

**NATIONAL MATHEMATICS DAY - 2021**

FACULTY: Science

DEPT/COMMITTEE- Mathematics

IQAC ACTIVITY No:

**NAME OF THE ACTIVITY: NATIONAL MATHEMATICS DAY -2021**



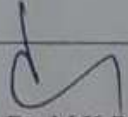

DATE	FACULTY	DEPARTMENT/ COMMITTEE	COORDINATOR's NAME
2021-22	Science	Mathematics	Dr. C.S.Sutar
TIME	VENUE	NUMBER OF PARTICIPANTS	NATURE: Outdoor/Indoor
12.00 pm- 5.00 pm	Online Mode	152	Online Mode
SUPPORT/ ASSISTANCE:	Mr. Gajanan Patil	Mr. Prasad Patil	Miss. Mansi Mahanubhav Miss. Rupal Patil Miss. Sonali Patil
NAME OF CHIEF GUEST/RESOURCE PERSON WITH DESIGNATION AND AFFILIATIONS:			<b>Chief Guests:</b> 1. Prof. R. S. Patil [Principal] 2. Dr. M. K. Patel <b>Resource Person:</b> 1. Dr. Rakhi Tiwari [ Assistant Professor, Department Of Mathematics, Nitishwar College , B.B.A Bihar University, Muzaffarpur, Bihar. 2. Mrs. Madhuri Parag Metkar [Assistant Professor , Nowrosjee Wadia College, Pune, Maharashtra.

**BRIEF INFORMATION ABOUT THE ACTIVITY (CRITERION NO.-7.1.11):**

<b>TOPIC/ SUBJECT OF THE ACTIVITY</b>	National Mathematics Day [2021-2022]
<b>DETAILS &amp; OBJECTIVES</b>	<p>It is observed on 22<sup>nd</sup> December every year to mark the birth anniversary of legendary Indian Mathematician, Srinivasa Ramanujan. The day recognises and celebrates his works. On this day, the genius mathematician Srinivasa Ramanujan was born in 1887 to a Tamil Brahmin Iyengar family at Erode, Tamil Nadu.</p> <p>The event was inaugurated by Principal Prof. R. S. Patil Sir invited as the Chief Guest, along with Dr. M. K. Patel Sir.</p> <p>After that the first resource person Dr. Rakhi Tiwari ma'am spoke about the Applications of Laplace Transform in daily life. And Mrs. Madhuri Parag Metkar ma'am gave interesting and useful details of Python Language in Mathematics.</p>
<b>METHODOLOGY</b>	Dr. Rakhi Tiwari presented her talk on Application in Laplace Transform on Zoom Platform. Whereas the lecture on Python by Mrs. Madhuri Metkar was also delivered through Zoom.
<b>OUTCOMES (Give brief Description in 100 words)</b>	The event received good response. More than 151 participants actively attended the program. The informative oratory talk delivered by Dr. Rakhi Tiwari covered the entire information on Laplace and its uses. Students came up with their queries on tricks and facts of solving Laplace. The second talk on Python by Mrs. Madhuri Metkar generated curiosity in students for learning the new programming language.

**PROOFS & DOCUMENTS ATTACHED (Tick mark the proofs attached):**

Notice & Letters √	Students Attendance List √	Activity Report √	Geotagged Photos √	Feedback form √
Feedback analysis X	News clipping with details X	Certificate √	Any other X	

NAME OF TEACHER & SIGNATURE	NAME OF HEAD/COMMITTEE INCHARGE & SIGNATURE	IQAC, COORDINATOR (SEAL & SIGNATURE)	PRINCIPAL (SEAL & SIGNATURE)
 Mr. Gajanan Patil	 Dr. C. S. Sutar	 Dr. M.K. Patel	 Prof. R. S. Patil



NAAC Reaccredited with 'A' grade (CGPA-3.12)

**Poojya Sane Guruji Vidya Prasarak Mandal's,**  
RUSA Beneficiary & DBI-Star status,  
S. I. Patil Arts, G. B. Patel Science & S. T. K. V. S. Commerce  
College, Shahada, Dist- Nandurbar, Maharashtra-425409

