



Dayanand Education Society's  
**Dayanand Science College**

Latur, Maharashtra (India)

(UGC - CPE College)

(DST-FIST Sponsored College)

(Best College Award by SRTMU, Nanded)

(Affiliated to - Swami Ramanand Teerth Marathwada University, Nanded)

Establishment : June 1961  
Independent : 1967

**Re-accredited 'A' Grade**

Phone No.: (02382) 221149, 222929

E-mail : daya\_scin1@rediffmail.com

Fax No. : (02382) 221149

Website : www.dsclatur.org

**Laxmiraman Lahoti**

President

**Dr. Jaiprakash Dargad**

Principal

**Ramesh Biyani**

Secretary

Ref. No. *RL/2018-19/257*

Date : 29/01/2018

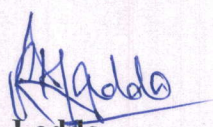
To,  
**The Coordinator,**  
**Dr. C S Ravikumar**  
**Joint Science Education Panel,**  
**Indian Academy of Sciences,**  
**C. V. Raman Avenue,**  
**Banglore 5600080.**  
Email - [ravi@ias.ac.in](mailto:ravi@ias.ac.in)

**Subject :** Submission of report of workshop along with the audited expenditure statement  
**Reference No.:-** SEP/LW/January/2019 Date:- 23 Oct. 2018.

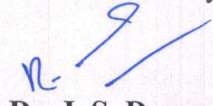
Respected Sir,

With reference to the subject noted above we here by submitting the report of workshop along with the Audited Expenditure Statement of workshop entitled "**Mathematics**" helded at Dayanand Science College, Latur on **11<sup>th</sup> to 13<sup>th</sup> Jan. 2019**. Please acknowledge it and issue the balance payment Rs. Forty Five thousand Three hundred and Seventy Five only (**Rs. 45375/-**).

Thanking you.

  
**R. H. Ladda**  
Coordinator

Yours faithfully,

  
**Dr. J. S. Dargad**  
Principal

**Encl:**

- 1) Brochure and invitation card
- 2) Report of workshop
- 3) The audited expenditure statement
- 4) Schedule of workshop
- 5) List of students participated
- 6) Letter of attendance for participants
- 7) Photographic display
- 8) List of mentors
- 9) Feedback mail of Resource Person

# SCIENCE ACADEMIES' EDUCATION PROGRAMME

SEP/LW/January/2019

23 October 2018

## JOINT SCIENCE EDUCATION PANEL

Dr R. H. Ladda  
Ex- Principal  
Bhagya Nagar  
Old Ausa Road  
Latur 413 512

### Indian Academy of Sciences

Murthy, M.R.N.  
(Chairman)  
Kanharem D.G.  
(Co-Chairman)  
Arunan, E.  
Bachhawat, A. K.  
Balakrishnan, V.  
Chattopadhyay, Nitin  
Dhar, Deepak  
Mukunda, N.  
Radhakrishnan, T. P.  
Rangarajan, Govindan  
Saidapur, S.K.  
Sankaran, P.  
Satheesh, S.K.  
Sebastian, K. L.  
Sengupta, Pulak  
Subramaniam,  
Annapurni

### Indian National Science Academy

Chattaraj, P. K.  
Chaudhuri, Probal  
Ghosh, Amit  
Goswami, J.N.

### The National Academy of Sciences, India

Dimri, V.P.  
Khurana, Paramjit-  
Misra, Gadadhar  
Mittal, J.P.

### Contact Address

Ravikumar, C.S.  
Coordinator  
Science Education  
Programme  
Indian Academy of  
Sciences  
P.B. No. 8005  
C.V. Raman Avenue  
Sadashivanagar P.O.  
Bengaluru 560 080  
India

### Telephone:

91-80-2266 1210  
91-80-2266 1207  
Fax:  
91-80-2361 6094

Sub: Lecture Workshop on "Mathematics" at Dayananda Science College, Latur during 11-13 January 2019.

