of complex numbers.
5-Aug-20		Angle Between Two Planes		Square root of complex numbers.
6-Aug-20		Distance of a Point from a Plane		Liner inequalities. Algebraic solutions of linear inequalities in one variable
7-Aug-20		Angle Between a Line and a Plane		Liner inequalities. Algebraic solutions of linear inequalities in one variable
8-Aug-20		Miscellaneous Exercise		Algebraic solutions of linear inequalities representation on the number line.
9-Aug-20	SUNDAY			
10-Aug-20	CONTINUITY AND DIFFERENTIABILITY	Introduction, Continuity	QUALITIES	Exercise on lgebraic solutions of linear inequalities in one variable
11-Aug-20	JANMASTAMI			

Date	Subject	Topic	Subject	Topic
12-Aug-20	CONTINUITY AND DIFFERENTIABILITY	Differentiability	LINEAR INE(	Exercise on representation on the number line.
13-Aug-20		Exponential Functions		Graphical solution of linear inequalities in two variables.
14-Aug-20		Logarithmic Functions		Exercise on Graphical solution of linear inequalities in two variables.
15-Aug-20	**INDEPENDENCE DAY**			
16-Aug-20	**SUNDAY**			
16-Aug-20	CONTINUITY AND DIFFERENTIABILITY	Logarithmic Differentiation		Graphical method of finding a solution of system of linear inequalities on two variables.
17-Aug-20		Derivatives of Functions in Parametric Forms		Exercise on Graphical method of finding a solution of system of linear inequalities on two variables.
18-Aug-20		Derivatives of Functions in Parametric Forms		Miscellaneous Exercise
19-Aug-20		Second Order Derivatives	PERMUTATION AND COMBINATION	Fundamental principle of counting.
20-Aug-20		Second Order Derivatives		Exercise on Fundamental Principal of counting.
21-Aug-20		Mean Value Theorem		Exercise on Fundamental Principal of counting.
22-Aug-20	APPLICATIONS OF DERIVATIVES	Introduction to Applications of Derivatives		Factorial 'n' [n!]
23-Aug-20	**SUNDAY**			
24-Aug-20	APPLICATIONS OF DE	Rate of change of Quantities		Exercise Problems on n!
25-Aug-20		Increasing Functions		derivation of formulae for nPr and nCr
26-Aug-20		Decreasing Functions		Relation between nPr and nCr
27-Aug-20		Tangents and Normals		Exercise On nPr and nCr
28-Aug-20		Tangents and Normals		simple applications.
29-Aug-20		Approximations		Exercise on Applications
30-Aug-20	**MUHARRAM / SUNDAY**			
31-Aug-20	APPLICATIONS OF DERIVATIVES	Approximations	BINOMIAL THEOREM	History, statement and proof of the binomial theorem
1-Sep-20		Maxima and Minima		binomial theorem for positive integral indices
2-Sep-20		Maxima and Minima		Exercise on Binomial theorem
3-Sep-20	UPSC EXAMINATION	Revision For NDA		Pascal's triangle
4-Sep-20		Revision For NDA		Exercise on Pascal' Triangle
5-Sep-20		Revision For NDA		General and middle term in binomial expansion
6-Sep-20	**SUNDAY**			
7-Sep-20		Revision For NDA		simple applications and Miscellaneous Exercise

Date		Subject		Topic
8-Sep-20	UPSC EXAMINATION	Revision For NDA	SEQUENCES AND SERIES	Sequence and Series. Arithmetic Progression (A.P), Arithmetic Mean (A.M)
9-Sep-20		Revision For NDA		Exercise on Arithmetic Progression (A.P), Arithmetic Mean (A.M)
10-Sep-20		Revision For NDA		Geometric Progression (G.P),
11-Sep-20		Revision For NDA		General term of a G.P, sum of first n terms of a GP, infinite G.P. and its sum.
12-Sep-20		Revision For NDA		Exercise on sum of first n terms of a GP
13-Sep-20	SUNDAY			
14-Sep-20	UPSC EXAMINATION	Revision For NDA		Geometric Mean (G.M.)
15-Sep-20		Revision For NDA		Exercise on Geometric Mean (G.M.)
16-Sep-20		Revision For NDA		Relation between A.M and G.M. Formulae for the special sums.