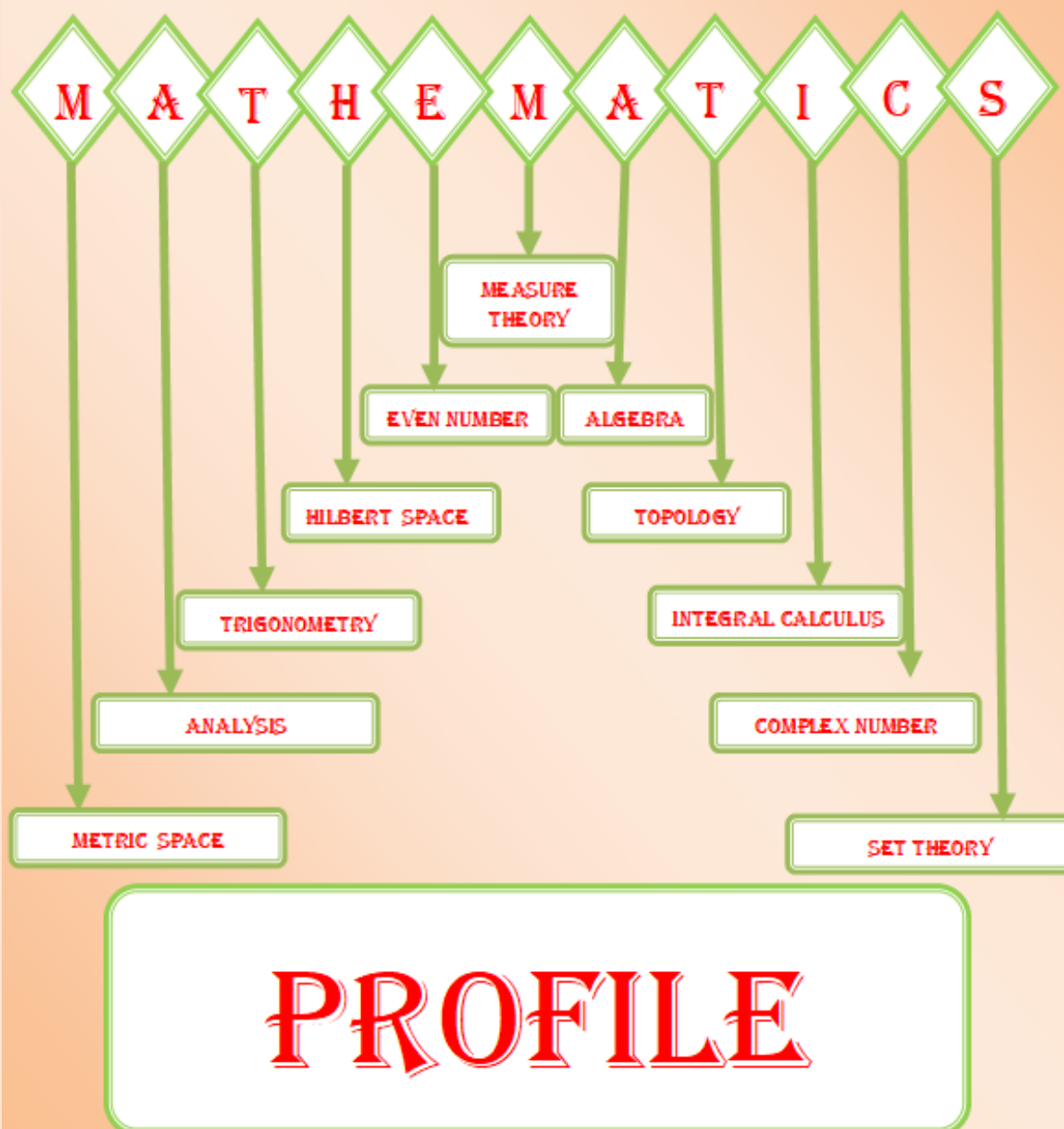


Anand Charitable Sanstha Ashti's

ANANDRAO DHONDE ALIAS BABAJI MAHAVIDYALAYA

(Arts Commerce and Science)

KADA TAL. ASHTI DIST. BEED (M. S.) INDIA



**Faculty Profile:**

Name of Faculty	Qualification	Date of Appointment	Designation	E- Mail
Dr. D. S. Bodkhe (Head)	M. Sc. M. Phil. Ph. D.	27/07/1993	Associate Professor	<a href="mailto:dsbodkhe@gmail.com">dsbodkhe@gmail.com</a>
Dr. G. S. Jagtap	M. Sc. M. Phil. Ph. D.	06/08/1994	Associate Professor	<a href="mailto:gaytribk94@gmail.com">gaytribk94@gmail.com</a>

## **“Mathematics is the most beautiful and most powerful creation of the Human Spirit”**

The department of mathematics has been started since the inception of our college in 1990. The college was started considering the need by the time to provide science and technological education to rural students in and around Kada. There was no any science faculty in Ashti Taluka before this college. The department of mathematics runs UG courses. Mathematics is an optional subject for B. Sc.

**Vision:** The overall objective in teaching mathematics is to develop in each and every student, an understanding and love of mathematics that lasts a lifetime and evolves to meet changing demands. Instill analytical and logical thinking among the student to upgrade their performance in Science and Technology. The department strives hard to get recognized for academic excellence through quality teaching and research.

**Scope:** Mathematics offers job opportunities in statistics, teaching, cryptography, actuarial science, and mathematical modeling. A strong background in mathematics is required if you want to pursue your career for higher studies in the field of engineering, information technology, computer science, and social science. After B.Sc. mathematics, it is one of the most attractive careers. An aspirant can also go for some competitive government exams like UPSC, railways, banking, etc. and can easily get into various government departments.

### **Importance:**

- Mathematics helps to develop the ability to think.
- It helps explain how things work.
- It helps to develop wisdom.
- It increases speed of intuition.
- It helps to make the student smarter.
- It is important in a constantly evolving world.
- It provides an opportunity to get the world.
- It helps us understand the world and provides an effective way of building mental discipline.
- It encourages logical reasoning, critical thinking, abstract or spatial thinking, problem-solving ability, and even effective communication skills.

### **Objectives:**

- To make the students competent for the Job.
- To promote scientific knowledge in modern technological world.
- To promote reasoning power and divergent thinking.
- To enhance decision making sense.

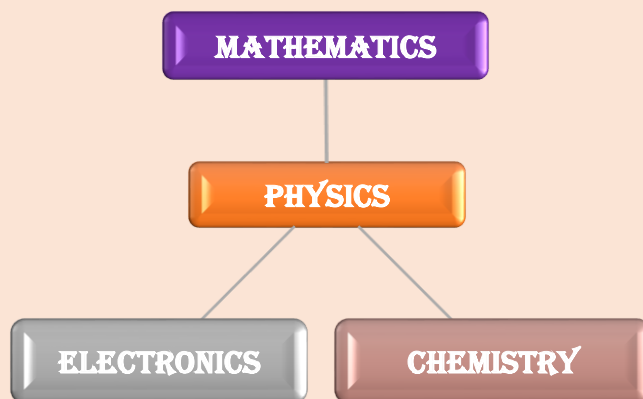
### About Department:

Dr. D. S. Bodkhe Head of this department working since 1993 and Dr. Smt. G. S. Jagtap since 1994. For the development of this department Principal Dr. H. G. Vidhate and Management contributed timely. The faculty members of this department actively involved in various academic as well as extra-curricular, social activities. Both faculty members are actively participating in various national conferences, seminars, workshops etc. Faculty of the department is actively engaged in research since

2006. Prof D. S. Bodkhe has awarded Teacher Fellowship of UGC in 2012 and completed Ph.D. under Faculty Development Programme scheme in 2016. Prof. Smt. G. S. Jagtap awarded M.Phil. Degree in March 2008 & Ph. D. Degree in 2016. They published their research papers in national and international journals, conferences, seminars and workshops.

Department organized UGC sponsored two days state level seminar on “Developments in Graduate and Post Graduates Mathematics” on 27-28 Jan 2008, three days national level conference on “Recent Trends in Mathematics and Its Applications” on 16-18 Jan 2020 and national level webinar on “ New Trends in Mathematics and its Applications” on 21 Dec. 2021.