Dear Dr Ladda,

This has reference to the letter forwarding a proposal and budget for organizing a three-day Lecture Workshop at Dayananda Science College, Latur. The Joint Science Education Panel of the three Academies will be happy to sponsor and support the Lecture Workshop. We note that Prof. Sudhir R. Gorpade (IIT, Bombay, Powai) will be the workshop Convener and that you will be the Workshop Co-ordinator.

(a) Your budget of Rs. 1,81,500/- excluding travel expenses. (Resource Persons travel expenses (i) II tier A/C train fare for persons below the age of 60 (ii) air travel by Air India only for Resource Persons over the age of 60) for 150 participants has been approved by the Science Education Panel. As per the guidelines, the ideal number of participants in a Lecture Workshop should be **between 100 and 125** and in any case **should not exceed 150**, to maximize interaction between participants and resource persons. **Please note that you have to adhere to our guidelines and the approved amount is strictly following the budget heads in the guideline.**

(b) Please note that only the names of Convener and Coordinator of the Workshop should be included in brochure/invitation etc. **Names of members of the management, organizing committees, patrons etc should be strictly avoided.**

(c) Please ensure that the expenditure on individual items does not exceed the sanctioned **BUDGET HEAD. If the actual expenditure exceeds the sanctioned budget, THE HOST INSTITUTION SHOULD TAKE CARE OF THE DIFFERENCE.**

(d) Lecture Workshops are sponsored and supported by the three National Science Academies – IASc, INSA and NASI. The names of **INDIAN ACADEMY OF SCIENCES (BENGALURU), INDIAN NATIONAL SCIENCE ACADEMY (NEW DELHI) and THE NATIONAL ACADEMY OF SCIENCES, INDIA (ALLAHABAD)** should therefore be mentioned in all publicity material such as programme sheet, invitation cards, etc.

(e) **It may be noted that no formal certificates should be issued to participants.** A letter of attendance signed by Coordinator may be issued to those who need it.

(f) The Workshop should be called Science Academies' Lecture Workshop in "Mathematics".

(g) You should send us three copies of the printed programme cards once it is printed.

(h) We urge you to open a new bank account in the name of the lecture workshop or in the name of the principal and provide full details of the account:

1. Account No;
2. Name of the Account Holder;
3. Name of the Bank;
4. Name of the Branch;



Indian Academy



Indian National



The National Academy

5. IFS code for non-SBI accounts.

Alternatively, you can provide us the existing college bank account number to which we can transfer the amount.

The audited expenditure statement/utilization certificate duly signed by competent authority (CA or Financial Controller) to be sent along with the report, once the Course is over. This is required for the audit compliance. The format will be sent to you separately.

You can go ahead with organizing the Workshop in consultation with Prof. Sudhir R. Gorpade.

With regards,

Yours sincerely,



C S Ravi Kumar  
Coordinator

Science Education Programme

## Dayanand Science College, Latur

### Format for Sending Statement of Expenditure for 3 Days Lecture Workshop

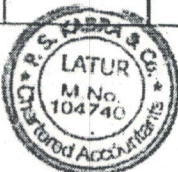
#### 3 Days Lecture Workshop In Mathematics for M.Sc. I and II year students

Dates- 11<sup>th</sup> - 13<sup>th</sup> January, 2019

Total participants approved by IAS:- 150 No. actually participated - 150

(Students: 150 ; Resource Persons: 5 ; Supporting Staff: 4)