“NATIONAL MATHEMATICS DAY”

**22<sup>nd</sup> December-2021**

Organized by

DEPARTMENT OF MATHEMATICS & STATISTICS,

Website: [www.psgvpasc.ac.in](http://www.psgvpasc.ac.in)

Phone: 02565-229576

#### Resource Persons



**Dr. Rakhi Tiwari,**

Assistant Professor, Department of Mathematics,  
Nitishwar College, a constituent unit of Babasaheb  
Bhimrao Ambedkar Bihar University, Muzaffarpur,  
Bihar.

Topic: Applications of Laplace Transform.

Time: 12.00 noon



**Mrs. Madhuri Parag Metkar,**

Assistant Professor, Dept. Of Mathematics(CS),  
Nowrosjee Wadia college, Pune, Maharashtra.

Topic: Introduction to Python.

Time: 2.30 pm

#### Patrons

Hon. Shri. Bapusaheb Dipakbhai P. Patil  
(President, PSGVP Mandal, Shahada )

#### Co-Patrons

Hon. Smt. Kamaltai P. Patil  
(Secretary, PSGVP Mandal, Shahada )

Hon. Prin. M. N. Patil  
(Coordinator, PSGVP Mandal, Shahada)

#### Chairman

Prof. R. S. Patil  
Principal

#### Convener

Dr. C. S. Sutar

#### Organizing Secretaries

Dr. M. K. Patel

Mr. G. S. Patil (9975654400)

#### Organizing Committee

Mr. P. S. Patil – 7972552821

Miss. Mansi Mahanubhav

Miss. Rupal Patil

Miss. Sonali Patil

- There is no registration fee. The students and faculties from Mathematics can register.
- Each participant will get an e-certificate.
- Participants should register through the below link  
<https://forms.gle/PjJpLBEnhzyZGD1B8>
- The program will be conducted through ZOOM/YOUTUBE platforms only through following links: -

1. YouTube: <https://youtu.be/JB0V8A6wDic>

2. Zoom Link:

<https://us02web.zoom.us/j/86157260979?pwd=cHBYOg5NUWoxd3haK0RDRGZwZ05Vdz09>

Meeting ID: 861 5726 0979

Passcode: 348622



# Applications of Laplace Transform in Real World Problems Continued...

## Simple Decay Chain

For a simple radioactive decay chain, the parent radionuclide decays to a stable product. Let  $N(t)$  represent the parent radionuclide at time  $t$ , where  $N$  could be in units of total atoms ( $n$ ) or atom density ( $\rho$ ). We assume in this discussion that no production of the radionuclide occurs after  $t = 0$ , so there is an initial number of atoms equal to  $N(0)$ . These radioactive atoms then decay according to the *decay constant*  $\lambda$ , which is a probability per unit time that an individual atom decays, and which can be expressed in terms of the half-life ( $t_{1/2}$ ) of the substance,  $\lambda = \ln(2)/t_{1/2}$ . The decay rate is a nuclear property independent of (1) temperature, (2) pressure, (3) chemical form of the isotope, and (4) physical state of the substance. From the basic balance equation above, a first-order differential equation describing  $N(t)$  is established:

$$\frac{dN}{dt} = -\lambda N(t) \tag{1}$$

Laplace transforming the differential equation yields:

$$s N(s) - N(0) = -\lambda N(s) \tag{2}$$

The above expression is algebraically manipulated to isolate the variable of interest,  $N(s)$ :

$$(s + \lambda) N(s) = N(0) \tag{3}$$

$$N(s) = \frac{N(0)}{(s + \lambda)}$$

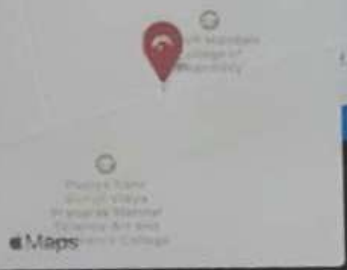
Finally, the inverse Laplace transform is taken to determine the time dependent concentration of the parent radionuclide for  $t \geq 0$ :

$$N(t) = N(0) e^{-\lambda t} = N(0) \left(\frac{1}{2}\right)^{t/t_{1/2}} \tag{4}$$