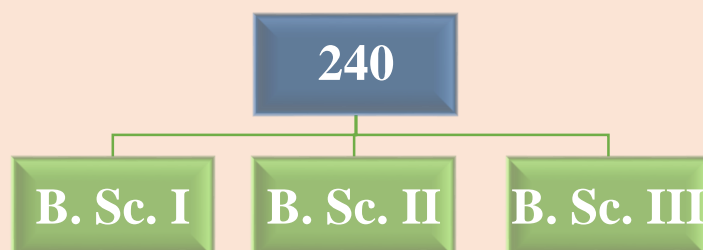
### 1. Options available for students to select the group with Mathematics :



1) Mathematics – Physics – Electronics

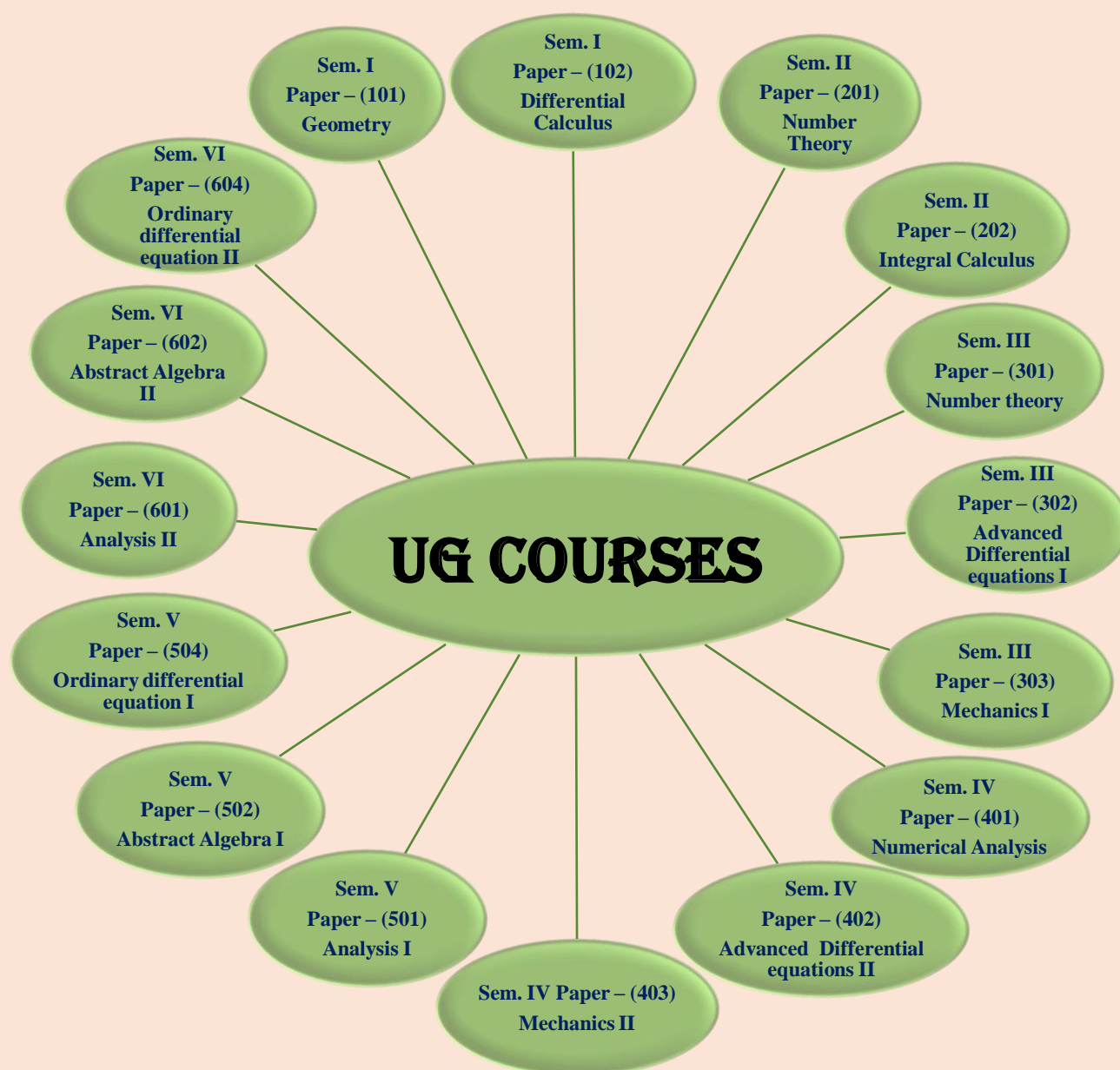
2) Mathematics – Physics – Chemistry

### 2. Intake capacity for student:



### 3. Course Structure:

Course Name	Durati on	Admission Criteria	Class	Syllabus Link
General Mathematics	3 Years	12 Science	B. Sc. I	<a href="http://www.bamu.ac.in/Portals/0/RB A-B Sc-maths-Ist-vr-cbgs-22-23.pdf">http://www.bamu.ac.in/Portals/0/RB A-B Sc-maths-Ist-vr-cbgs-22-23.pdf</a>
			B. Sc. II	<a href="http://109.73.164.202/~bamuacin/syllabus/2014_15/Science/21.pdf">http://109.73.164.202/~bamuacin/syllabus/2014_15/Science/21.pdf</a>
			B. Sc. III	<a href="http://109.73.164.202/~bamuacin/syllabus/2015_16/Science/20.pdf">http://109.73.164.202/~bamuacin/syllabus/2015_16/Science/20.pdf</a>



#### **4. No. of Book:**

- **In the Central Library : 472**

1. Reference Books : 292
2. Test Books : 180

- **In the Departmental Library : 60**

#### **5. POS.PSOS & COS:**

##### **Programme Outcome:**

- PO1:** The importance of mathematics and investigate the real world problems and learn to how to apply mathematical ideas and models to those problems.
- PO2:** Investigate and apply mathematical problems and solutions in a variety of contexts related to science, technology, business and industry, and illustrate these solutions using symbolic, numeric, or graphical methods.
- PO3:** Find the type and solve abstract mathematical problems and give geometrical interpretation of various concepts.
- PO4:** Known connections between different subjects in mathematics.
- PO5:** Formulate and analyze mathematical problems, precisely define the key terms, and draw clear and reasonable conclusions.
- PO6:** Promote the students to enhance their knowledge in soft skills and Computing skills.
- PO7:** Enable the students to equip knowledge in various concepts involved in Mathematics.

##### **Programme Specific Outcome:**

- PSO1:** Understanding of the fundamental axioms in mathematics and capability of developing ideas based on them.
- PSO2:** Inculcate mathematical reasoning.
- PSO3:** Prepare and motivate students for research studies in mathematics and related fields.
- PSO4:** Provide knowledge of a wide range of mathematical techniques and application of mathematical methods/tools in other scientific and engineering domains.
- PSO5:** Provide advanced knowledge on topics in pure mathematics, empowering the students to pursue higher degrees at reputed academic institutions.
- PSO6:** Strong foundation on algebraic topology and representation theory which have strong links and application in theoretical physics, in particular string theory.
- PSO7:** Good understanding of number theory which can be used in modern online cryptographic technologies.
- PSO8:** Nurture problem solving skills, thinking, creativity through assignments, project work.
- PSO9:** Assist students in preparing (personal guidance, books) for competitive exams.

## Course Outcomes

### F.Y.B. Sc.: MAT 101: Calculus I (Sem. I)

- CO1:** Students will have learn about the terms Functions, Limit, Continuity, Differentiation, hyperbolic and inverse functions, their properties and derivatives.
- CO2:** Student will understand some standard results of successive differentiation,  $n^{\text{th}}$  derivatives of powers of sines and cosines.
- CO3:** To study Leibnitz's theorem and solve  $n^{\text{th}}$  derivatives of rational functions.
- CO4:** Student will able to know Mean value theorems, meaning of sign of derivatives. Describe the concept of higher derivatives, theorems. Compute Taylor's and Maclaurin's expansions of some functions.
- CO5:** To learn the Partial differentiation, total differentiation, derive theorems and solve examples.
- CO6:** Student will able to know scalar, vector function, directional derivatives, Gradient, divergence and curl, derive some properties and solve examples.

### MAT 102: Differential Equations (Sem- I)

- CO1:** Define the terms differential equation, order, degree, exact differential equation, exact condition, Linear equation, Bernoulli's equation,
- CO2:** Find complementary function, particular integral, complete integral, case of auxiliary equations, short method of finding particular integral.
- CO3:** Define homogeneous linear equation, method of finding the solution of particular integrals. Equation reducible to homogeneous linear form.
- CO4:** Define exact differential equation, solution of exact diff. equations, first integral forms of the diff. equations.
- CO5:** Solve of the simultaneous diff. equations which are linear and of the first order.
- CO6:** Define partial diff. equation, explain the method of PDE by elimination of constants and arbitrary function.

### MAT 201 Calculus II (Sem. II)

- CO1:** Student will able to learn reduction formulae of some standard functions, trigonometric functions.
- CO2:** To learn integrations of algebraic rational functions.
- CO3:** To develop the knowledge of application of integration in evaluating the length of arc, area, Volume of revolution of a curve.
- CO4:** To develop the knowledge about surface and line integral.
- CO5:** Student will know evaluation of integrals using Green's, Stoke's and Gauss theorems.

### **MAT 202 : Geometry (Sem- II)**

- CO1: Explain the concepts of Geometry by using basic definitions.
- CO2: Calculate shortest distance between skew lines, radius, centre of sphere and angle between planes and lines, cylinder, cone by using some formulae.
- CO3: Determine the condition of tangency for the Sphere by using basic formulae.
- CO4: Define central conicoid, intersection of line and central conicoid, equations of tangent lines and tangent plane, find the condition that a plane may touch a central conicoid.