Sl. No.	Budget head / amount sanctioned (Rs)	Bill No. & Date	Particulars (name of payee / item)	Amount spent
1	Publicity: Rs _____ Banner, circular, registration forms, programme cards invitation cards, letter of attendance, etc	1094 02.01.2019	a. Kirti Offset Printers, Latur for Banner 10'x5' - 1	550.00
		1085 08.01.19	b. Sayali Graphics and Printers, Latur for Letter of Attendance - 150, Testimonial - 10, Invitation Card -60 & Invitation Pocket - 60 and Broucher - 35	2000.00
		1072 21.12.2018	c. Sayali Graphics and Printers, Latur for Math Broucher with Pocket Desgin - 100	2200.00
		1067 07.01.2019	d. Kirti Offset Printers, Latur for Disgine and Print	550.00
		23 10/01/2019	e. Gajanand General Stores, Latur, For Marker Pen 20 x 25	500.00
		<b>Total</b>		
2	Registration & stationery: Rs _____ (Pad, pen, pencil, photostat copies etc)	615 21/12/2018	a. M/s Latur Genral Stores, Latur for Regu. Long Book - 160, Ball Pen - 160.	9600.00
		1018 04/01/2019	b. Latur General Stoers, Latur for File	2700.00
		38 28/01/2019	c. Verma Xerox, Latur for Time-Table Xerox 160 x 2, Feedback forms 1650 x 2 x 3, Notes Xerox Copies 160 x 5 x 2	2880.00
		<b>Total</b>		
3	Food: Rs _____ Breakfast, lunch, tea/coffee biscuits	14.01.2019	a. Jay Jagdish Caters, Latur for 11-13 Jan.2019 Breakfast & Lunch 160 students and supporting Staff 160x3x200 = 96000	96000.00
		<b>Total</b>		
4	a. Honorarium for resource persons (at Rs. 2000/- per lecture)	13.01.2019	a. Dr. Nitin Nitsure	15000.00
		13.01.2019	b. Dr. Sudhir R. Ghorpade	15000.00
	b. Honorarium for convener/co-ordinator (Rs 2500/ Rs 2000)	13.01.2019	a. Dr. Sudhir R. Ghorpade	2500.00
		14.01.2019	b. Shri. R. H. Ladda	2000.00
	c. Honorarium for supporting staff (not more than 2 or 3 persons and at most Rs 2,000/- total)	14.01.2019	a. Dr. S. S. Bellale	500.00
		14.01.2019	b. Shri. V. A. Naikwade	500.00
		14.01.2019	c. Shri. Tukaram Hake	500.00
		14.01.2019	d. Shri. Amol Kshirsagar	500.00
<b>Total</b>			<b>36500.00</b>	
5	Boarding/lodging of resource persons	3571 13.01.2019	a. Dr. Sudhir R. Ghorpade, Arrival Date 11 Jan. 2019 and Departure Date - 13.01.2019 Room Tariff- 1600 Room Type - AC	6067.00
		3570 13.01.2019	b. Dr. Nitin Nitsure, Arrival Date 11 Jan. 2019 and Departure Date - 13.01.2019 Room Tariff- 1600 Room Type - AC	5995.00
		<b>Total</b>		

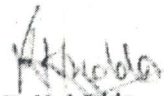



Travel expenses for resource persons		Date	Description	Amount
		13/01/2019	a. Dr. Sudhir R. Ghorpade Mumbai to Latur and Latur to Mumbai	3071.00
		13/01/2019	b. Dr. Nitin Nitsure for Mumbai to Latur and Latur to Mumbai	2220.00
			c. Dr. Jugal Verma CSTM to Latur and Latur to CSTM Cancellation Tickets	480.00
			<b>Total</b>	<b>5771.00</b>
a.	Local transport		a. Ganesh Taxi Travels MH-24-AF-212	4500.00
		755 11/01/2019	b. Omsai Pushpahar Stall, Dayanand Gate, Barshi Road, Latur, Bukke - 6 and Har - 1	340.00
		1198 14/01/2019	c. Sapana Digital Photo Studio and Video Shooting, Latur Photography and Album - 100	2000.00
		25/12/2018	d. Hake Tukaram, for Postage	400.00
		26537 09/01/2019	e. Uday Automotive Services, Latur, for Petrol	40.00
		646 13/01/2019	f. S. F. Flower Stall, Latur for Bukke -3	290.00
		3798 04/01/2019	h. Yogeshwari Bag, Latur 3 x 250 For Resoucre Person	750.00
		666 28/01/2019	g. Audit Fees	2000.00
			<b>Total</b>	<b>10320.00</b>
			<b>Total:</b>	<b>181633.00</b>

Project Cost Amount	181500.00
1) Funds received	136125.00
2) Expenditure Amount	181633.00
3) College Share	133.00
4) Reimbursed Amount (1-2)	45375.00
5)	

Amount to be refunded/ reimbursed (whichever is appropriate) : Rs. 45375.00

(Rs. Forty five thousand Three hundred Seventy Five only)

