



# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

03/10/2022


## NOTICE

### DEGREE COLLEGE

Department of Physics is organising a Value-Added Course on Modeling and Simulation from 10 October 2022 onwards. The resource person for the value-added course will be Mr. Shreerang Sundaram from Energy Science and Engineering Department, IIT Bombay. On successful completion students will be eligible for 2 credits.

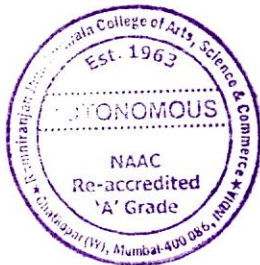
Date: 10<sup>th</sup> October 2022 onwards

Time: 2 pm onwards.

  
HoD Physics

  
Principal

RAMNIRANJAN JHUNJHUNWALA COLLEGE  
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)  
Ghatkopar (W), Mumbai-400 086, Maharashtra, IN



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## BROCHURE



Hindi Vidya Prachar Samiti's  
**Ramniranjan Jhunjunwala College**  
(Autonomous)  
Ghatkopar (W), Mumbai - 400 086



# Department of Physics

ORGANIZES  
DBT STAR ACTIVITY

VALUE ADDED COURSE OCT. 22  
MODELING AND SIMULATION

By

**MR. SREERAG SUNDARAM**  
(ENERGY SCIENCE AND ENGINEERING, IITB)

COURSE CODE : RJPHYC03 CREDITS : 02 DURATION : 30 hr  
FROM 10th TO 20th October, 2022 TIMING : 2 PM TO 5 PM

Medium of Instruction : English  
Who should do it? : Undergraduate students.  
Certificate : Certificate of participation will be awarded to participants with more than 80% attendance.

Registration : No Registration fee  
Please Register using following link:  
<https://forms.gle/LCWVYyvcWP8SXGG17>

For more details Click on the following link :  
[https://docs.google.com/document/d/1N63JhEtdfjG62Dk\\_m21GXfH3M2P\\_A5Z/edit?usp=sharing&oid=1025991317497618997961&tpof=true&ed=true](https://docs.google.com/document/d/1N63JhEtdfjG62Dk_m21GXfH3M2P_A5Z/edit?usp=sharing&oid=1025991317497618997961&tpof=true&ed=true)

HURRY UP  
LIMITED SEATS AVAILABLE  
LAST DATE : 08/10/2022



  
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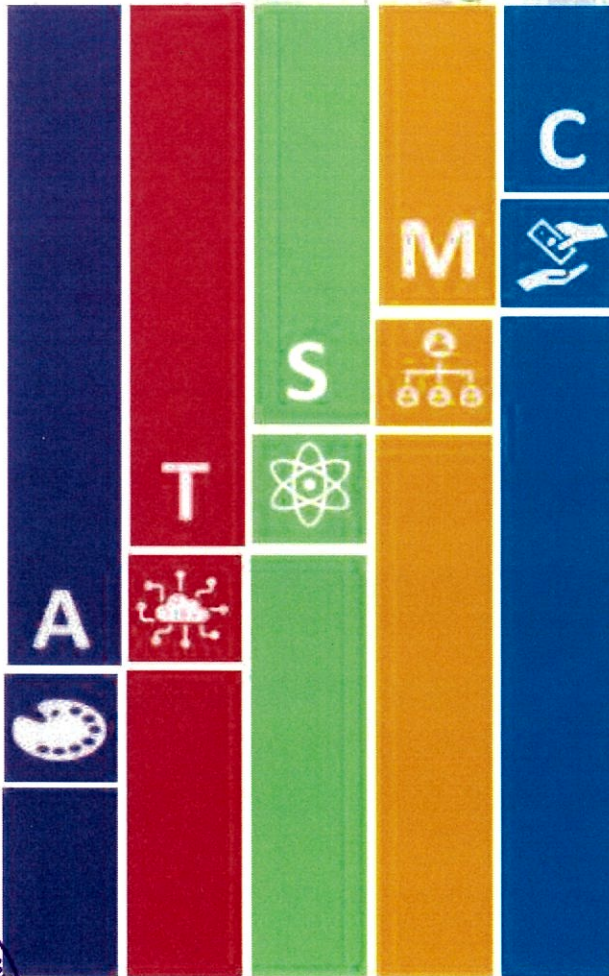


## Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE (AUTONOMOUS)

(Also known as R. J. College of Arts, Science & Commerce as per UGC Notification)

Affiliated to UNIVERSITY OF MUMBAI II Recognized by UGC under 2f & 12B  
NAAC Accredited 'A GRADE' with CGPA 3.50

### Knowledge is all Ambrosia



### CERTIFICATE COURSE IN

### MODELING AND SIMULATION

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## CERTIFICATE COURSE IN MODELING AND SIMULATION



Hindi Vidya Prachar Samiti was incepted on the auspicious day of Shri Krishna Janmashtami, 15th August 1938. A brain child of a visionary Late Shri Nandkishore Singh Jairamji, samiti was established with the objectives of catering to the educational needs of the Hindi speaking community. Ramniranjan Jhunjhunwala College came into existence in 1963, enabling a larger section of the society to take advantage of the facilities provided for higher education.