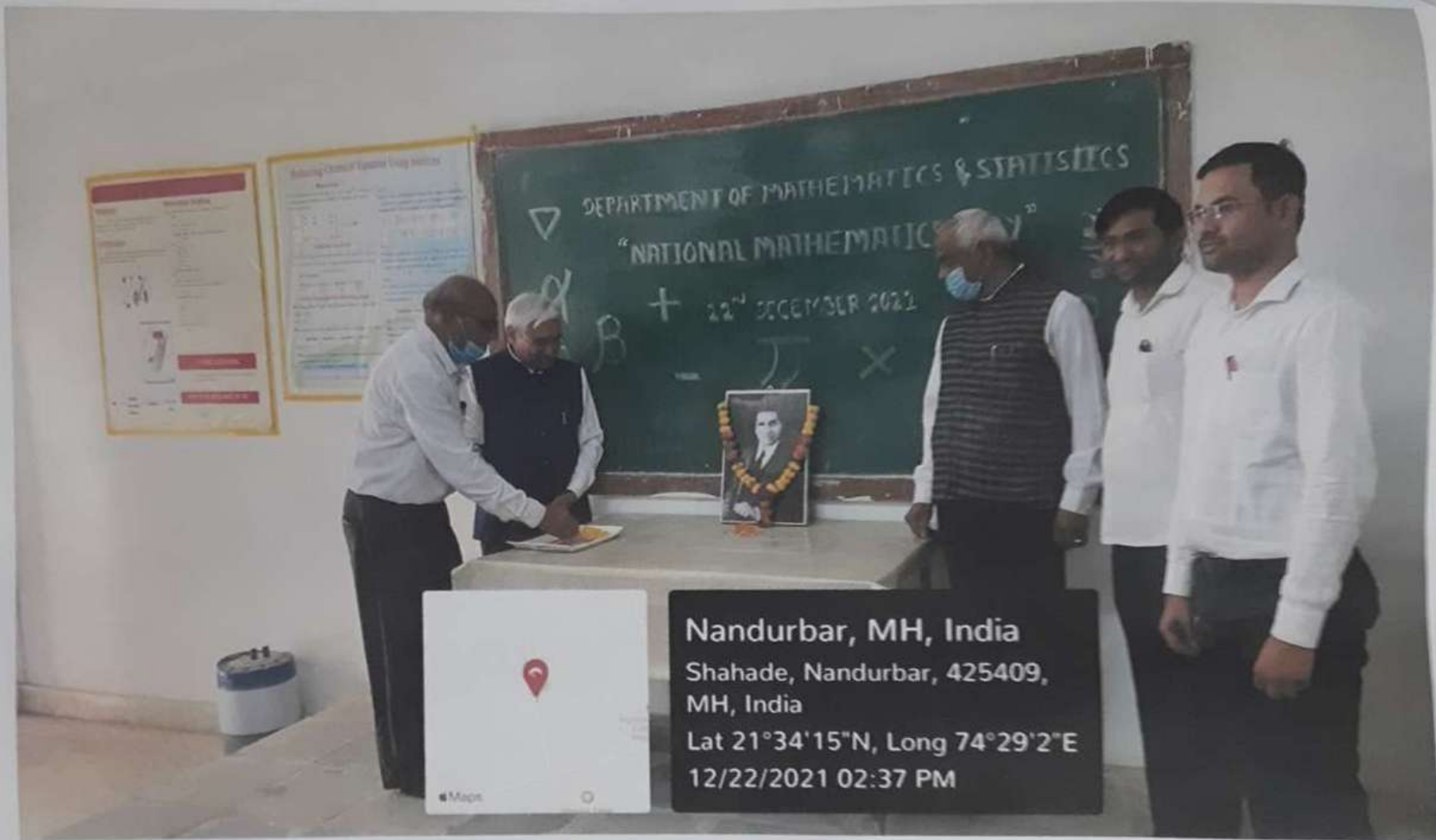


where the decay constant  $\lambda$

The average (or mean) life  $\tau$



**Nandurbar, MH, India**  
 Shahade, Nandurbar, 425409,  
 MH, India  
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Nandurbar, MH, India