  
Shri. R. H. Ladda  
Coordinator

  
Dr. J. S. Dargad  
Principal  
*Principal*  
Dayanand Science College  
Latur - 413 631

Signature of Competent financial/ audit authority

(with seal)  
Date





## Coordinator's Report

### Science Academic Mathematics Workshop 11<sup>th</sup> to 13<sup>th</sup> Jan. 2019

The Broucher were printed and were posted to different Colleges and Universities in Maharashtra for publicity. Accordingly 180 Registration forms were received. On 11<sup>th</sup> Jan. 2019, 153 students have registered their names. File, Register, Pen and Time-Table etc. were given to these registered participants.

There are 50 students from Rajarshi Shahu College, Latur, 10 Students from Mahatma Basweshwar College, Latur, 89 Students from Dayanand Science College, Latur, 4 students from Yogeshwari College, Ambajogai and 16 students from S.R.T.M. University and other colleges from Nanded list of students from different colleges is enclosed .



Three Resource Persons were invited. At the 11<sup>th</sup> hour Dr. Jugal Verma has refused to come. Hence Dr. Sudhir R. Ghorpade and Dr. Nitin Nitsure have covered all the Topics

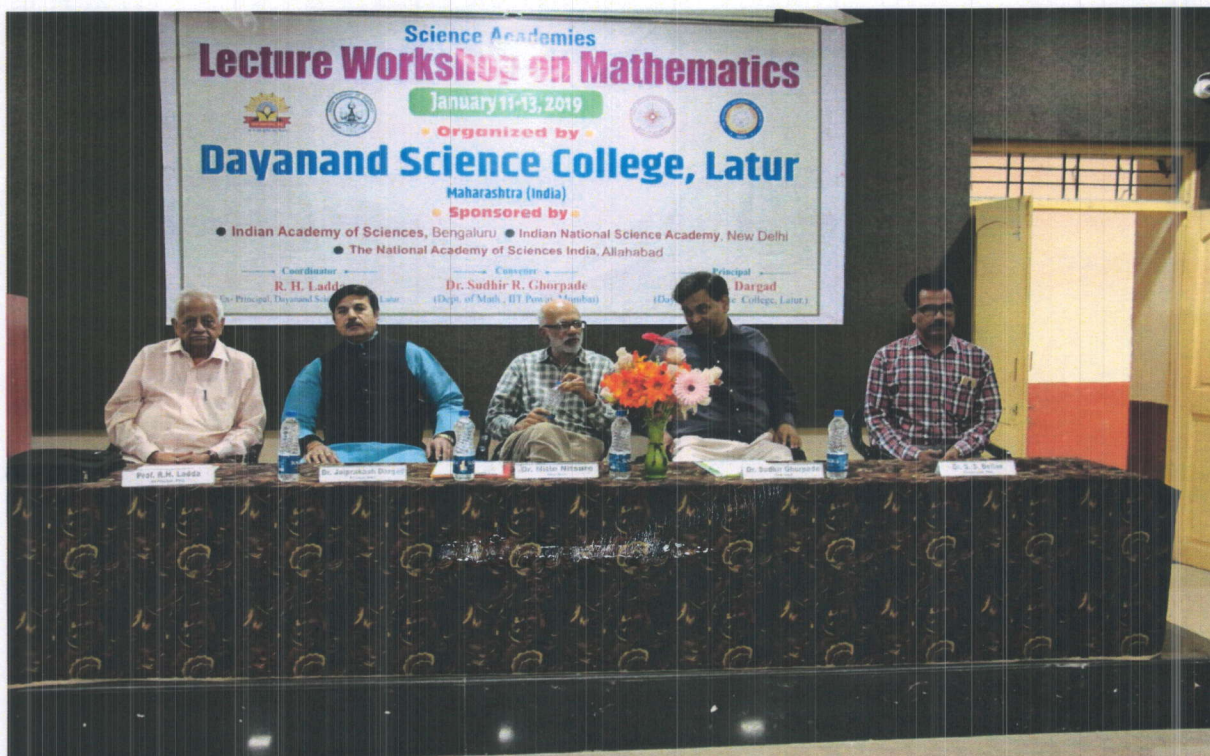
1) Algebra, Linear Algebra 2) Mechanics, 3) Number Theory and 4) Real Analysis as per Time – Table. The abstract of their topics covered are enclosed.

