

BHAVAN'S B.P. VIDYA MANDIR, NAGPUR.

CURRICULUM PLANNING

SESSION:2023-24

SUBJECT:MATHEMATICS

STD: XI

Apurva
Smt. Anju Bhutani
Bhavan's B.P. Vidya
Mandir, Civil Lines,
Nagpur

Smt. Nirupama
Padmaraj
Bhavan's B.P. Vidya
Mandir, Srikrishna
Nagar, Nagpur

Nagpur
Smt. Vandana Bisen
Bhavan's B.P. Vidya
Mandir, Ashti
Nagpur

Parvati
Smt. Parwati Iyer
Bhavan's B.P. Vidya
Mandir, Trimurty
Nagar, Nagpur

Janki
Smt. Janki Mani
Bhavan's Vidya Mandir
NTPC Mouda

Ms. Kirti Mishra
Bhavan's Lloyds
Vidyaniketan,
Wardha

Shastri
Smt. A. Shastri
DIRECTOR

BHAVAN'S B. P. VIDYA MANDIR, NAGPUR.
CURRICULUM PLAN : 2023-2024
SUBJECT : MATHEMATICS
STD : XI

MONTH	WEEKLY DATES	NO. OF DAYS	NAME OF THE CHAPTER	TOPICS	ACTIVITIES/ SMART CLASS MODULES	ASSIGNMENT	LEARNING OUTCOMES/SDG's/ SKILLS ASSESSED
April	17-21 5 days 24-29 6 days	11	Chp. 1: Sets	1.1 Introduction 1.2 Sets and their representations 1.3 Empty sets 1.4 Finite and Infinite sets 1.5 Equal Sets 1.6 Subsets 1.7 Universal Set	Educomp Module: Venn Diagrams, Union, Intersection and Complements of the sets.	Questions from Reference books.	Students would be able to define various types of sets and use operations on sets
May	2,3,4 3 days	3	Chp. 1: Sets	1.1 Introduction 1.2 Sets and their representations 1.3 Empty sets 1.4 Finite and Infinite sets 1.5 Equal Sets 1.6 Subsets 1.7 Universal Set	Educomp Module: Venn Diagrams, Union, Intersection and Complements of the sets.	Questions from Reference books.	Students would be able to draw appropriate Venn diagrams for problems on sets and operations.
June	20-24 5 days 26,27,29,30 4 days	9	Chp. 1: Sets (Re taught)	1.1 Introduction 1.2 Sets and their representations 1.3 Empty sets 1.4 Finite and Infinite sets 1.5 Equal Sets 1.6 Subsets 1.7 Universal Set 1.8 Venn Diagrams 1.9 Operations on sets 1.10 Difference & Complement of Sets	Educomp Module: Venn Diagrams, Union, Intersection and Complements of the sets.	Questions from Reference books.	Students would be able to define various types of sets and use operations on sets They would be able to draw appropriate Venn diagrams for problems on sets and operations.

MONTH	WEEKLY DATES	NO. OF DAYS	NAME OF THE CHAPTER	TOPICS	AC. IVITIES/ SMART CLASS MODULES	ASSIGNMENT	LEARNING OUTCOMES/SDG's/ SKILLS ASSESSED
July	1,3-8 7 days 10-15 6 days 17-22 6 days 24-28 5 days 31 day	25	Chp.2 Relations and Functions	2.1 Introduction 2.2 Cartesian Product 2.3 Relations 2.4 Functions		Questions from Reference books.	Students would be able to identify the type of Relation and Function.
			Chp.3: Trigonometric Functions	3.1 Introduction 3.2 Angles 3.3 Trigonometric functions 3.4 Sum and Difference of two angles	Visualization of graphs of Trigonometric functions	Questions from Reference books.	Students would be able to apply the knowledge of trigonometric functions in solving trigonometric equations.
August	1-5 5 days 7-12 6 days 14,17-19 4 days 21-26 6 days 28,29,31 3days	24	Chp.4:Complex Numbers and Quadratic Equations	4.1 Introduction 4.2 Complex Numbers 4.3 Algebra of Complex Numbers 4.4 Modulus & Conjugate of Complex Number 4.5 Argand Plane		Questions from Reference books. Periodic Test-1 : 28th August 2023. Portion: Sets, Relations and Functions.	Students would be able to describe a new number systems i.e. Complex number systems. They would be able to represent a complex number in Argand plane
			Chp 5:Linear Inequalities	5.1 Introduction 5.2 Inequalities 5.3 Algebraic Solutions in one variable & its representation on number line	Educomp Module: Graphical solutions of linear inequalities in one variables	Questions from Reference books.	They would be able to find the algebraic and graphical solutions of a given linear inequality in one variable.
			Chp 8: Sequences & Series	8.1 Introduction 8.2 Sequences 8.3 Sries		Questions from Reference books.	Students would be able to define & differentiate between Sequence & Series