Shahade, Nandurbar, 425409,  
MH, India

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Name	Institute Name	Class
Asmita kumbhar	Psgvp mandal's shahada	Msc-1
Devyani Uttam Shinde	P S G V.P Mandal Shahada	Msc-1 (Mathematics)
Prerana Nivrutti Sonvane	Pratap college	Tybsc math
Swati Muralidhar Suryawanshi	PSGVPM Shahada	MSc-1
Ashwini Devendrasing Girase	PSGVPM Shahada	Tybsc
Sanskriti Ravindra Patil	PSGVP ASC College, Shahada	SY B.sc
Sameer Kamroddin khatik	PSGVPM'S S.I.P. College, shahda.	FYBSC computer
Sonawane Dhanshree Jitendra	P. S. G. V. P. Mandal. shahada	FYBsc
Mahale Ashwini Bhikkan	P.s.g.v.p.shahada	S.y.bsc
Bhagyashri Hemkant Patil	PSGVP Mandal Shahada	MSC-1st
Vijay Khushai Patil	PSGVPM'S D N P COE Shahada	Engineering
Tilottama Ranjit shitole	PSGVPM'S College shahada	MSc 2nd Year(Mathematics)
Suchita yogendrasing girase	Jalgaon	Sybsc
Parmar Nivedita Jaydeep	PSGVP Mandal Shahada	FYBsc
Badal Vasave	SPPU	Msc1
Sandip Patil	Nanasaheb Y N Chavan Arts Science and Commerce College Chalisgaon	Faculty
Chetan sanjay shelake	Kavyatri bahinabai vidyapeeth	Sybsc
Narbhavar Gautami Rajesh	PSGVP M's S.I.Patil arts , G.B.Patel science &STKVS commerce college Shahada	TY Bsc mathematics
HARSHAL SADASHIV MAHAJAN	YASHVANTRAV CHAVAN INSTITUTE CHALISGAON	FYBSC
Bramhane Charushila Manohar	PSGVPASC SY BSc	SY Bsc
Pratiksha Joshi	Nync college chalisgaon	Sybsc
Salunkhe yogita komal	Nanasaheb Y N chavhan Art's science commerce college chalisgaon	Ty BSC
Bhoi Vrushali bhimrao	NYNC	Fybsc
Sonavane Janavi Sharad	NYNC Chalisgaon	BSc
Patil Dinesh Nitin	SSVP Sansthas Late Karmaveer Dr P R Ghogrey Science College Deopur Dhule.	M Sc 1 year
Vasave Rakhi Dilip	PSGVPM'S ARTS AND SCIENCE COLLEGE SHAHADA	TY.Bsc
Gaikwad Ravina Sanjay	North Maharashtra University of chalisgaon	SYBsc
Punam Bhatu Shinde	S.S.V.P.s Dr.P.R.Ghogrey Science college,Dhule	Msc-II
Sonawane Samiksha Atul	Babasaheb Yashvntro Narayanrv Chavan College Chalisgaon	SYBSc
Patil vaishali pralhaad	N.Y.N.C.college chalisgaon	SYBSc
Chaudhari Sejalben Jagdishbhai	PSGVPM SHAHADA	M.Sc-1
Nilesh Manojkumar Bafna	PSGVPM ASC College Shahada	MSc (Mathematics)
Pathan Mahammad SiddikKhan ZahirKhan	SSVPS's Late karm Dr P.R.Ghogrey Science College,Dhule	M.Sc 2 mathematics
Chaudhari isha Vijay	Nync. clg	Sybsc