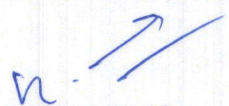
As per new suggestions we have obtained the feedback forms on the topics taught of the participants are also enclosed. Students of M.Sc. Part I, Part II have participated and have shown active part by interacting with the resource persons by asking different questions. Few problems were also solved.

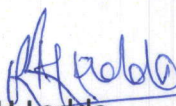


Hard copies of the photographs are also enclosed while Teaching the Resource Persons in the class and such other few photographs. Notes given by resource persons on certain topics are Xeroxed and circulated to all students.

In a valedictory function 5 students have expressed their views about the Three Days Workshop. Attendance letters were issued to all the students Dr. Sudhir Ghorpade and Dr. Nitin Nitsure have expressed their views about the Workshop. Principal Dr. J. S. Dargad has mentioned about the Refresher Courses and the Workshops, Inspire Camps etc during this Academic Year 2018-19 and how there were beneficial to the staff and students. Dr. S. S. Bellale Head Dept. of Maths and Vice-Principal were also present. At last I must thank to the coordinator. Ravikumar and Geetha madam for providing the funds and other necessary information on behalf of Indian Academy of Sciences Bangaluru.



  
PRINCIPAL  
Dayanand Science College  
LATUR

  
R.H.Ladda  
Coordinator

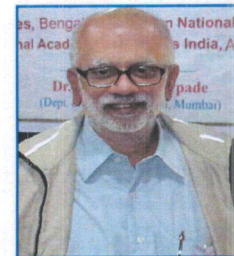


## Name and Addresses of Mentors

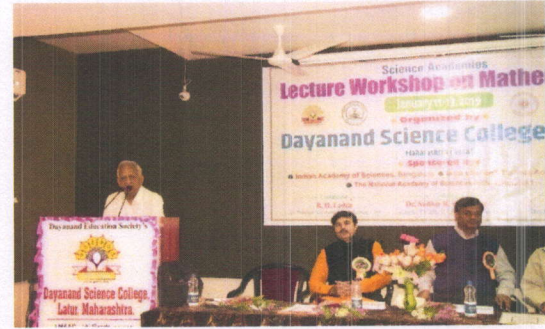
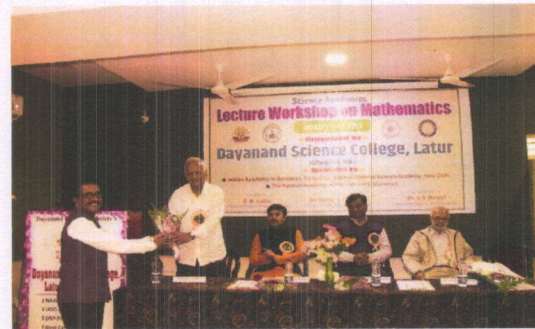
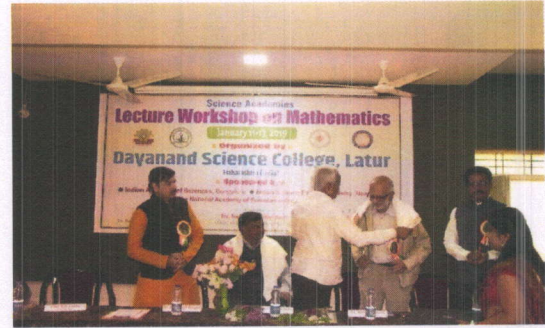
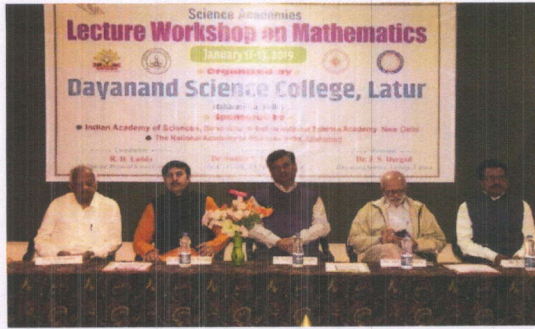
- 1) **Name** : **Prof. Dr. Sudhir R. Ghorpade**  
**Qualification** : Ph.D.  
**Address** : IIT Powai, Mumbai 400076.  
**Residential Address** : B-270 Nilgiri, IIT Powai, Mumbai 400076.  
**Mobile No.** : 9892768162  
**E-mail Address** : [srg@math.iitb.ac.in](mailto:srg@math.iitb.ac.in)