From 1999-2000 the College has added a number of self-financing courses like B.M.S., B.B.I., B.Sc. in Computer Science, Information Technology, Biotechnology, M.Sc. in Computer Science, Biotechnology and Information Technology as well as add on courses, which further hone the special skills of the students.

The college has been reaccredited with 'A' Grade by NAAC in 2014 with a CGPA 3.50 and received the Best College Award (2007-2008) of the University of Mumbai. The College has been bestowed with IMC "Ramkrishna Bajaj Performance Excellence Trophy", 2010.

The Principal of the college was awarded "Best Teacher" by Government of Maharashtra in 2011.

Government of Maharashtra conferred the college with "JAAGAR JAANIVANCHA" (First in Mumbai Suburban- in 2013 and Second in Mumbai Suburban- in 2014) for safety of girls.

Course Code: **RJPHYC03**

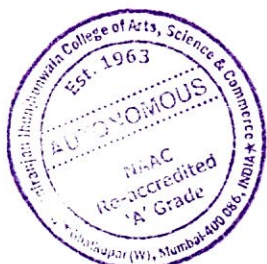
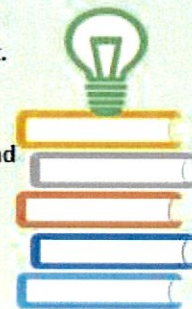
Duration: **30** hours

Credits : **02**

## LEARNING OUTCOME

At the end of this course student will be able to

- Understand the basic electronic components and their application in constructing a circuit.
- Learn to use Phyxox App and carry out experiments
- Use GNUPlot Software to generate graphs and plots



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CERTIFICATE COURSE IN **MODELING AND SIMULATION**



## COURSE CONTENT

- Module 1: Introduction to Electronics
- Module 2: Circuit Designing and Construction
- Module 3: Co-ordinate System and Constellation
- Module 4: Introduction to Telescope
- Module 5: Observation Activity
- Module 6: Introduction to Phyphox I
- Module 7: Introduction to Phyphox II
- Module 8: Introduction to 'GNUPlot' Software



English

### MEDIUM OF INSTRUCTION

### EVALUATION

 Continuous evaluation

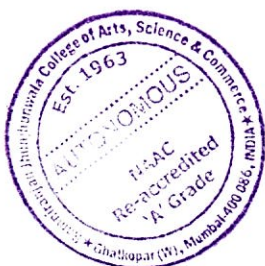
### 100 MARKS



### PASSING 40

### WHO SHOULD DO IT?

Any student and teaching staff from Science faculty



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GHATKOPAR (W) MUMBAI – 86.  
Department of Physics

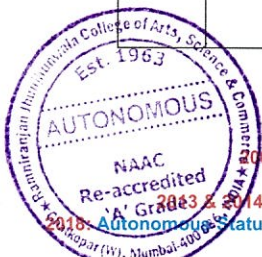
Date: 10<sup>th</sup> – 20<sup>th</sup> October 2022

Timing: 2 pm to 5 pm

Topic: Modelling and Simulation, Octave.

(Last 20 mins from Lecture 3 would be devoted to discussion of projects. If any.)

Sr. No.	Day	Date	Content	Comment
1	Monday	10/10/22	<ul style="list-style-type: none"> <li>Introduction to modelling and simulation, octave.</li> <li>Basic commands, Compiling, keywords, operators, Data types, Conversions.</li> <li>Matrix/Vectors, importance and background to operations in Octave.</li> </ul>	Project Groups
2	Tuesday	11/10/22	<ul style="list-style-type: none"> <li>Data structure and loops (iterations).</li> <li>Strings.</li> </ul>	
3	Wednesday	12/10/22	<ul style="list-style-type: none"> <li>Functions pass by value/ pass by reference.</li> <li>I/O operations.</li> </ul>	
4	Thursday	13/10/22	<ul style="list-style-type: none"> <li>Plotting + graphics (2D and 3D).</li> <li>Hands-on tutorial.</li> </ul>	Last day to finalise project topics.
5	Friday	14/10/22	<ul style="list-style-type: none"> <li>Differential Equations.</li> <li>Numerical methods.</li> </ul>	
6	Saturday	15/10/22	<ul style="list-style-type: none"> <li>Tutorial.</li> <li>Topic-based case study: Mechanics(SHM)</li> </ul>	Students are now equipped to take on projects themselves.
7	Monday	17/10/22	<ul style="list-style-type: none"> <li>Topic-based case study:</li> <li>Heat transfer.</li> </ul>	



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## REPORT

A value-added course on '*Modeling and Simulation*' was conducted from October 10 to 20, 2022 by Mr Shreerang Sundaram, Energy Science and Engineering Department, IIT, Bombay.