### **S. Y. B. Sc. : MAT 301: Number Theory (Sem- III)**

- CO1: Define the terms division algorithm, g.c.d., l.c.m., Euclidean algorithm, solve the Diophantine equations.
- CO2: Explain the fundamental theorem of arithmetic.
- CO3: Explain Fermat's theorem, little theorem, Wilson's theorem.
- CO4: Define the function  $\tau$  and  $\sigma$ , explain the Mobius inversion formulae.
- CO5: Define Euler  $\phi$  – function and explain Euler's theorem.

### **MAT 302 : Integral Transform (Sem- III)**

- CO1: Define the terms beta and gamma function, properties of gamma function, relation of between beta and gamma function.
- CO2: Define the terms piece-wise continuous function, exponential order, function of class A, Laplace transform, some standard results of L.T.
- CO3: Define the inverse of L.T. Null function, some theorem on inverse of L.T. Example of inverse of L.T. Partial fraction, Heaviside expansion formula.
- CO4: Application of L.T. to the differential equations.
- CO5: Define the Fourier sine and cosine transform, find the relation between Fourier and Laplace transform, finite Fourier sine and cosine transform, explain Fourier integral theorem.

### **MAT 303 Mechanics I (Sem. III)**

- CO1: After completion of this course student will able to learn forces acting on a particle, equilibrium of forces acting on a particle.
- CO2: To learn forces acting on a rigid body.
- CO3: Define Centroid and Centre of gravity and to learn Centre of gravities of some standard uniform bodies like rod, triangular lamina and parallelogram.

### **MAT 401 : Numerical Methods (Sem- IV)**

- CO1: Recall definitions and formulae of various numerical methods for finding roots of the equations, interpolation,
- CO2: Explain least square curve fitting procedures, explain method of fitting of straight line and non-linear curve fitting, find the Chebyshev polynomials.
- CO3: Solution of linear system of equation by different numerical method.
- CO4: Solution of ordinary differential equations by using numerical methods.



CO5: Solve the problems in Numerical methods, apply theorem to find numerical solution.

CO6: Explain concepts of numerical methods and evaluate problems.

#### **MAT 402 : Partial Differential Equations (Sem- IV)**

CO1: Define the terms PDE, Lagrange's Linear PDE, Explain method of the Lagrange's LPDE.

CO2: Define the terms complete integral, particular integrals, general integrals, singular integrals, explain the standard forms I to IV, solve the non-linear PDE of order one by using Charpit's method and Jacobi's method.

CO3: Define the linear homogeneous PDE, non-homogeneous linear PDE, explain the method the equation reducible to linear form with constant coefficient.

CO4: Solve the PDE of second order by using Monge's method and method of transformation.

#### **MAT 403 Mechanics I (Sem. IV)**

CO1: After completion of this course student will able to learn kinematics and dynamics of a particle in two dimensions.

CO2: Expressions for velocity and acceleration and their components in different directions.

CO3: To learn Newton's law of motions and their deductions.

CO4: To develop the knowledge about momentum, Impact of bodies, Energy, field and conservative field of force, potential function.

CO5: Student will able to learn rectilinear motion, Projectile, Equation of projectile, Time of flight, horizontal range and highest point of trajectory and parabola of safety.

CO6: Student will able to learn Kepler's laws of planetary motions.

CO7: Define central orbit, Apses, law of force. Evaluate the differential equation of the central orbit in polar and pedal form.

#### **T. Y. B. Sc.:MAT 501 Real Analysis I (Sem. V)**

CO1: After completion of this course student will able to know functions, sequence and series of real numbers and their convergence and divergence.

CO2: To learn bonded sequence.

CO3: To learn Jacobian's, Derive theorems and solve examples.

#### **MAT 502: Abstract Algebra -I (Sem - V)**

CO1: Define the terms group, subgroup, normal subgroup, factor group, cyclic group, some preliminary lemma on group and subgroups, explain Lagrange's theorem.

CO2: Justify converse of Lagrange's theorem in Group Theory by giving counter examples.

CO3: Give examples of group, subgroup, abelian group, normal group, factor group, cyclic group.

CO4: Solve examples to find order of quotient group, left cosets, right cosets, Direct products.

CO5: Classify the normal, quotient group, Classify the groups as homomorphic and non-homomorphic,



CO6: Define the terms ring, subring, integral domain, Field, the definitions and illustrate it giving examples, define the integral domain, Field.

CO7: Solve examples of ideals, prime, principal and maximal ideals, Apply the theorems for solving examples of finding elements of factor ring, irreducible polynomials.

#### **MAT 504 Ordinary differential equation I (Sem. V)**

CO1: Student will able to know sums, difference, product, quotient, conjugate, modulus and argument of complex numbers

CO2: Calculate exponentials of complex numbers.

CO3: Solve problems on the basic concept of modulus, arguments of complex numbers, De-Moiver's theorem use them to find roots.

CO4: Solve linear differential equations with constant coefficients, non homogeneous differential equations of first order and first degree equations.

CO5: Solve linear differential equation by power series method

#### **MAT 601 Real Analysis II (Sem. VI)**

CO1: Define the concept of metric space and learn basic concepts of open sets, limit point, closure of set and closed sets.

CO2: To learn continuity of a function defined in metric space.

CO3: To learn concept of compactness, connectedness and completeness.

CO4: Evaluate Fourier series expansion for given functions.

CO5: Find cosine and sine series for given functions.

#### **MAT 602: Abstract Algebra -II (Sem - VI)**

CO1: Define concepts as Vector Spaces, subspace, span, kernel, linearly dependent etc.

CO2: Describe spanning of vector space, inner product of vectors, linear transformation for set of vectors.

CO3: Give counter examples of vector space and subspace, linear dependence, basis set.

CO4: Apply dimension theorem to find nullity and dimension of vector space.

CO5: Calculate coordinate vector, orthogonality, orthonormality, norm of vectors using formulas, Explain Gram Schmidt process to convert basis to orthonormal basis.

CO6: Define the terms modules, R-modules sub-modules and its examples. Some theorems on modules and sub-modules.

#### **MAT 604 Ordinary differential equation II (Sem. VI)**

CO1: Student will able to know initial value problem for the homogeneous equation, reduction of order of a homogeneous equation, Legendre polynomial.

CO2: To learn expression of existence theorem and uniqueness theorems.

CO3: Find linearly independent power series solution of differential equations with variable coefficients.

## 6. Certificate Course run by department

Name of Course	Date of Approval	Date of implementation	Duration	No. of student beneficiary
Bandhani Painting	01/08/2019	15/09/2019	6 weak	20
	04/01/2021	21/01/2021	30 hours	20
	15/12/2021	15/02/2022	30 ours	20

## 7. Current Year Time-Table (2022-23)

Period	Time	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.
1.	9.10 to 10.00	B. Sc. III GSJ	B. Sc. III GSJ	B. Sc. III GSJ	B. Sc. III GSJ	B. Sc. III DSB	B. Sc. III DSB
2.	10.00 to 10.50	B. Sc. II DSB	B. Sc. II DSB	B. Sc. II DSB	B. Sc. II DSB	B. Sc. II GSJ	B. Sc. II GSJ
3.	11.00 to 11.50	B. Sc. I GSJ	B. Sc. I GSJ	B. Sc. I GSJ	B. Sc. I DSB	B. Sc. I DSB	B. Sc. I DSB
4.	11.50 To 12.40	B. Sc. III GSJ B Sc. II DSB	B. Sc. III GSJ B. Sc. II DSB	B. Sc. III GSJ B. Sc. II DSB	B. Sc. III GSJ B. Sc. II DSB	B. Sc. III DSB B. Sc. II GSJ DSB	B. Sc. III DSB B. Sc. II GSJ
5.	12.40 to 01.30	B. Sc. III GSJ	B. Sc. III GSJ	---	----	B. Sc. II GSJ B. Sc. III DSB	----
6.	01.30 to 02.20	B. Sc. II DSB	B. Sc. II DSB B. Sc. I GSJ	B. Sc. I GSJ	B. Sc. I DSB	-----	B. Sc. I DSB