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September	1,2,4-6,8,9 11-13,15,16,18 7 days 6 days	13	Chp 8: Sequences & Series(Continued...)	8.4 Arithmetic Mean. 8.5 Geometric Progressions,general term, sum of n terms, infinite G. P & its sum. 8.6 Relationship between A.M. and G.M.		Questions from Reference books.	Students would be able to find the general term of a given GP and they would be able to evaluate sum of n terms and sum of infinite GP.

Half yearly Examination :25th Sep. to 16th Oct 2023 : Portion : Sets, Relations and Functions, Trigonometric Functions, Complex no.s & Quadratic equations , Linear Inequalities.

October	17-21 25-28,30,31 5 days 6 day	11	Chp.6 Permutations and Combinations	6.1 Introduction 6.2 Fundamental Principle of Counting, $n!$ 6.3 Permutations 6.4 Combinations 6.5 Derivation of nPr , nCr & their connections for simple applications		Questions from Reference books.	Students would be able to categorise a problem as question on permutations and combinations and solve it.
November	1-4 6-9 23-25 28-30 4 days 4 days 3 days 3 days	14	Chp.7 Binomial Theorem	7.1 Introduction, Statement & proof of Binomial Theorem 7.2 Binomial Theorem for Positive Integers 7.3 Pascal's Triangle & simple applications		Questions from Reference books.	Students would be able to apply binomial theorem to expand binomial expression.
			Chp.9 Straight Lines	9.1 Introduction 9.2 Slope of a Line& angle between two lines 9.3 Various forms of the Equation of a Line till intercept form. 9.4 Distance of a point from a Line.	Assignments of Extra Questions.	Students would be able to analyse and use the concept of slope of straight lines and various forms of equations of straight lines.	

MONTH	WEEKLY DATES	NO. OF DAYS	NAME OF THE CHAPTER	TOPICS	ACTIVITIES/ SMART CLASS MODULES	ASSIGNMENT	LEARNING OUTCOMES/SDG's/ SKILLS ASSESSED
December	1,2,4-9 8 days 11-16 6 days 18-23 6 days 26-30 5 days	25	Chp.10 Conic Section	10.1 Introduction 10.2 Sections of a cone 10.3 Circle 10.4 Parabola 10.5 Ellipse 10.6 Hyperbola 10.7 A point, a straight line & a pair of intersecting lines as a degenerated case of cone.	Educomp Module: Introduction, Sections of a Cone, Circle, Parabola, Ellipse, Hyperbola. Educom Module: Introduction, Coordinate axes and planes, coordinates of point in space, Distance between two points, Section formula.	Questions from Reference books. Periodic Test-II: 04th December 2023 Portion: Permutations & Combinations, Sequence & Series	Students would be able to classify and correlate the different Conic Sections and apply to practical problems.
			Chp.11 Introduction to Three Dimensional Geometry	11.1 Introduction 11.2 Co-Ordinate Axes and Co-Ordinate Planes 11.3 Co-Ordinates of a Point in 3-D Space 11.4 Distance between Two Points		Questions from Reference books.	Student would be able to locate a point in 3-D space & measure the distance between two points.
January	1-6 6 days 8-13 6 days 16-20 5 days	17	Chp.12 Limits and Derivatives	12.1 Introduction 12.2 Intuitive Idea Of Derivatives as rate of change both as that of distance function & geometrically 12.3 Limits 12.4 Limits of various types of Functions 12.5 Derivatives & its relation to slope o tangent of the curve		Questions from Reference books. Periodic Test-III: 22nd January 2023 Portion: Straight Lines, Conic Sections, 3-D Geometry	Students would be able to evaluate limits and derivatives of a function by first principle and formula method.