No. of beneficiaries: 30 UG students, 19 successfully completed the course.



  
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## RAMNIRANJAN JHUNJHUNWALA COLLEGE. (Autonomous)

GHATKOPAR (w) MUMBAI - 86,  
PHYSICS DEPT. 10/10/2022.  
VALUE ADDED COURSE

### Attendance Record

SR. NO.	Class Roll No.	Name of the Students	Date 15/10/22	Date 17/10/22	Date 20/10/22	Date
1	226	Vishwakarma Gopi	Gopi	Gopi	Gopi	
2	305	Rai Vishvajeet M.	Vishv Rai	Vishv Rai	Vishv Rai	
3	229	Javdekar Mayuri	Mayuri	Mayuri	Mayuri	
4	223	Shinde Mithilesh	Mithilesh	Mithilesh	Mithilesh	
5	09	Yadav Shivam	Shivam	Shivam	Shivam	
6	211	Pal Arvind	Arvind	Arvind	Arvind	
7	218	Chauhan Sneha	Sneha	Sneha	Sneha	
8	234	Maurya Roshan D	Roshan	Roshan	Roshan	
9	12	Prasad Sachin kumar	Sachin	Sachin	Sachin	
10	15	Shaikh Daraksha	Daraksha	Daraksha	Daraksha	
11	559	Avinash kumar	Avinash	Avinash	Avinash	
12	220	Kharate Mayur M	Mayur	Mayur	Mayur	
13	65	Khan Jibraan	Jibraan	Jibraan	Jibraan	
14	26/04	Chaudhary Iftah Iftah	Iftah	Iftah	Iftah	
15	27	Saroj Shruti	Shruti	Shruti	Shruti	
16	64	Sawant Arjun	Arjun	Arjun	Arjun	
17		Mishra Aparna	Aparna	Aparna	Aparna	
18	75	Mali Sonal B	Sonal	Sonal	Sonal	
19	81	Sushma Sharma	Sushma	Sushma	Sushma	
20						
21						
22						
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24						
25						