- i) DSB: Dr. D. S. Bodkhe (Head)  
ii) GSJ: Dr. G. S. Jagtap

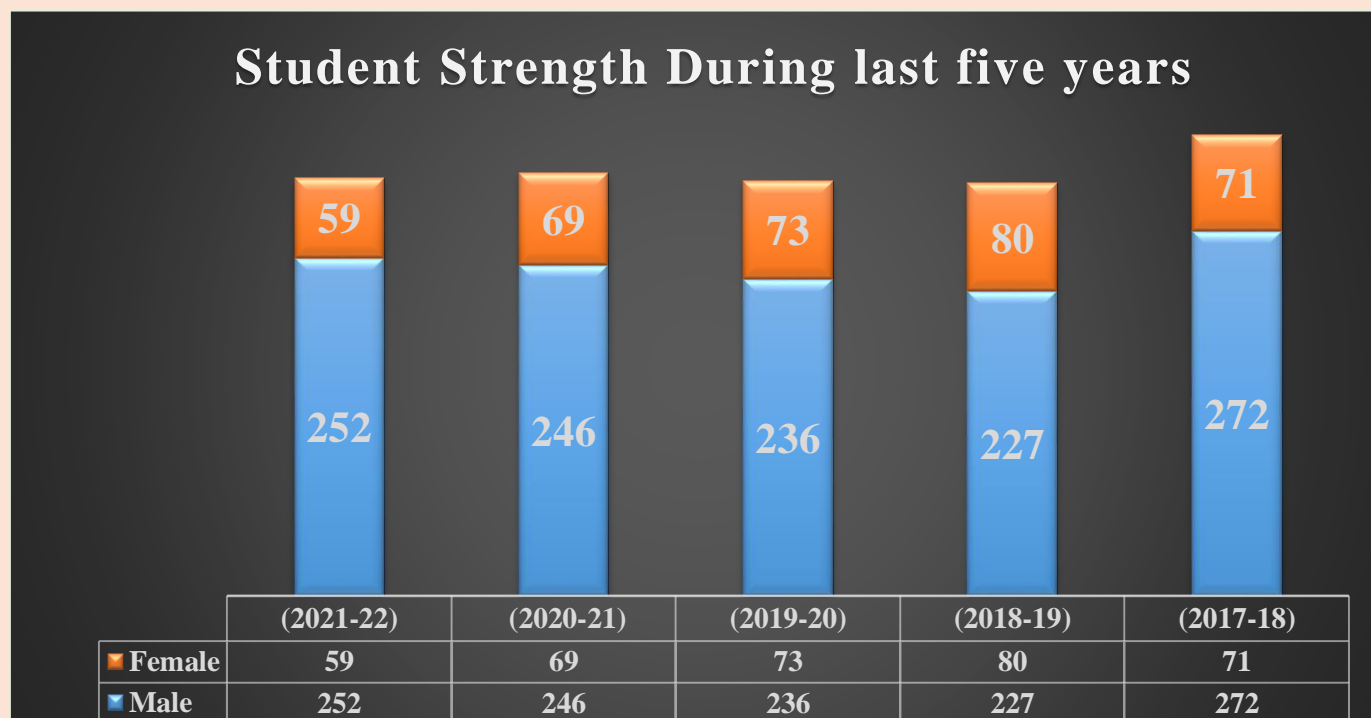
## 8. Current Year Workload (2022-23)

Semester	Paper No.	Title of Paper	Total No. of Periods assigned by University	Total No. of Periods assigned per week	Name of teacher
I	MAT:101	Geometry	60	05	D. S. Bodkhe
	MAT:102	Differential Calculus	60	05	G. S. Jagtap
II	MAT:201	Number Theory	60	05	D. S. Bodkhe
	MAT:202	Integral Calculus	60	05	G. S. Jagtap
III	MAT:301	Number Theory	60	05	D. S. Bodkhe
	MAT:302	Integral Transform	60	05	D. S. Bodkhe
	MAT:303	Mechanics I	60	05	G. S. Jagtap
IV	MAT:401	Numerical Analysis	60	05	D. S. Bodkhe
	MAT:402	Partial Differential Equations	60	05	D. S. Bodkhe
	MAT:403	Mechanics II	60	05	G. S. Jagtap
V	MAT:501	Real Analysis I	60	05	G. S. Jagtap
	MAT:502	Abstract Algebra I	60	05	D. S. Bodkhe
	MAT:504	Ordinary Diff. Equation I	60	05	G. S. Jagtap
VI	MAT:601	Real Analysis II	60	05	G. S. Jagtap
	MAT:602	Abstract Algebra II	60	05	D. S. Bodkhe
	MAT:604	Ordinary Diff. Equation II	60	05	G. S. Jagtap

### Workload Distribution:

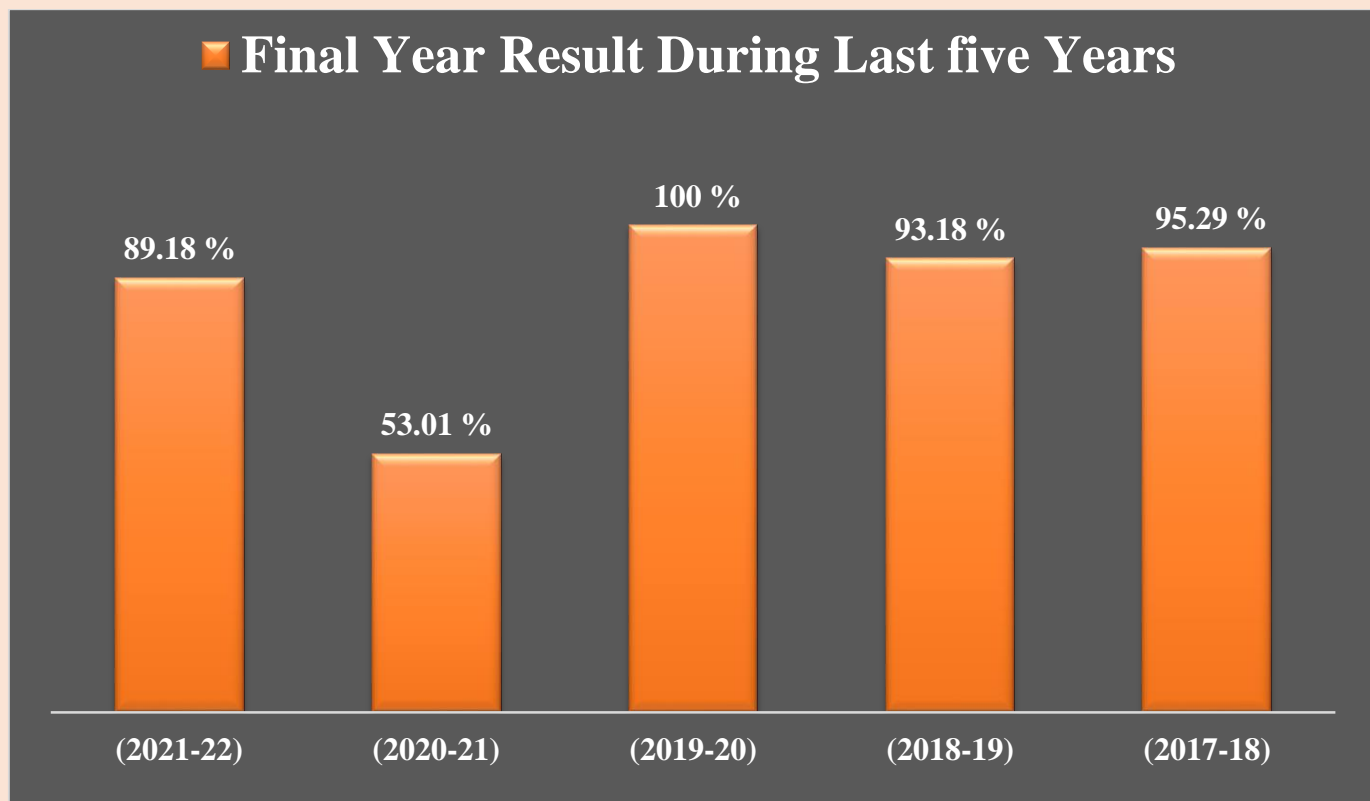
Sr. No.	Name of the Teacher	Designation	Workload		
			Theory	Practical	Total
1	D. S. Bodkhe	Associate Professor (Head)	20	00	20
2	G. S. Jagtap	Associate Professor	20	00	20
Total Workload of the Department			40	00	40

## 9. Student Strength during last Five Years:



Year	Class	Category Wise Admissions										Total		Gross Total
		SC		ST		OBC		Gen		Others (VJ/NT & SEBC)				
		M	F	M	F	M	F	M	F	M	F	M	F	
2021-22	B.Sc. I	3	0	1	0	23	2	39	7	26	2	92	11	103
	B.Sc. II	13	2	0	0	24	15	32	13	30	7	99	37	136
	B.Sc. III	1	0	0	0	20	1	37	7	3	3	61	11	72
2020-21	B.Sc. I	8	2	0	0	20	5	34	9	19	6	81	22	103
	B.Sc. II	5	2	0	0	25	5	50	10	10	9	90	26	116
	B.Sc. III	3	2	1	0	15	4	38	13	18	2	75	21	96
2019-20	B.Sc. I	8	1	0	0	25	6	56	16	14	10	103	33	136
	B.Sc. II	2	1	1	0	13	5	40	13	18	2	74	21	95
	B.Sc. III	2	2	0	1	10	9	33	4	14	3	59	19	78
2018-19	B.Sc. I	4	3	1	0	17	6	55	15	18	8	95	32	127
	B.Sc. II	3	3	0	1	13	10	36	6	9	4	61	24	85
	B.Sc. III	4	1	1	0	10	6	35	13	21	4	71	24	95
2017-18	B.Sc. I	5	2	0	1	18	8	66	8	14	4	103	23	126
	B.Sc. II	3	1	1	0	13	8	44	12	34	5	96	26	122
	B.Sc. III	6	1	0	0	8	6	41	12	18	3	73	22	95