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January	22-25,27 29-31	5 days 3 days	Chp.14 Probability	14.1 Introduction. 14.2 Events 14.3 Axiomatic Approach to Probability.			Students would be able to utilise the principles of probability to problem solving.
February	1-3 5-10 12-17 20-24	3 days 6 days 6 days 5 days	Chp.13 Statistics	13.1 Introduction 13.2 Measures of Dispersion 13.3 Range 13.4 Mean Deviation 13.5 Standard Deviation and Variance.		Questions from Reference books.	Students would be able to calculate mean, standard deviation and variance of the given data.

Civil Lines	Srikrishna Nagar	Ashti	Trimurty Nagar	NTPC Mouda	Lloyds Wardha
Mr. Rajkumar Faye	Mr. Santoshanand sharma	Mrs. Rashmi Kumar	Ms Bharti Bokade	Mr. Atul Vaidhya	Mr. C Khapekar
Principal (CL)	Principal (SKN)	Principal (ASHTI)	Principal (TMN)	Principal (MOUDA)	Principal (WARDHA)

Smt. A. Shastri
(DIRECTOR)

LAB ACTIVITIES
SUBJECT: MATHEMATICS
STD: XI
SESSION: 2023-24

S.NO.	NAME OF THE ACTIVITY
1	To represent set operations using Venn diagrams.
2	To verify distributive law for three non empty sets A, B, and C.
3	To distinguish between a relation and a function.
4	To prepare model to illustrate values of sine and cosine functions at Quadrantal angles.
5	To interpret geometrically meaning of i and its integrals powers.
6	To verify graph of inequality $ax + by + c < 0$ represents only one of the half planes.
7	To construct Pascals Triangle.
8	To verify equation of line passing through intersection of two given lines is of the form $(a_1x + b_1y + c_1) + \lambda(a_2x + b_2y + c_2) = 0$
9	To construct a parabola by alternative method.
10	To find analytically $\lim_{x \rightarrow c} f(x) = \frac{x^2 - c^2}{x - c}$

PAPER PATTERN
SUBJECT: MATHEMATICS
STD: XI and XII
SESSION: 2023-24

THEORY	80 MARKS
INTERNAL ASSESSMENT	20 MARKS
TOTAL	100 MARKS

QUESTIONWISE BREAK-UP

TYPE OF QUESTION	MARKS PER QUESTION	TOTAL NO. OF QUESTIONS	TOTAL MARKS
VSA	1	20	20
SA	2	5	10
LA-I	3	6	18
LA-II	5	4	20
CASE STUDY	4	3	12
TOTAL		38	80

INTERNAL ASSESSMENT	20 MARKS
PERIODIC TEST (Three Periodic Tests each of 25 marks to be conducted and brought down to 10 marks. Average of best two out of three to be taken)	10 MARKS
MATHEMATICS ACTIVITIES	10 MARKS

ASSESSMENT OF MATHEMATICS

ACTIVITIES

THE ACTIVITIES PERFORMED BY THE STUDENT THROUGHOUT THE YEAR AND RECORD KEEPING	5 MARKS
ASSESSMENT OF THE ACTIVITY PERFORMED DURING THE YEAR END TEST	3 MARKS
VIVA-VOCE	2 MARKS

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BLUE-PRINT(PT-I)