Prajakta Nitin Chinavalkar	PSGVPM'S A.S.C. Shahada	FY-BSc
More Nandini Gopal	PSGVPM Arts, Commerce and Science College, Shahada	Msc-I Mathematics
Sonis Ashwini Manilal	PSGVPM College Shahada	Syosc
Mansi Gorane	Y.N.Chavan	FyBsc
Nikita Shreeram Patil	PSGVP Mandala Shahada	MSc(Mathematics)-1st Year
Kirti pankaj Deshmukh	Late G.N.Sapkal college of engineering, Nashik	
Jayamala balu patil	Eduisfun technologies pvt ltd andheri west mumbai	Msc
Aachal Ramesh Sonwane	PSGVPM'S A.S.C. Shahada	TY Bsc. (Maths)
Rawal Harshada Narendrasing	PSGVPM'S mandal shahada	S.Y MSc (mathematics)
Sonar Yashkumar Harshu	Poojya Sane Guruji Vidya Prasarak Mandal's	M.sc -I
Wagh Madhuri Raju	PSGVP Mandal Shahada	T.Y.Bsc
Priyanka	PSGVPM'S MANDAL SHAHADADA	TYBsc
Ansari Iflah Masood	P. S. G. V. P. Mandal	T. Y. B. Sc.
Patel Ruchika Raman	PSGVP Mandal's	Msc-2nd year
Patel Ruchika Raman	PSGVP Mandal's	Msc Final year
Shimpi Vaishnavi Sanjay	PSGVPM SHAHADADA	Msc - 1
Girase Sanjivani Bhimsing	PSGVPM'S A.S.C. Shahada	T. Y. Bsc
Gopal Anil mali	NMUJ university	Fy bsc
Shaikh Altamash Mohammad Shafi	NYNC Arts Science And commerce college of chalisgaon	F.Y. Bsc.
Patil Chanchal Dilip	P.S.G.V.P.M. COLLEGE, SHAHADADA	MSc Mathematics 1st year
Patil Aachal Sanjay	PSGVPM'S SIP Arts, GBP Science and STKVS Commerce College, Shahada	MSc-1st
Chavan Janhavi Jayavant	NYNC ASC College, Chalisgaon	TYBSC
Chavan Janhavi Jayavant	NYNC ASC COLLEGE CHALISGAON	TYBSC
Mitali Sarode	Smt pk Kotecha mahila Mahavidyalaya College Bhusawal	Fybsc(cs)
Rajshree Pravin Kapale	Smt. P. K. Kotecha Mahila Mahavidyalaya Bhusawal.	Fybsc(Computer science)
Jain Nikita Pushplal	PSGVPM's A/ S/ C College, Shahada.	T.Y.Bsc
Shraddha Prashant Barhate	P.k.kotecha mahila college bhusawal	F.Y.Bsc cs
Megha vilas chaudhari	Smt P k Kotecha mahila mahavidyalaya	FY Bsc(cs)
Patil Krupa Vilas	PSGVPM	Tybsc math
Saniya Kauser Asif Khan	Smt. Padambai Kapurchandji Kotecha Mahila Mahavidyalaya	F.Y BSC computer
Ashvini Rajendra Khedkar	PSGVP Mandal, Shahada	MSc 2nd year
Bhagyashri Kailas koli	P k Kotecha mahila mahavidyalaya Bhusawal	FYBSC COMPUTER
Ashvini Rajendra Knedkar	PSGVP Mandal, Shahada	MSc 2nd year
Shimpi Kartiki Jitendra	P. S. G. V. P. Mandal. Shahada	T. y. bsc
Pinjari Saba Latif	P S G V. P. Mandal shahada.	Ty. Bsc