## 10.Result Analysis during last five years:



Year	Class	Semester	Students Appeared	Pass Class	Second Class	First Class	Distinction	% Result
2021-22	B. Sc. I	II	107	03	54	42	02	94.39
	B. Sc. II	IV	55	02	22	25	03	94.56
	B. Sc. III	VI	74	01	32	31	2	89.18
2020-21	B. Sc. I	II	90	04	05	15	33	63.33
	B. Sc. II	IV	94	4	27	20	0	55.31
	B. Sc. III	VI	83	2	29	11	1	53.01
2019-20	B. Sc. I	II	145	7	94	33	9	98.62
	B. Sc. II	IV	95	2	75	18	0	100
	B. Sc. III	VI	76	2	31	22	21	100
2018-19	B. Sc. I	II	131	7	19	61	40	96.94
	B. Sc. II	IV	84	4	60	18	0	97.61
	B. Sc. III	VI	88	2	52	28	0	93.18
2017-18	B. Sc. I	II	117	3	31	61	12	91.45
	B. Sc. II	IV	102	3	70	18	1	90.16
	B. Sc. III	VI	85	2	57	22	0	95.29

## 11. Departmental Rankers

Year	Class	Name Of Student	%	Rank
2021-22	B. Sc. I	Waghmare Ajay Babasaheb	76	I
		Bhukan Ramdas Subhash	70	II
		Garje Siddhesh Navnath	67	III
		Mehetre Abhay Balasaheb		
	B. Sc. II	Sable Sandip Navnath	74	I
		Shelar Rahul Sanjay	71.33	II
		Bhagat Sharad Ambadas	70	III
	B. Sc. III	Nath Santoshi Arjun	71.33	I
		Raval Komal Dilip	70	II
		Thorve Prafulla Kashinath	69.33	III
2020-21	B. Sc. I	Adesh Sarjerao Mhaske	86	I
		Zagade Popat Jalindar		
		Bhagat Sharad Ambadas	80	II
		Khurange Kaveri Banshi		
		Chakhale Shani Gorakh	78	III
	B. Sc. II	Anarse Sandip Balu	68	I
		Raval Komal Dilip	66.67	II
		Dalvi Harsha Shamrao	65.33	III
		Pawar Pravin Babu		
		Surwase Vaibhav Raosaheb		
		Jive Sanket Arjun		
	B. Sc. III	Dhonde Shivani Murlidhar	70.67	I
		Chavhan Rameshwar Bhausaheb	66.67	II
Deshmukh Vedant Shankarrao		65.33	III	

Year	Class	Name Of Student	%	Rank
2019-20	B. Sc. I	Gaikwad Mhesh Pandurang	86	I
		Bhawar Sulbha Murlidhar	84	II
		Changune Akanksha Shantaram	82	III
	B. Sc. II	Kolhe Shubham Kundlik	64	I
		Marathe Anurag Devidas		
		Sasane Nikhil Shivaji		
		Shaikh Ajim Sadik	62.66	II
		Shinde Pranil Bansi	62	III
	B. Sc. III	Pakhare Pratiksha Bappu	86.66	I
		Shinde Mangesh Dattatraya		
		Lagad Vikas Janardan	85.33	II
		Tandle Jalindar Ajinath	82.66	III
	2018-19	B. Sc. I	Limboore Tushar Kailas	76
Sasane Nikhil Shivaji			75	II
Bhawar Pravin Janardhan			73	III
Chavhan Rameshwar Bhausaheb				
Mahajan Sagar Dattu				
Makhare Mahesh Haribhau				
Marathe Abhijeet Ashok				
B. Sc. II		Sonawane Bhagavat Tukaram	66	I
		Lanndge Urmila Pandurang	65.33	II
		Mane Aishwarya Parsuram		
		Mhaske Sachin Balu	64.67	III
B. Sc. III		Jive Nilesh Sunil	68	I
		Mahajan Poonam Karbhari	67.33	II
		Mandkar Jyoti Muralidhar	65.33	III
		Mane Ashwini Balu		
		Mind Nilesh Babasaheb		



Year	Class	Name Of Student	%	Rank
2017-18	B. Sc. I	Farande Pooja Murlidhar	75	I
		Gayke Somenath Tukaram	73	II
		Ghatvisave Akshay Gorakh	72	III
		Hingane Sominath Haribhau		
		Ekshinge Yogita Nanabhau		
	B. Sc. II	Nannaware Kanchan Ajinath	70.67	I
		Mandkar Jyoti Muralidhar	68.67	II
		Dhapate Amol Rama	68	III
	B. Sc. III	Bhadave Komal Kailas	64.67	I
		Pawar Pooja Ashok	63.33	II
		Pawar Vinayak Subhashrao	62.67	III
		Pote Akshay Rajendra		

## 12. Guest Lectures Arranged :

Sr. No.	Name of the Guest	Topic	Date
1	Dr. D. B. Vaidya	Fourier Series	03/08/2017
2	Dr. Smt. A.M. Kulkarni	Sub -Group	04/01/2018
3	Dr. Smt. V. S. Ghodke	$n^{\text{th}}$ Derivatives	07/08/2018
4	Smt. D. A. Munot	Interpolations Formulae	10/01/2019
5	Dr. D. B. Vaidya	Exact Differential Equations	17/08/2019
6	Prof. H. S. Bhosale	Math in Daily Life	12/01/2020
7	Smt. D. A. Munot	Laplace Transforms	13/01/2021
8	Dr. Smt. V. S. Ghodke	Force Acting on a Rigid Body	26/02/2021
9	Dr. J.A. Nannaware	Open Set, Closed Set	07/09/2021
10	Dr. D. B. Vaidya	Polynomial Rings	06/01/2022

**13. Eminent Personalities visited :**

<b>Sr. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Place</b>
<b>1</b>	<b>Dr. S.B. Nimse</b>	<b>Ex. Vice -Chancellor</b>	<b>S. R. T. M. University, Nanded &amp; Laucknow University, Laucknow</b>
<b>2</b>	<b>Prof. D. B. Dhaigude</b>	<b>Emeritus Prof.</b>	<b>Dept. of Mathematics, Dr. BAMU Aurangabad</b>
<b>3</b>	<b>Dr. M. D. Jahagirdar</b>	<b>Secretary</b>	<b>Marathwada Mathematical Society, Aurangabad</b>
<b>4</b>	<b>Prof. B.R. Sontakke</b>	<b>Chairman, BOS Mathematics, Dr. BAMU Aurangabad</b>	<b>Pratisthan Mahavidyalaya, Paithan</b>
<b>5</b>	<b>Prof. S. K. Panchal</b>	<b>Head Dept. of Mathematics</b>	<b>Dr. BAMU Aurangabad</b>
<b>6</b>	<b>Prof. Ravi Kulkarni</b>	<b>Professor</b>	<b>S. M. Joshi College, Pune</b>
<b>7</b>	<b>Dr. M. S. Chaudhary</b>	<b>Professor</b>	<b>R. L. Institute of Science, Belgaon</b>
<b>8</b>	<b>Prof. C. A. Manjarekar</b>	<b>Head Dept. of Mathematics</b>	<b>Shivaji University, Kolhapur</b>
<b>9</b>	<b>Dr. P. Danumjaya</b>	<b>Head Dept. of Mathematics</b>	<b>BIPS Pilani K. K. Birla Goa Campus, Goa</b>
<b>10</b>	<b>Prof. K. P. Ghadle</b>	<b>Head Dept. of Mathematics</b>	<b>Dr. BAMU Aurangabad</b>
<b>11</b>	<b>Dr. S. S. Kambale</b>	<b>Professor</b>	<b>Dept. of Mathematics, Dr. BAMU Aurangabad</b>

## 14. Teaching, Learning And Evaluation:

Sr. No.	Type	Methods
1	Teaching	Annual Academic Plans are prepared at the beginning of the academic year of the individual staff members and department.
		Lecture-wise synopsis is prepared.
		Every teacher followed Annual Academic Plan and maintained teaching dairy.
		Lecture-wise synopsis is prepared.
		Student Seminars, Group Discussions, Quiz Programmes, Workshops, Extension Lectures are conducted to grasp additional Knowledge.
		Audio Visual Aids, Power Point presentations used in teaching.
		Providing the study material and important question and answers in view of the examinations to the students.
2	Learning	Extension Lectures are arranged by the subject experts for enhancing learning process for students.
		Department Library is provided for students for reference of various books and study material.
		Quiz Programmes are conducted to improve the knowledge.
		Assignments on the subject topics are given to keep the students in continuous learning process.
3	Evaluation	Student's performance of study evaluated with the Personal Interaction.
		As per our University norms, we conducted Internal, External Examinations
		In the Evaluation of students, depending on the marks of the students they are categorized in to two regions: Advanced Learners & Slow Learners.
		Fast Learners are assigned student seminars and are given assignments to get additional knowledge.
		Slow Learners are provided additional coaching to cope up with the advanced Learners.

