

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

CURRICULUM PLANNING

SESSION:2023-24

SUBJECT:MATHEMATICS

STD:XII

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

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

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

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

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

Kirti Mishra
Ms.Kirti Mishra
Bhavan's Lloyds
Vidyaniketan,
Wardha

Smt.A.Shastri
DIRECTOR

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

MONTH	WEEKLY DATES	NO. OF DAYS	NAME OF THE CHAPTER	TOPICS	ACTIVITIES/ SMART CLASS MODULES	ASSIGNMENT	LEARNING OUTCOMES /SDG/SKILLS ASSESSED
April	6,8 2 days 10-13,15 5 days 17-21 5 days 24-29 6 days	18	Matrices Determinants	Introduction and types of matrices Operations, Transpose, symmetric and skew symmetric matrices. Proof of uniqueness of inverse.		Assignments will be given	Students would apply the concept of matrices for solving problems.
				Determinants. Area of triangle. Minor and cofactors Adjoint and Inverse of a matrix.			Students would apply the concept of determinants and use their properties to solve problems
May	2-4 3 days	3	Determinants(Contd...)	Applications of matrices and Determinants.		Assignments will be given	Students would be able to distinguish the various types of relations and functions.
June	20-24 5 days 26,27,29,30 4 days	9	Relations and Functions	Introduction Types of relations Types of functions		Assignments will be given	Students would be able to decide whether a given function is continuous and differentiable or not. They would be able to use different procedures of differentiation.
July	1, 3-8 7 days 10-15 6 days 17-22 6 days 24-28,31 6 days	25	Continuity and Differentiability	Continuity, Differentiability Exponential and logarithmic functions, logarithmic differentiation, Derivatives of parametric functions, second order derivatives		Periodic Test-I 31th July 2023. Portion : Matrices, Determinants.	


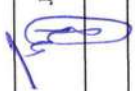








MONTH	WEEKLY DATES	NO. OF DAYS	NAME OF THE CHAPTER	TOPICS	ACTIVITIES/ SMART CLASS MODULES	ASSIGNMENT	LEARNING OUTCOMES /SDG/SKILLS ASSESSED
August	1-5 5 days	24	Applications of Derivatives	Introduction Rate of change of quantities Increasing, Decreasing functions. Maxima and Minima.		Assignments will be given	Students would be able to correlate and categorise word problems as belonging to a problem on rate measurer; increasing and decreasing functions; finding maxima- minima;tangents- normals and solve it.
	7-12 6 days 14,17-19 4 days 21- 26 6 days 28,29,31 3 days		Integrals	Introduction,method of integration		Assignments will be given	They would be able to examine a given integrals and evaluate by applying appropriate method .
September	1,2 2 days 4-6 3days	13	Integrals (Continued)	Integrals of particular solution Integration by partial fractions, integration by parts Definite Integrals Fundamental Theorem Of Calculus . Evaluation by substitution		Assignments will be given	They would be able to examine a given integrals and evaluate by applying appropriate method .
	8,9 2 days 11-13 3 days 15,16,18 3 days						

Portion Completion :- 18th Sept. 2023
Half yearly Examination - 25th Sept. to 11th Oct. 2023 Portion: Matrices Determinants, Relations and Functions, Inverse Trigonometric Functions, Continuity and Differentiability, Applications of Derivatives.

MONTH	WEEKLY DATES	NO. OF DAYS	NAME OF THE CHAPTER	TOPICS	ACTIVITIES/ SMART CLASS MODULES	ASSIGNMENT	LEARNING OUTCOMES /SDG/SKILLS ASSESSED
October	17-21 5 days 25-28 4 days 30,31 2 days	11	Application of Integrals	Introduction, Area under simple curves		Extra questions on the concepts of Integration and its application.	Students would be able to draw the correct curve and infer the area under the given curve by using definite integrals.
			Differential equations	Introduction of D. equations. General, particular solutions, Methods of solving First order, First degree DE		Recapitulation sheets will be given.	The students would be able to form and solve the differential equations.
November	1 - 4 4 days 6-9 4days 23-25 3 days 28-30 3 days	14	Vector Algebra	Introduction Some basic concepts Types of Vectors Addition Of Vectors Multiplication of Vector by scalar Product of two vectors	Educomp Module: Educomp module on the topic Three Dimensional Geometry will be shown to the students		They would be able to comprehend and apply the basics of vector algebra, their addition, scalar product, vector product, scalar Triple Product etc.
			Three Dimensional Geometry	Introduction, Direction Cosines and ratios,Equation of line in space, Angle between two lines, Shortest distance.			Students would use various types of equations of lines and planes in problem solving. Students would be able to form various types of equations of planes in vector and cartesian forms.
			Linear Programming	Introduction, L.P.P	Educomp Module: Educomp module on the topic Linear Programming will be shown to the students	Recapitulation sheets will be given.	Students would be able to formulate a given L.P.P and would be able to solve it graphically.