SR. NO.	NAME OF CHAPTER	VSA 1 MARK	SA 2 MARKS	LA-I 3 MARKS	LA-II 5 MARKS	TOTAL
1	SETS	3(3)	--	4(1)	5(1)	12(5)
2	RELATIONS AND FUNCTIONS	3(3)	6(3)	4(1)	--	13(7)
	TOTAL	6(6)	6(3)	4(2)	5(1)	25(12)

BLUE-PRINT(PT-II)

SR. NO.	NAME OF CHAPTER	VSA 1 MARK	SA 2 MARKS	LA-I 3 MARKS	LA-II 5 MARKS	TOTAL
1	PERMUTATIONS AND COMBINATIONS	3(3)	--	4(1)	5(1)	12(5)
2	SEQUENCES AND SERIES	3(3)	6(3)	4(1)	--	13(7)
	TOTAL	6(6)	6(3)	4(2)	5(1)	25(12)

BLUE-PRINT(PT-III)

SR. NO.	NAME OF CHAPTER	VSA 1 MARK	SA 2 MARKS	LA-I 3 MARKS	LA-II 5 MARKS	TOTAL
1	STRAIGHT LINES	1(1)		4(1)	5(1)	10(3)
2	CONIC SECTIONS	4(4)	2(1)	4(1)	--	10(6)
3	THREE DIMENSIONAL GEOMETRY	1(1)	4(2)	--	--	5(3)
	TOTAL	6(6)	6(3)	4(2)	5(1)	25(12)

BLUE-PRINT (HALF YEARLY EXAMINATION 2023-24)

SR. NO.	NAME OF CHAPTER	VSA 1 MARK	SA 2 MARKS	LA-I 3 MARKS	LA-II 5 MARKS	CASE STUDY	TOTAL
1	SETS	4(4)	2(1)	9(3)	5(1)	--	20(9)
2	RELATIONS AND FUNCTIONS	4(4)	2(1)	--	5(1)	4(1)	15(7)
3	TRIGONOMETRIC FUNCTIONS	2(2)	2(1)	3(1)	5(1)	4(1)	16(6)
4	COMPLEX NUMBERS AND QUADRATIC EQUATIONS	6(6)	2(1)	3(1)	5(1)	--	16(9)
5	LINEAR INEQUALITIES	4(4)	2(1)	3(1)	--	4(1)	13(7)
	TOTAL	20(20)	10(5)	18(6)	20(4)	12(3)	80(38)

BLUE PRINT (ANNUAL EXAMINATION:2023-24)

S.NO.	NAME OF CHAPTER	VSA 1 MARK	SA 2 MARKS	LA-I 3 MARKS	LA-II 5 MARKS	CASE STUDY	TOTAL
1	SETS	2(2)			5(1)		7(3)
2	RELATIONS AND FUNCTIONS	1(1)	2(1)	3(1)			6(3)
3	TRIGONOMETRIC FUNCTIONS	2(2)		3(1)	5(1)		10(4)
4	COMPLEX NUMBERS AND Q.E.	3(3)		3(1)			6(4)
5	LINEAR INEQUALITIES	1(1)		3(1)			4(2)
6	PERMUTATIONS AND COMBINATIONS	2(2)				4(1)	6(3)
7	BINOMIAL THEOREM	1(1)		3(1)			4(2)
8	SEQUENCES AND SERIES		2(1)			4(1)	6(2)
9	STRAIGHT LINES	1(1)	2(1)				3(2)
10	CONIC SECTIONS	2(2)		3(1)			5(3)
11	THREE DIMENSIONAL GEOMETRY	3(3)					3(3)
12	LIMITS AND DERIVATIVES	1(1)	2(1)		5(1)		8(3)
13	STATISTICS	1(1)			5(1)		6(2)
14	PROBABILITY		2(1)			4(1)	6(2)
	TOTAL	20(20)	10(5)	18(6)	20(4)	12(3)	80(38)

NOTE:

Number of questions are given within brackets and marks outside the brackets.