## 15. Use of ICT by Faculty:

- Dr. Bodkhe D. S.

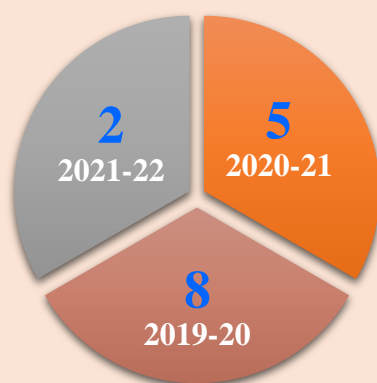
Class	Paper	Type of ICT Developed/ Used		
		Video	PDF	PPT
B. Sc. I	MAT-102 & MAT-202	<a href="https://youtu.be/g5R_UAfX018">https://youtu.be/g5R_UAfX018</a>	<a href="http://www.mndcollegerajur.org/uploads/department/cone.pdf">http://www.mndcollegerajur.org/uploads/department/cone.pdf</a>	
B. Sc. II	MAT-301 & MAT-302		<a href="https://www.lkouniv.ac.in/site/writereaddata/siteContent/202004032250571912_siddharth_bhatt_engg_Intepolation.pdf">https://www.lkouniv.ac.in/site/writereaddata/siteContent/202004032250571912_siddharth_bhatt_engg_Intepolation.pdf</a>	<a href="http://surl.li/dudos">http://surl.li/dudos</a> <a href="http://surl.li/dudpf">http://surl.li/dudpf</a>
B. Sc. III	MAT-502 & MAT-602	<a href="https://youtu.be/buldNi2Zlxo">https://youtu.be/buldNi2Zlxo</a>	<a href="https://pages.mtu.edu/~krehher/ABOUTME/syllabus/GTN.pdf">https://pages.mtu.edu/~krehher/ABOUTME/syllabus/GTN.pdf</a>	<a href="http://surl.li/dudpa">http://surl.li/dudpa</a>

- Dr. Jagtap G. S.

Class	Paper	Type of ICT Developed/ Used		
		Video	PDF	PPT
B. Sc. I	101: Calculus I	<a href="https://www.youtube.com/channel/UCGn0J4P1UWaPAJx4UOijVFQ">https://www.youtube.com/channel/UCGn0J4P1UWaPAJx4UOijVFQ</a>	<a href="https://drive.google.com/drive/folders/1is3xwxUEO1M3yQkc7kqaHoPsNPzJ571">https://drive.google.com/drive/folders/1is3xwxUEO1M3yQkc7kqaHoPsNPzJ571</a>	<a href="https://drive.google.com/drive/folders/1VUQiFYpkFn8F-ptGa1a5jB7GggE5TIlw">https://drive.google.com/drive/folders/1VUQiFYpkFn8F-ptGa1a5jB7GggE5TIlw</a>
	201: Calculus II	<a href="https://www.youtube.com/results?search_query=dr.+gaytri+jagtap%27s+mathematics">https://www.youtube.com/results?search_query=dr.+gaytri+jagtap%27s+mathematics</a>	<a href="https://drive.google.com/drive/folders/19Ex0_Vd0UqhipzZSybQpih8oeJom7j-P">https://drive.google.com/drive/folders/19Ex0_Vd0UqhipzZSybQpih8oeJom7j-P</a>	<a href="https://drive.google.com/drive/folders/1x1vFogBfheH2cwJjMEjxTmsGDAOAditu">https://drive.google.com/drive/folders/1x1vFogBfheH2cwJjMEjxTmsGDAOAditu</a>
B. Sc. II	303: Mechanics I		<a href="https://drive.google.com/drive/folders/1BTGZmnRNGsQaZs1J6xi_QHoofzYyEEJq">https://drive.google.com/drive/folders/1BTGZmnRNGsQaZs1J6xi_QHoofzYyEEJq</a>	<a href="https://drive.google.com/drive/folders/1Rpb_Gk7VNPm-SwvUbhtjawLDuqSzvGN1">https://drive.google.com/drive/folders/1Rpb_Gk7VNPm-SwvUbhtjawLDuqSzvGN1</a>
	403: Mechanics II		<a href="https://drive.google.com/drive/folders/1uFIZ4xlws1KXi753ebErN-3S8J7YN5rl">https://drive.google.com/drive/folders/1uFIZ4xlws1KXi753ebErN-3S8J7YN5rl</a>	

<b>B. Sc. III</b>	<b>501: Real Analysis I</b>		<a href="https://drive.google.com/drive/folders/1FYoYoSb392LykmoeVgfHBEfKhO3HTAg2">https://drive.google.com/drive/folders/1FYoYoSb392LykmoeVgfHBEfKhO3HTAg2</a>	<a href="https://drive.google.com/drive/folders/1JOyAF0P46eCU3b0HLmlABAmoTXCaxOH8">https://drive.google.com/drive/folders/1JOyAF0P46eCU3b0HLmlABAmoTXCaxOH8</a>
	<b>504: ODE I</b>		<a href="https://drive.google.com/drive/folders/1iM07FfRosom9JMicGCMGaQKWzIvcd2H">https://drive.google.com/drive/folders/1iM07FfRosom9JMicGCMGaQKWzIvcd2H</a>	<a href="https://drive.google.com/drive/folders/1TaMwqojxIUarN25Igp86V-DSPYLJATgF">https://drive.google.com/drive/folders/1TaMwqojxIUarN25Igp86V-DSPYLJATgF</a>
	<b>601: Real Analysis II</b>		<a href="https://drive.google.com/drive/folders/1wUgLD-ljHulmihdswXzTEbKnNaZSEqqw">https://drive.google.com/drive/folders/1wUgLD-ljHulmihdswXzTEbKnNaZSEqqw</a>	<a href="https://drive.google.com/drive/folders/1NKAZ1rJuzFqi3hL1yk2yGboBeeM2IFsz">https://drive.google.com/drive/folders/1NKAZ1rJuzFqi3hL1yk2yGboBeeM2IFsz</a>
	<b>604: ODE II</b>		<a href="https://drive.google.com/drive/folders/1BmcDQ-Xtxb-rIpdm_QetldNnwqeeJdkb">https://drive.google.com/drive/folders/1BmcDQ-Xtxb-rIpdm_QetldNnwqeeJdkb</a>	
	<b>General Vedic Math</b>			<a href="https://docs.google.com/presentation/d/1nnZ7V2oXYZuY334E-85xqvsggEeag19C/edit#slide=id.p1">https://docs.google.com/presentation/d/1nnZ7V2oXYZuY334E-85xqvsggEeag19C/edit#slide=id.p1</a>

**16. Participation Faculty in FDP/ STC during last five years:**

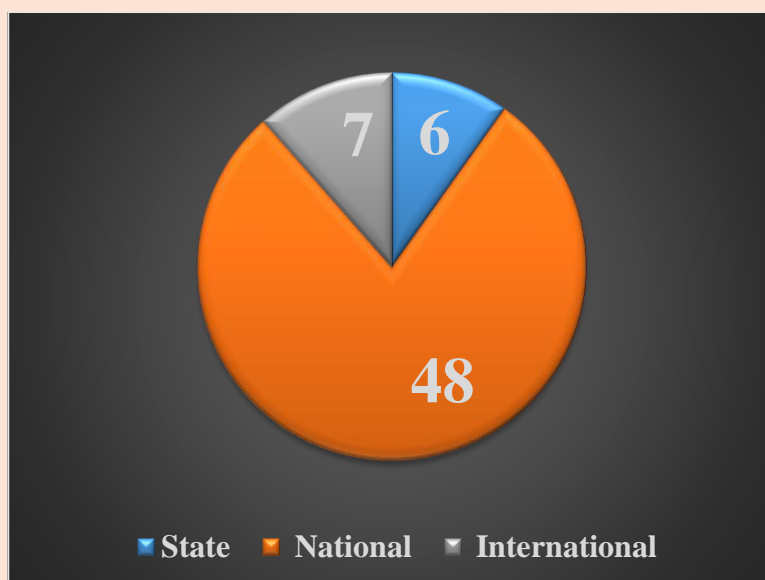


Name of the Faculty	2021-22	2020-21	2019-20	Total
Dr. D. S. Bodkhe	01	01	04	06
Dr. G. S. Jagtap	01	04	04	09
<b>Total</b>	<b>02</b>	<b>05</b>	<b>08</b>	<b>15</b>