MONTH	WEEKLY DATES	NO. OF DAYS	NAME OF THE CHAPTER	TOPICS	ACTIVITIES/ SMART CLASS MODULES	ASSIGNMENT	LEARNING OUTCOMES /SDG/SKILLS ASSESSED
December	1 - 2 2 days 4-9 6 days 11-13 3 days	11	Probability	Conditional Probability, Multiplication theorem, Independent Events, Baye's Theorem, Random variable and Distribution, Mean of probability distribution		Recapitulation sheets will be given. Periodic Test-III 11th December 2023 Portion : Integrals, AOI	Students would be able to find the conditional probability, they would study about Baye's theorem, random variable and Bernoulli's Trials.

Portion Completion : - 13th DEC 2023

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 Vaidya 	Mr. C Khapekar 
 Principal (CL)	Mrs. Vishakha Naphade 		 Principal (TN)	 Principal (MOUDA)	 Principal (WARDHA)

Smt. A. Shastri
(DIRECTOR)

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

S.NO.	NAME OF THE ACTIVITY
1	To verify that Relation R in the set L of all lines in the plane such that $l \perp m$ is not an Equivalence Relation
2	To verify that Relation R in the set L of all lines in the plane such that $l \parallel m$ is an Equivalence Relation
3	To demonstrate a function which is not one-one but onto.
4	To demonstrate a function which is one-one but not onto.
5	To sketch the graph of a^x and $\log_a x$
6	To check the continuity of a function at a point $x = c$
7	To verify that amongst all rectangles of same perimeter square has maximum area.
8	To verify geometrically that $\vec{c} \times (\vec{a} + \vec{b}) = \vec{c} \times \vec{a} + \vec{c} \times \vec{b}$
9	To verify angle in a semicircle is right angle using vectors.
10	To explain the computation of conditional probability using a pair of dice.

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

BHAVAN'S B.P. VIDYA MANDIR, NAGPUR**SESSION: 2023-24****BLUE-PRINT (PT-I)**

SR. NO.	NAME OF CHAPTER	OBJ 1 MARK	SA 2 MARKS	LA-I 4 MARKS	LA-II 5 MARKS	TOTAL
1	MATRICES	4(4)	2(1)	4(1)	--	10(6)
2	DETERMINANTS	2(2)	4(2)	4(1)	5(1)	10(6)
	TOTAL	6(6)	6(3)	8(2)	5(1)	25(12)

BLUE-PRINT (PT-II)

SR. NO.	NAME OF CHAPTER	OBJ 1 MARK	SA 2 MARKS	LA-I 4 MARKS	LA-II 5 MARKS	TOTAL
1	RELATIONS AND FUNCTIONS	1(1)	--	4(1)	--	5(2)
2	ITF	1(1)	4(2)	--	--	5(3)
3	CONTINUITY AND DIFFERENTIABILITY	4(4)	2(1)	4(1)	5(1)	15(7)
	TOTAL	6(6)	6(3)	8(2)	5(1)	25(12)

BLUE-PRINT(PT-III)

SR. NO.	NAME OF CHAPTER	OBJ 1 MARK	SA 2 MARKS	LA-I 4 MARKS	LA-II 5 MARKS	TOTAL
1	INTEGRALS	6(6)	4(2)	4(1)	5(1)	19(10)
2	APPLICATION OF INTEGRALS	--	2(1)	4(1)	--	6(2)
	TOTAL	6(6)	6(3)	8(2)	5(1)	25(12)

BLUE-PRINT(HALF YEARLY EXAMINATION 2023-24)

SR. NO.	NAME OF CHAPTER	VSA 1 M	SA 2 M	LA-I 3 M	LA-II 5 M	CASE STUDY 4 M	TOTAL
1	RELATIONS & FUNCTIONS	4(4)	2(1)	3(1)			9(6)
2	INVERSE TRIGONOMETRIC FUNCTIONS	4(4)	2(1)	3(1)			9(6)
3	MATRICES	3(3)		3(1)	5(1)	4(1)	15(6)
4	DETERMINANTS	3(3)		3(1)	5(1)	4(1)	15(6)
5	CONTINUITY & DIFFERENTIABILITY	4(4)	4(2)	3(1)	5(1)		16(8)
6	APPLICATION OF DERIVATIVES	2(2)	2(1)	3(1)	5(1)	4(1)	16(6)
	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.