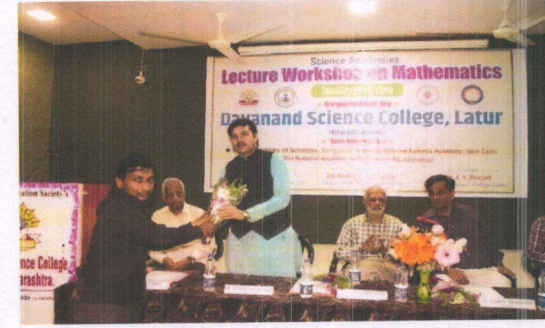
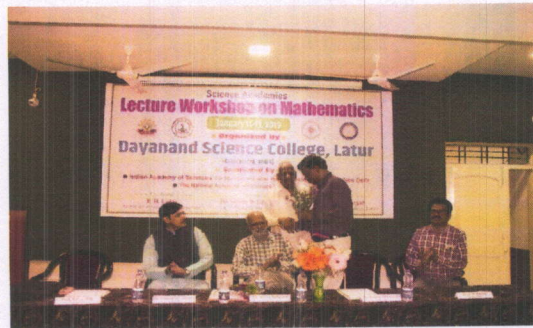
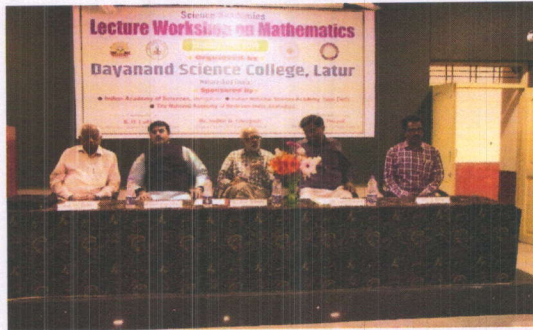
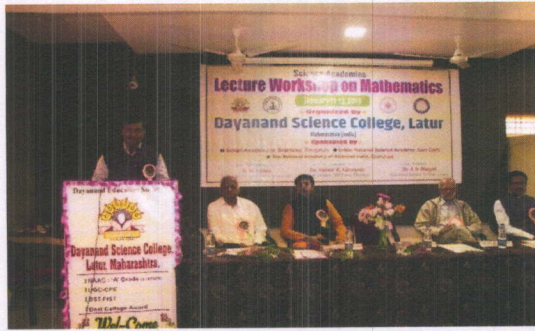
- 
- 2) **Name** : **Prof. Dr. Nitin Nitsure**  
**Qualification** : Ph.D.  
**Address** : TIFR, Mumbai - 400005.  
**Residential Address** : TIFR, Mumbai - 400005.  
**Mobile No.** : 9869020788  
**E-mail Address** : [nitsure@math.tifr.res.in](mailto:nitsure@math.tifr.res.in)