### 17. Conference / Webinar Organized by department during last five years:

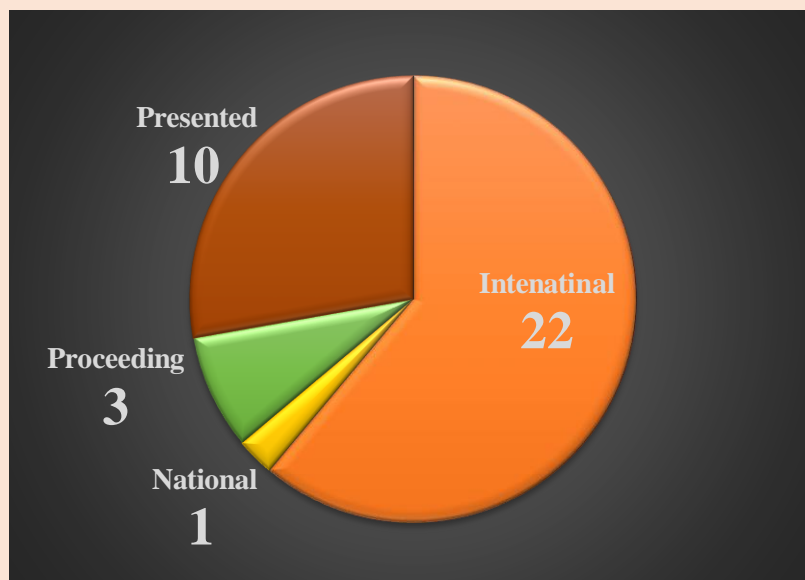
Sr. No.	Title of Conference / Webinar	Level	Period
1	Recent Trends In Mathematics And Its Applications	National Conference	16-18 Jan. 2020
2	New Trends In Mathematics and Its Applications	National Webinar	22 ec.2021

### 18. Conferences /Seminars / workshops /Webinars attended by faculty during last five years:



Name of Teacher	Year	State	National	International	Total
Dr. D. S. Bodkhe	2021-22	---	01	01	02
	2020-21	02	09	03	14
	2019-20	01	02	---	03
	2018-19	----	05	02	07
	2017-18	02	---	01	03
Dr. G. S. Jagtap	2021-22	---	02	---	02
	2020-21	01	17	---	18
	2019-20	---	10	---	10
	2018-19	---	01	---	01
	2017-18	---	01	---	01
<b>Total</b>		<b>06</b>	<b>48</b>	<b>07</b>	<b>63</b>

## 19. Publications of faculty during Last five years:



Name of the Teachers	Year	Number of Research Papers Published			Number of research papers presented
		International Journals/ E-Journal	National Journals	National Conf. /Sem. Proceedings	
Dr. D.S. Bodkhe	2021-22	03	---	---	01
	2020-21	07	---	---	---
	2019-20	02	01	---	02
	2018-19	---	---	---	04
Dr. G. S. Jagtap	2021-22	03	---	---	---
	2020-21	04	---	---	---
	2019-20	02	---	03	02
	2018-19	01	---	---	01
<b>Total</b>		<b>22</b>	<b>01</b>	<b>03</b>	<b>10</b>

## 20. Citations/ h-index/i10 index:

Name of Faculty	Citation	h-index	i10-index
Dr. D. S. Bodkhe	40	02	02



**21.Resource Person /Chaired Session in Seminar / Webinar:**

Name of Faculty	Name of Activity	Level	Place	Date
Dr. G. S. Jagtap	Chaired Session	National seminar on “Women Empowerment through Entrepreneurship and Skill development”	Arts, Commerce and Science College Ashti, Dist. Beed	03-04 Jan. 2020
	Resource Person	National webinar on “Importance of Vedic and some thoughts in Mathematics”	Adv. B. D. Hambarde Mahavidyalaya Ashti, Dist. Beed	04 ar. 2021

**22.Book Publication of Faculty:**

Name of the Faculty	Title of Book	Publisher Details with ISSN/ISBN	Link
Dr. D. S. Bodkhe Dr. G. S. Jagtap	Integral Transform & Its Applications	Novateur Publications, 466, Sadashiv Peth, Pune . 411030 (M.S.) 978-93-90753-35-2	<a href="https://novateurpublication.com/index.php/np/catalog/book/125">https://novateurpublication.com/index.php/np/catalog/book/125</a>

**23.Research Supervisor and their Students:**

Name of the Supervisor	Name of the Researcher	Date of Confirmation	Topic	Status
Dr. D. S. Bodkhe	Shri. Chauhan V. S.	Oct. 2021	Some Fuzzy Differential Equations & its Applications	On going
	Mrs. Gaddam M. M.		Study of Some Integral Transform and Their Applications	
	Mrs. Jirewar S. G.	Mar. 2022	A Study on iterative methods of numerical fractional Differential Equations	

## 24. Award/ Recognitions received by Students and faculty:

- Faculty:**

Name of the Faculty/ Student	Name of the Awards/ Recognition	Name of the Awarding government/ government recognized bodies	Date/Year of award
Dr. G. S. Jagtap	Best Women Teacher Awards	Avishkar Foundation Solapur	22/05/2022

- Students :**

Sr. No.	Name of the Faculty/ Student	Name of the Awards/ Recognition	Name of the Awarding government/ government recognized bodies	Date/Year of award
1	Kanchan Ajinath Nannaware	Smt. Sakhubai Pande Prize	Dr. B. A. M. U. Aurangabad	08/08/2019
2	Pravin Sukhadev Atole	State Level Best Volunteer Award	Maharashtra State	2019-20
3		University Level Best Volunteer Award	Dr. B. A. M. U. Aurangabad	2019-20
4		Oratory Competition II Prize	Anandrao Dhonde Alias Babaji Mahavidyalaya, Kada	28/12/2020
5		Oratory Competition II Prize	New Law College, Ahamadnagar	11/01/2020
6		New Poets , I Prize	J Watumal Sadubela Women's College Ulhasnagar	21/01/2020
7		Oratory Competition III Prize	Gangai Babaji Mahotshwa Bhagwan Mahavidyalaya Ashti	2019-20
8		NSS Covid-19 Warrior Award	Beed District Level	2020-21
9		NSS Best Volunteer Award	National Level	2021

**25. Student Placement:**

Sr. No.	Name of Students	Designation	Place
1	Sukhdev Sunder Lokhande	Health Dept.	Pimpari Chichwad corporation, Pune
2	Pankaj Satish Ambilwade	Company	Raks Farma Pvt .d Dahej, Gujrat
3	Anuradha Dnyandev Godakar	Treasury officer	Thane
4	Deepali Balasaheb Dhobale	Treasury officer	Beed
5	Amol Rama Dhapte	Sr. Lecturer	Jijamata Sr. College Jategaon Bk Shirur, Pune
6	Akash Sanjay Bodkhe	Lab . Technician	Saideep Hospital Ahmednagar
7	Tushar Popat Girhe	Asst. Professor	Art, Commerece & Science College, Dhanora
8	Rajendra Karande	Asst. Professor	ACS College Ashti
9	Nikhil Gautam Sawant	Asst. Professor	Bhagwan College Ashti
10	Nannware Sachin	Jr. Lecturer	Janta Jr. College , Dhanora
11	Harshad Misal	Jr. Lecturer	Janta Jr. College , Dhanora
12	Garje Navnath	Asst. Professor	Art, Commerece & Science College, Dhanora
13	Kanchan Dhonde	Asst. Professor	A. D. College, Kada

**26. Students Alumni :**

Sr. No.	Name of Students	Designation	Place
1	Prerana Dhonde	Education	M. Sc. Chemistry
2	Sambodhi Ovhal	Education	M. Sc. Physics
3	Ashwini Jiwe	Education	M. Sc. Mathematics
4	Komal Bhadave	Education	M. Sc. Mathematics
5	Satish Tagad	Education	M. Sc. Mathematics
6	Vaishnav Gorakh Narwade	Education	M. Sc. Mathematics
7	Shivani Murlidhar	Education	M. Sc. Mathematics
8	Akash Sanjay Bodkhe	Education	M. Sc. Mathematics
9	Nilesh Sasane	Education	M. Sc. Chemistry
10	Nikita Raskar	Education	Ph. D. M. Sc. Physics
11	Dipak Tonpe	Education	Ph. D. M. Sc. Physics
12	Akashy Pote	Education	M. Sc. Chemistry
13	Kanchan Nannware	Education	M. Sc. Mathematics
14	Rameshwar Chavan	Education	M. Sc. Chemistry

**27. Extension / Co-curricular Activities run by department:**

Sr. No.	Name of Activity	Date
1	National Mathematics Day	22/12/1017
2	G. K. Test	22/12/2017
3	Workshop on Reuses of Plastic Bottles	29/12/2017
4	National Mathematics Day	22/12/1018
5	National Mathematics Day	22/12/1019
6	National Conference	16/01/2020 To 18/01/2020
7	Online MCQ Test for B.Sc. I Students	21/04/2020
8	Online MCQ Test for B.Sc. II Students	21/04/2020
9	Online MCQ Test for B.Sc. III Students	21/04/2020
10	Online MCQ Test for B.Sc. III Students	21/04/2020
11	Online GK MCQ Test	24/04/2020
12	Online MCQ Test for B.Sc. I Students	11/05/2020
13	Online MCQ Test for B.Sc. II Students	11/05/2020
14	Online MCQ Test for B.Sc. III Students	11/05/2020
15	National Level Webinar	22/12/2021