Ashwini Manilal Sonis	PSGVPM College Shahada	SYBSC
Neha Vijay Jaware	P k kotecha	Sybsc
Shaikh Aateka Bi Shaikh Aashik	PSGVPMASC COLLEGE OF SHAHADA	SYBSc
Marathe Akanksha Santosh	P.s.g.v.p.mandal,shahada	T.Y.Bsc
Patil kshama Pravin	P.S.G.V.P.M COLLEGE SHAHADA	FYMSc(mathematics)
Nisha Nandalal Pawar	PSGVPM shahda	M sc
Patil Harshala Jivan	PSGVPM'S	Ty bsc math
Shimpi Vaishnavi Sanjay	PSGVPM Shahada	Msc - 1
Patil Lina Rajaram	PSGVPM SHAHADA	MSc 1
Sunita Sureshkumar Jangid	PSGVPM'S SCI.COMM AND S.I.PATIL ARTS COLLEGE OF SHAHADA	M.sc(mathematics)sem=3
Rawal Harshada Narendrasing	PSGVPM'S sci. Comm. & S. I. Patil Art's collage shahada	S.Y.MSc (mathematics)
Patil bhagvati mohan	kBCNM university jalgaon	FY bsc.computer
Roshani Kailas Jadhav	PSGVPM shahada	TYBSC
Mahajan Narendra Jagannath	Nanasaheb Yashvantrao Narayanrao Chavan Arts, Science & Commerce College	FYBSC (IT)
Saiyyad FohajaNaushinBano Sharfoddin	P.S.G.V.P.M'S A.S.C. College Shahada Dist.Nandurbar	Sy B.sc
Bhavsar Manasi Sunil	Smt. PKKMMV.Bsl	TY BSc
Chaudhari Swati Vinayak	p.s.g.v.p.mandals shahada	Msc-Math 2 nd year
SAMIYA NAAZ AB RAHIM ANSARI	Poojya Sane Guruji Vidya Prasarak Mandal's	SYBSC
Girase Divya Dhansing	P. S. V. G. V. P. Mandal, shahada	Msc
Girase Aakanksha Jitendrasing	P.S.G.V.P. Mandal's lonkheda	Sybsc
Marathe Priyanka Mahendra	P.S.G.V.P.MANDALS	Msc (Mathatics)
Paradke Shital Ashok	Poojya Sane guruji vidya prasarak mandal shahada	T.y Bsc
Tarvi Bhatesing Patil	Ssvps college	Tybsc
Deore pratiksha samadhan	Ssvp's clg dhule	T.y.bsc
Ankita Onkar Akhade	P. S. G. V. P mandal shahada	SyBsc
Koli Avinash Vikas bhai	P S G V P MANDAL SHAHADA	FYBSC
Aman Aamin pinjari	P S G V P Mandal shahada	fybsc
Varshada uddhav Patil	PSGVP Mandal shahada	Msc - 1
Priyanka Takavane	Prof.Ramkrishna More College,Akurdi	
PATEL JANHAVI BHARAT	PSGVP MANDALS SHAHADA	MSc(math)1
Vidya kantilal shirsath	Psg vidya prasarak mandal shahada	Msc 2 math
Kavita bagale	P.s.g.v.p.mandal shahada	Msc2
Satish Manohar Palil	Smt.G.G.khadse College Muktainagar	
Deore kamini Jagdish	Ssvps	T Y Bsc
Khairnar Varsha Rohidas	P.S.G.V.P.Mandal's G.B.patel Science College,Shahada	M.Sc-1 (Mathematics)



