

2009-10
MATHEMATICS (Week wise syllabus)
COURSE STRUCTURE
Class – XI (Theory)

One Paper	Time : 3 Hours	100 Marks
Unit No.	Title	Marks
Unit I	Set and Functions	29
Unit II	Algebra	37
Unit III	Co-ordinate Geometry	13
Unit IV	Calculus	06
Unit V	Mathematical Reasoning	03
Unit VI	Statistics and Probability	12
	Total	100

SESSION 2008-09
XI
Subject Math's

Date	Days	Topic	Sub Topic
July 09			
1-4	04	Unit I Set	Sets: - Sets and their representation, types of sets, subsets of the set; power sets.
6-10	05	Unit I	Sets cont: - Universal set, Venn diagrams, union and intersection of sets, compliment of set, applications.
13-18	06	Unit I	Relation & Functions: - Ordered pairs, Cartesian product of two finite sets, Number of elements in Cartesian Product of two finite sets. Definition of Relation, Pictorial diagrams, Domain, Co-domain, Range. Function as a special kind of relation Pictorial representation, Domain, co-domain, Range of function. Real valued function, Types of Functions, Graph, sum, Difference, Product & quotient of function.
20-25	06	Unit I	Trigonometric : Functions: - Positive and negative angles, Measuring angles in radians and in degree, conversion, definition of trigonometric functions with the help of unit circle, Truth of identity $\sin^2x + \cos^2x = 1$ for all x Signs of trigonometric function and their Graphs, Deducing the identities, Showing Trigonometric functions of sum and difference of angles.
27-30	04	Unit I	Trigonometrical Identities related to $\sin 2x$, $\cos 2x$, $\tan 2x$, $\sin 3x$, $\cos 3x$, and $\tan 3x$ proofs and simple applications of sine and cosine formulae.
August 09			
1	01	Unit I	Trigonometrical Functions: - General solution of Trigonometric Equations.

Date	Days	Unit 2	Sub Topic
3-7	05		<u>Principle of Mathematical Induction</u> – Processes of the proof by Induction principle of Mathematical Induction and simple Applications.
10-13	04	Unit 2	Complex Numbers: - Need for complex number, algebraic properties. <u>Argand plane and polar representation</u>
17-22	06		<u>Quadratic equations:</u> - statement of fundamental theorem of algebra. Solution of Quadratic equations in complex number systems, <u>Linear inequations:</u> - Linear inequalities, algebraic solution of linear inequalities in one variable and their representation on number line. Graphical solutions of linear inequalities in two variables.
24-29	06	Unit 2	Permutation and combination fundamental principal of counting, factorial (n!) permutation and combinations, Derivation of formulae and their connection, Simple application.
Sept. 09			
1-3	03		Revision
4			1. C.C.E.P.
5-9	04		Revision
10-18	04		I st terminal exams.
19-28			Autumn Break
29-30	02		discussion of first term exam
October 09			
1-3	02		Binomial theorem:- History, Statement and proof of the Binomial theorem for positive Integral Indices, Pascal's triangles.

Date	Days	Unit 2	Sub Topic
5-9	05	Unit 2	Binomial Theorem: - General and Middle term in binomial expansion, Simple application
12-16	05	Unit 2	Sequence and Series: - Arithmetic progression, arithmetic mean.
19-24	06	Unit 2	Geometric progression general term of a G.P. Geometric means, relation between AM and GM. Sum of n- term of the special series. n^2 n^3
26-30	05	Unit 3	Straight lines: Introduction to two dimensional co-ordinate system, Distance between two points section formula, centroid of a triangle, Area of Triangle slope of a line, angle between two lines, various forms of equation of a line.
November 09			
3-7	05	Unit 3	General equation of line, distance of a point from line.
9-13	05	Unit 3	Conic Sections: - Circle Section of 2 cone, different conic sections, Standard equation and simple properties of parabola.
16-21	06	Unit 3	Conic Section: - Standard Equation and simple-properties of ellipse and hyperbola.
December 09			
23-27	05	Unit 3	Introduction of three Dimensional Geometry. Co-ordinate axis and Co-ordinate planes in three dimension, co-ordinate of a point, Distance between two points and section formula.
1- 5	05	Units 5	Mathematical Reasoning Mathematically acceptable statements. Connecting words/phrases - consolidating the understanding of “if and only if” condition, “Implies” “and/or” , “implied by”, there exists and their uses. Difference between contradiction, converse and contra positive

7- 10	4		Revision
11-12-09			IInd C.C.E.P
14	1		Revision
15-12-09 to 22-12-09			2nd Terminal Exam
23 Dec	1	Discussion of 2 nd Term Exam/paper	Discussion on problems felt by students
25- 31			Winter Break
January 2010			
1-2	2	Unit 4	Limits and Derivativees :- Concept of limits, some standard results and important theorems on limits, Evaluation of limit of Algebraic function.
4-8	5		Standard theorems on limits of trigonometric function and its application
11- 16	6	Unit 4	Derivative at a given point, introduction as rate of change as that of distance functions and geometric ally. Some standard results on derivatives, derivative by first principle. Derivatives of polynomial and trigonometric function
18- 23	6	Unit 6	Recall of A.M. and Median describing dispersion, Measures of dispersion mean deviation of ungrouped and grouped data about mean and median.
25-30	4	Unit 6	Variance and standard deviations of ungrouped and grouped data. comparison of two frequency distribution with equal mean but different variance.
February 2010			
1-6	6	Unit 6	Probability :- Random experiment, deviations of ungrouped and grouped data, comparison of two frequency distribution with equal means but different variance

8-12	5	Unit 6	Probability of an event, theorems regarding Probability, operations on probability (and or not)
15- 26	12		Revision of all the topics

1-3-2010 to 16-3-2010 Common Annual Exams.

31-3-2010 Announcement of the Result

Mrs. Neelam Kapoor
 PGT (Maths)
 Sister Nivedita S.K.V
 A-Block. Defence Colony
 New Delhi
 New Delhi - 110024

Mrs. Nanda JamRani
 PGT (Maths)
 V.S.S.K.V No. - 1
 Kalka ji