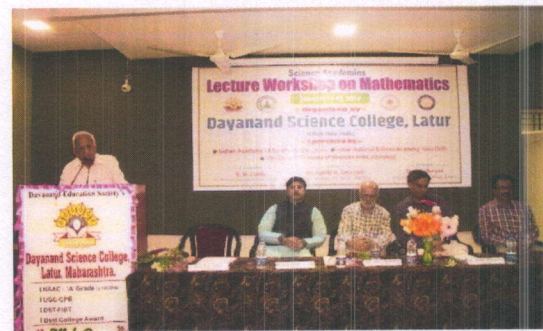
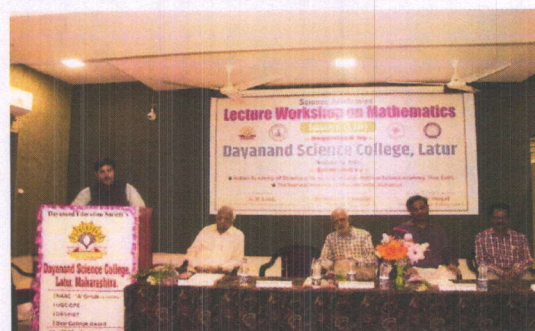
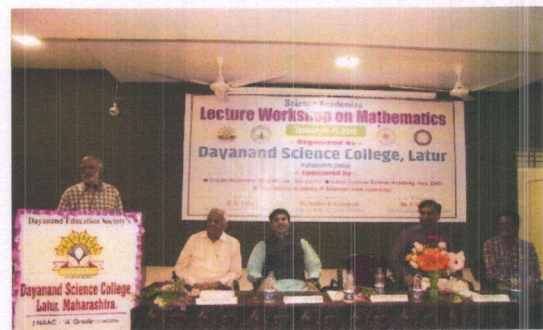
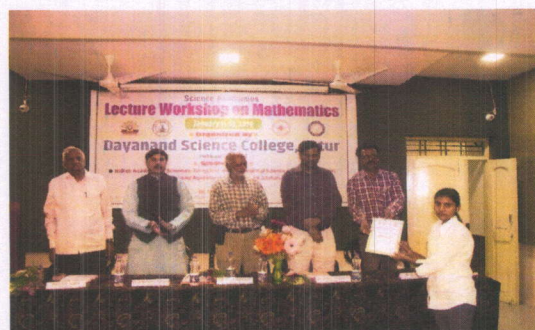
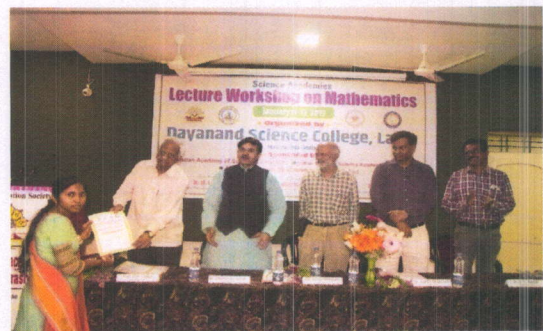
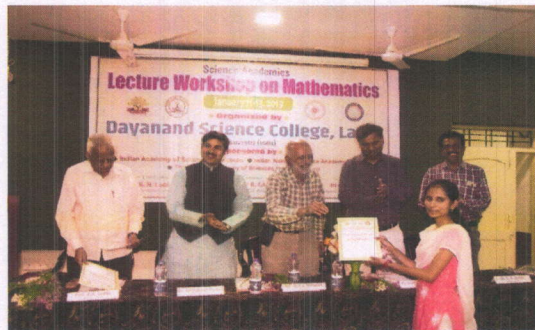
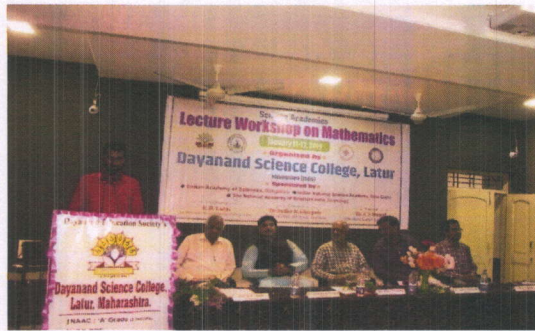
**Glimpses of Science Academic Mathematics Workshop - 2019**  
**at Dayanand Science College, Latur**  
**Jan. 11-13, 2019**



**Glimpses of Science Academic Mathematics Workshop - 2019**  
**at Dayanand Science College, Latur**  
**Jan. 11-13, 2019**



**Glimpses of Science Academic Mathematics Workshop - 2019**  
**at Dayanand Science College, Latur**  
**Jan. 11-13, 2019**



# Science Academies Lecture Workshop on Mathematics

January 11-13, 2019

Organized by  
**Dayanand Science College, Latur**  
Maharashtra (India)

Sponsored by  
● Indian Academy of Sciences, Bengaluru ● Indian National Science Academy, New Delhi  
● The National Academy of Sciences India, Allahabad

Coordinator  
**R. H. Ladda**  
Ex-Principal, Dayanand Science College, Latur

Convener  
**Dr. Sudhir R. Ghorpade**  
(Dept. of Math., IIT Powai, Mumbai)

Principal  
**Dr. J. S. Dargad**  
(Dayanand Science College, Latur.)