Priti Dilip Chaudhari	P.k.Kotecha Mahavidyalay, Bhusawal	FyBsc
Devashri Nandatal Jaware	Smt.P.K.Chotecha Mahila Mahavidyalaya Bhusawal	FY Bsc(cs)
Nikita Ganesh Deshmukhe	P.K.Kotecha Mahila Mahavidyalaya Bhusawal	Fy bsc
Vaishnavi Arjun Bhoi	Smt.p.k.kotecha mahila Mahavidyalaya Bhusawal	Sybsc
Megha Suresh Shirasath	P.S.G.V.P.M Shahada	T.YBSC
Snehal Ramesh sonavane	S.p.p.kotecha mahavidyalay	FY bsc
PRIYANKA YUVRAJ SONAWANE	KMNUJ	SYBSC
Vaishali Raju Wankhede	P.K.Kotecha Mahavidyalaya	FY BSC
Vina Dharamdas Chaudhari	P.S.G.V.P.mandals shahada.	M.Sc(2nd year)
Nehal jagannath patil	Gtp	Fy MSC
Varsha Dipak Nikam	Nanasaheb Yashwantrao Naraynrao chavan	FYBSC
Chetana yuvraj patil	PSGVPM'S college shahada	MSc 2nd year
Neha Vijay Jaware	P k kotecha	Sybsc
Tejashri Gopal Bhoi	Smt.P.K.kotecha Mahavidyalaya Bhusawal.	F.Y.Bsc
Patil Supriya Sunil	SSVPS College Dhule	Msc
Gavande Puja Kishor	SSVPS College, Dhule.	MSC-1
Patil Supriya Sunil	SSVPS College Dhule	Msc-1
Hemangi Manoj Patel	PSGVP MANDAL'S Shahada	F.Y MSC (Mathematics)
Jadhav Sonali Pravin	S.S.V.P.S College Dhule	MSc 1 year
Ashwini Sanjay Nannaware	P.k.kotecha mahila mahavidyalay	Tybsc
Mistari Jayshri Rajaram	PSGVPM'S S.I.P Art's,G.B.P.Science And S.T.K.V.S.commerce College, shahada	T.Y.Bsc Mathamatic
Aachal Praful Patil	P.S.G.V.P. MANDAL SHAHADA	Msc- 1 St year (Math)
Anjali Dilip Hattiwale	Smt. P. K. Kotecha Mahila Mahavidyalay, Bhusawal Tal. Bhusawal Dist. Jalgaon	S. Y. Bsc.
Bagal pallavee prabhakar	PSGVP college shahada	Msc-1
Anjali Sanjay Chavan	P.S.G.V.P.Mandal's Shahada	F.Y.B.Sc
SONAWANE ROSHANI PRAVIN	P.S.G.V.P MANDAL'S SHAHADA	FYBSC
Patil manisha sanjay	Psgvp madal tel -shahada, dist-nandhurbar	Ty bsc math
Arjumand shāikh liyakat ullah	P. K. Kotecha Mahila College	Sy bsc
Shruti Jitendra Chaudhari	Smt.P.K.Kotecha College Mahila Mahavidyalay	S.Y Bsc
Rajeshree Ashok More	Smt.P.K.Kotecha Mahila Mahavidyalaya Bhusawal	SYBsc
Priti jankiram patil	smt.P.K.Kotecha mahila mahavidyalaya Bhusawal	S.Y.Bsc
Priti jankiram patil	Smt.P.K.Kotecha mahila mahavidyalaya bhusawal	S.Y.Bsc
Madhuri Bhutada	Smt. P. K. Kotecha Mahilamahavidyalaya	Faculty
Lineeta Manoharsing Thakur	P K Kotecha Mahila College	FY BSC
Tanuja Rajendra Saindane	PSGVPM COLLEGE SHAHADA	T.Y.B.Sc.

Pawara Shital Ashok	PSGVPM's Shahada	M. Sc. 1(mathematics)
Pawara Shital Ashok	PSGVPM's college ,Shahada.	M. Sc. 1( Mathes)
Yogeshwari Ishwar Mali	P.S.G.V.P.M Lonkheda	MSc 2nd
Yogeshwari Ishwar Mali	P.S.G.V.P.M	MSc 2nd
ANAGHA SANJAY PATIL	Nanasaheb Y.N. Chavhan ASC College Chalisgaon, Jalgaon	FY-BSC
Yogeshwari Ishwar Mali	P.S.G.V.P.M lonkheda	MSc 2nd
Patil Sapana Rajaram	PSGVPM COLLEGE SHAHADA	Msc 1
Nayan Santosh Patil	PSGVPM's ASC collge. shahada	FYBSc
Patil Shital Chhotulal	PSGVPM'S COLLEGE SHAHADA	Other
Bagul Rina kishor	PSGVPM'S shahada	Msc 2 year
Patil Darshana vinod	Dada saheb rawal senior college	SyBsc
Salunkhe neha komal	NNanasaheb Y N Chavan Arts Science and Commerce College Chalisgaon	Fy Bsc
PATEL JANHAVI BHARAT	PSGVP MANDALS SHAHADA	MSc 1 math