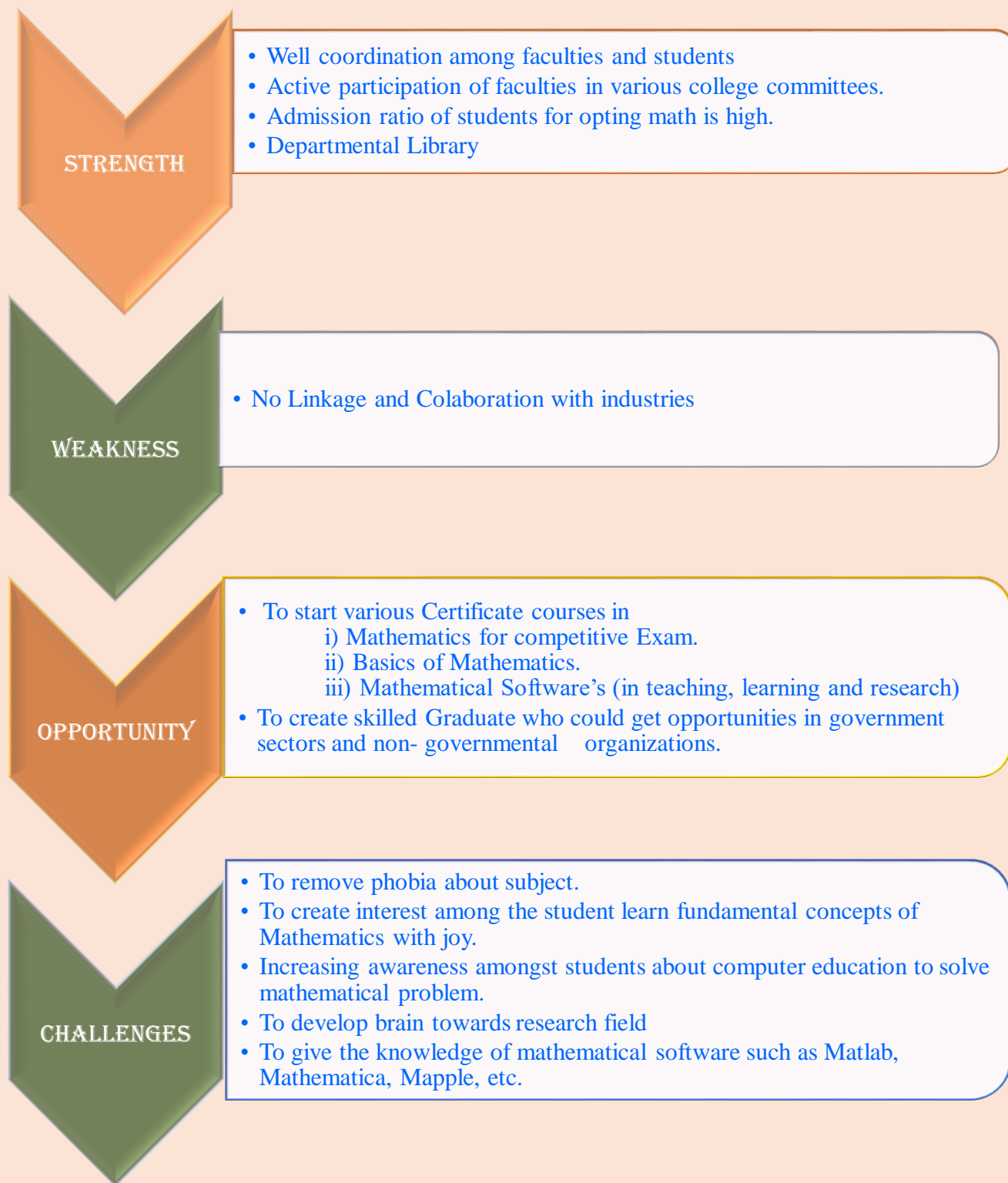
**28. Academic and Administrative Positions of Faculty:****1) Dr. D. S. Bodkhe**

- Board of Studies Member in Mathematics of Dr. BAM University, Aurangabad.
- Member of Marathwada Mathematical Society , Aurangabad
- Member of Indian Science Congress Association.
- Member of IQAC

**2) Dr. G. S. Jagtap**

- Member of Marathwada Mathematical Society , Aurangabad
- Coordinator: Skill based Certificate Course – Bandhani Painting.
- Programme officer of NSS (2015-16 to 2017-18).
- Chairperson of Examination committee.
- Member of Admission committee.
- Member of Ladies Grievance Committee.
- Member of Green Army.

## 29. SWOC Analysis



## 31. Future Plans:

- To run career oriented courses.
- To establish MoUs and Collaboration with other institutions.
- To make MOOC undergraduate courses in the SWAYAM platform for students.
- To make a short term certificate course for attracting more student to B. Sc. Mathematics Programme.
- To make major and minor research projects.



**PHOTO GALLERY**  
**CELEBRATION OF NATIONAL MATHEMATICS DAY 22 DEC. 2018**



**Chief Guest Prof. H. S. Bhosale and Dr. B. S. Khaire**



**Speech By Students**



**Competitive Exam**



**Vote of thanks**

**CELEBRATION OF NATIONAL MATHEMATICS DAY 22 DEC. 2019**





## TEACHERS DAY CELEBRATION 05 SEPT 2019



**Speech By Student**

## Eminent Personalities



**Prof. S. B. Nimse**



**BOS Chairman Prof. B. R. Sontakke**



**Dr. M. D. Jahagirdar**



**Dr. Ravi Kulkarni**



**Dr. D. B. Dhaigude**



**NATIONAL CONFERENCE 16 TO 18 JAN. 2020**



**Inauguration Function**



**Publication Of MMS Bulletin**

**Vote of thanks**



**Group Photo**



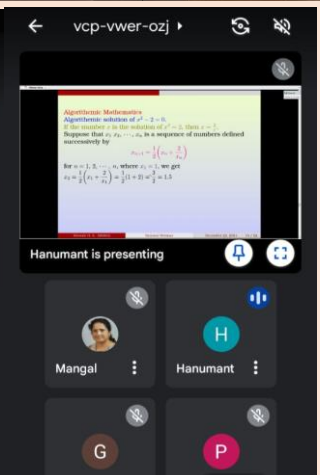
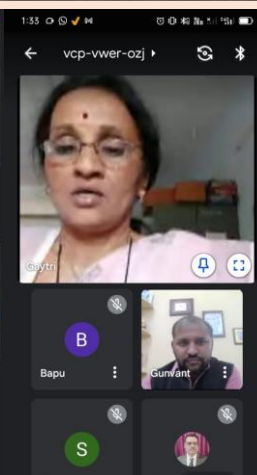
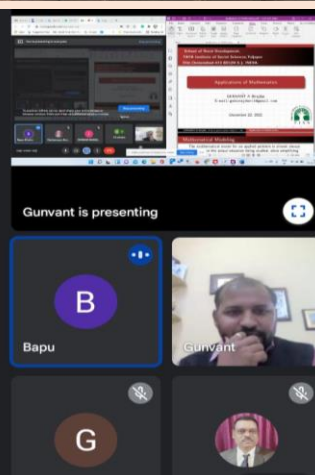
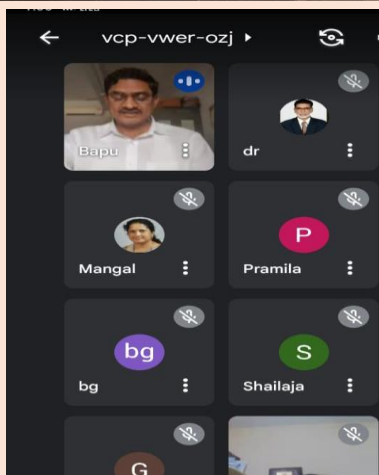


**Student Paper Presentation**



**Best Paper presentation Award**

**NATIONAL WEBINAR ON THE OCCASION OF NATIONAL MATHEMATICS DAY 22 DEC 2022**





**WORKSHOP ON REUSES OF PLASTIC BOTTLES 29 DEC. 2018**





**SKILL BASED CERTIFICATE COURSE – BANDHANI PAINTING**



**Practical Work**





**Wall Paper Publication**



**Study Tour**



## EXTRA CURRICULAR ACTIVITIES



Farewell Programme and Gathering





**Copy Free Programme for Students**



**Anuradha Gondkar selected as  
Treasury Officer**

**Guest Lecture**



**Dress Distribution for Girls**



# PARTICIPATION IN SOCIAL PROGRAMMES

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