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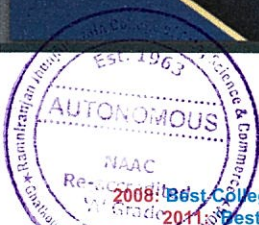
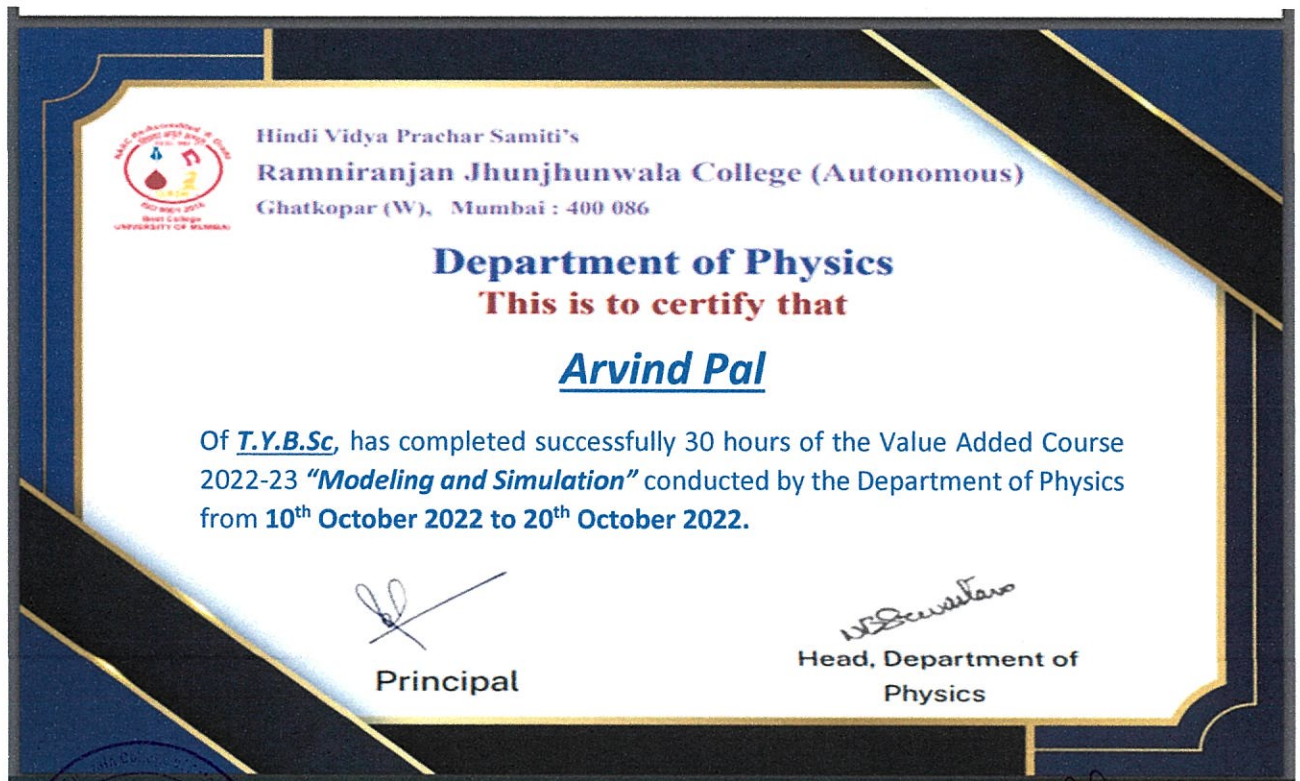
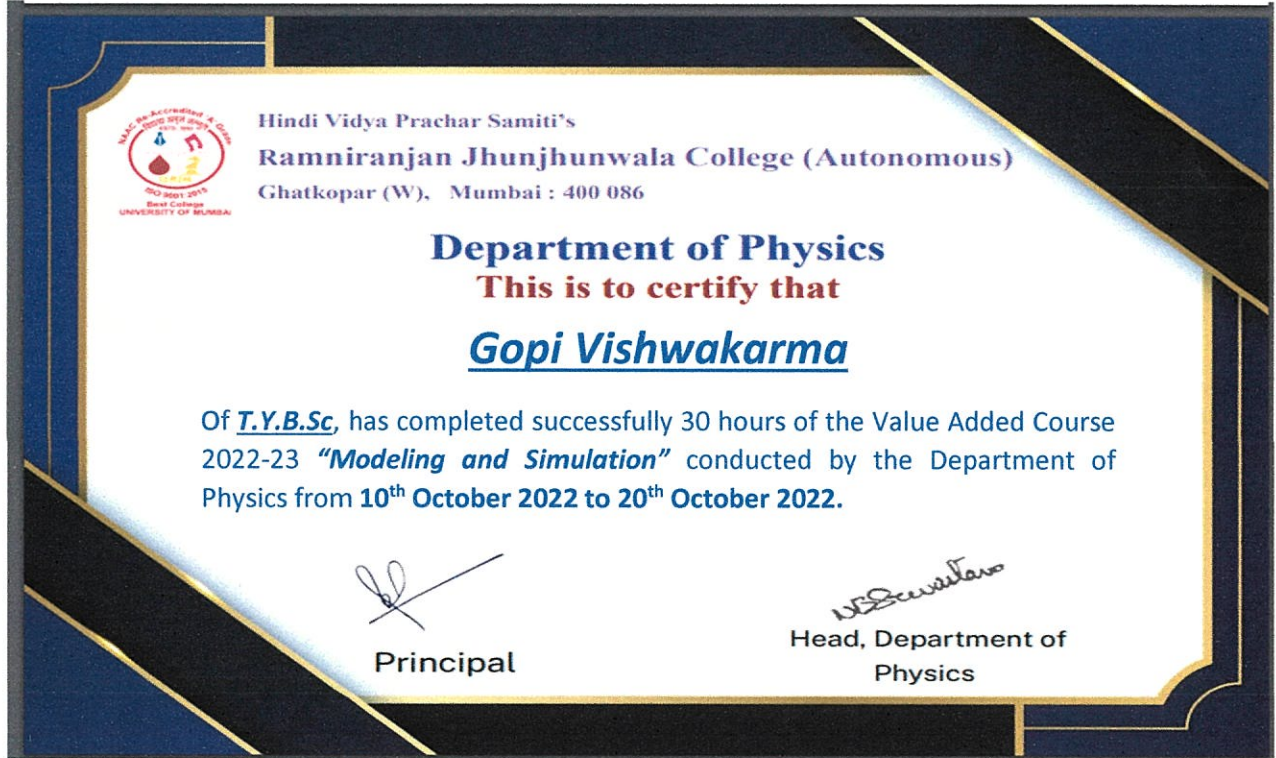
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**Certificates**



  
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