**Dayanand Science College, Latur. (M.S.)**  
**Science Academies Lecture Workshop On Mathematics**  
 (11<sup>th</sup> to 13<sup>th</sup> January, 2019)

**Time-Table**

Day & Date	8.00 - 09.30	Period - I	Period - II	12 to 12.15	Period - III	1.30 to 2.30	Period - IV	3.45 to 4.14	Period - V	5.30 - 6.00
Time		9.30 - 10.45	10.45 - 12		12.15 - 1.30		2.30 - 3.45		4.15 - 5.30	
Friday 11/01/2019	<b>Registration &amp; Inaugural Function</b>	Prof. Dr. Nitin Nitsure School of Mathematics, TIFR, Colaba, Mumbai <b>Linear Algebra: Review of basic notions, systems of linear equations</b>	Prof. Dr. Sudhir Ghorpade Department of Mathematics, IIT Bombay, Powai, Mumbai <b>Linear Algebra: Finite dimensional vector spaces, bases, matrices and linear transformations</b>	<b>Interval</b>	Prof. Dr. Nitin Nitsure School of Mathematics, TIFR, Colaba, Mumbai <b>Mechanics: Generalised coordinates; Hamilton's canonical equations</b>	<b>Lunch Break</b>	Prof. Dr. Sudhir Ghorpade Dept. of Mathematics, IIT, Powai, Mumbai <b>Algebra: Review of basic notions from Group Theory</b>	<b>Tea Break</b>	Prof. Dr. Nitin Nitsure School of Mathematics, TIFR, Colaba, Mumbai <b>Tutorial Problem Solving</b>	
Saturday 12/01/2019		Prof. Dr. Sudhir Ghorpade Department of Mathematics, IIT Bombay, Powai, Mumbai <b>Algebra: Group actions, Sylow's Theorems. Applications</b>	Prof. Dr. Nitin Nitsure School of Mathematics, TIFR, Colaba, Mumbai <b>Mechanics: Variational Principles: Hamilton's principles and principles of least action</b>		Prof. Dr. Sudhir Ghorpade Dept. of Mathematics, IIT Bombay, Powai, Mumbai <b>Number Theory: Divisibility, Linear Diophantine equations</b>		Prof. Dr. Nitin Nitsure School of Mathematics, TIFR, Colaba, Mumbai <b>Mechanics: Three-dimensional motion of a rigid body</b>		Prof. Dr. Sudhir Ghorpade Dept. of Mathematics, IIT Bombay, Powai, Mumbai <b>Tutorial Problem Solving</b>	
Sunday 13/01/2019		Prof. Dr. Nitin Nitsure School of Mathematics, TIFR, Colaba, Mumbai <b>Real Analysis: Differentiability, MVT and Taylor's Theorem</b>	Prof. Dr. Sudhir Ghorpade Dept. of Mathematics, IIT Bombay, Powai, Mumbai <b>Number Theory: Arithmetical functions. Mobius inversion</b>		Prof. Dr. Nitin Nitsure School of Mathematics, TIFR, Colaba, Mumbai <b>Real Analysis: Quick outline of Riemann integration</b>		Prof. Dr. Sudhir Ghorpade Department of Mathematics, IIT Bombay, Powai, Mumbai <b>Number Theory: Quadratic residues, Law of quadratic reciprocity</b>		Prof. Dr. Nitin Nitsure and Prof. Dr. Sudhir Ghorpade TIFR, Mumbai, and IIT Bombay <b>Tutorial Problem Solving</b>	<b>Valedictory Function</b>

Principal

Co-Ordinator