



शिव छत्रपती  
शिक्षण संस्था  
लातूर

॥ आर्येह तमसो ज्योतिः॥

स्थापना - १९७०

# Shiv Chhatrapati Shikshan Sanstha's Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

NAAC Accredited B++ Grade with CGPA 2.99(Cycle-III),  
ISO:9001:2015, UGC-CPE (Phase-III),DST-FIST Status

## DEPARTMENT OF COMPUTER SCIENCE

HANDOUT



## ABOUT

Welcome to the Department of Computer Science, where innovation meets opportunity. At our department, we are dedicated to providing students with a comprehensive education in computer science that prepares them for success in today's digital world. The Department of Computer Science was established in the year 1999 with one optional subject computer science for B. Sc. Programme. The need for this department arose from necessity to spread education in the field of computer science in the rural areas. Our department offers programmes tailored to meet the diverse needs and interests of students. Undergraduate programmes include:

**B. Sc. (Major Computer Science) as per NEP 2020.**

and prior to NEP 2020

**B. Sc.**

(Computer Science with Physics and Mathematics)

(Computer Science with Physics and Electronics)

**B. Voc. (Computer Technology)**

These programmes provide students with a strong foundation in computer science fundamentals, including programming languages, algorithms, data structures, web development, Android application development and software engineering principles. B. Voc. curriculum has been designed as per NSQF standards including the job roles of Web Developer, Trainer for Junior Software Developer and Software Developer at levels 5, 6 and 7 respectively.

For those looking to pursue advanced studies, we also offer postgraduate programme

**M. Sc. in Computer Science.**

This programme delves deeper into specialized areas of computer science, allowing students to explore advanced topics such as Advanced Python Programming, IoT, IoT & Cloud, Big Data Analysis, Soft Computing and Machine Learning, which are recent industry requirements. Additionally, our department offers various certificate courses and Skill Enhancement Courses.

### Infrastructural Development

Infrastructural development in our department involves the enhancement and expansion of physical resources, technological tools, and support systems to facilitate teaching and research within the department.



#### Physical Resources

**1 Workstation with following Hardware Configuration.**

AMD Ryzen 9 7950x Processor  
32 GB RAM  
12GB GPU  
1 TB SSD  
27" Samsung Curved LED



#### 43 Dell Vostro 3470 PCs with following configuration

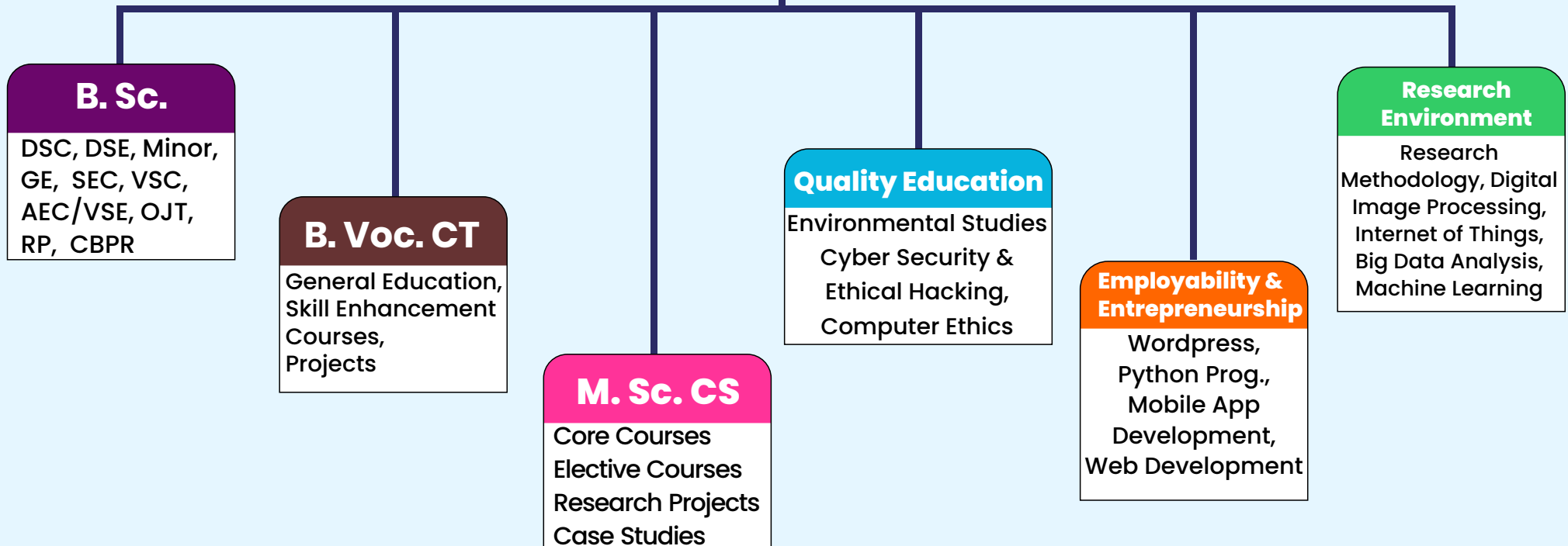
Intel i5 12<sup>th</sup> Generation Processor  
12 GB RAM, 512GB SSD, 1 TB HDD, 1 DVD Writer, 18.5' In LED

**Technological Tools** - MS Windows 10 OS, MS Office 2019, R Software, Python, LINUX OS, Android Studio, Kotlin, JAVA, Eclipse IDE, VS Code, Word Press, MySQL, PostGreSQL

## Curriculum Enhancement

While designing the curriculum, our department focuses on enhancing the content, structure, and delivery of educational programs to ensure they remain relevant, comprehensive, and aligned with industry trends and academic advancements. Additionally, we are dedicated to enhancing employability, entrepreneurship, and skill development among our students through a diverse range of core, skill enhancement, elective and general courses.

### Curriculum Highlights



## Teaching & Learning Strategies

Teaching and learning strategies in computer science are tailored to the unique nature of the subject, which often involves abstract concepts, problem-solving skills, and practical application.

### Teaching Learning Process

#### Teaching Plan

Prepared in the Beginning of the semester & given to the students

#### Time Table

Departmental & Individual Time Tables

#### Use of ICT

Power-Point Presentation, Google Classrooms & Software

### Student Centric Methods

#### Experiential Learning

Poster Presentation, Exhibition in Extension Activities

#### Participative Learning

Participation in Seminar, Guest Lectures, Conferences

#### Problem Solving

Coding Competition, Projects , Programming Tests

## Research Activities

The Department is recognized Research Center by SRTMU, Nanded, in Computer Science. It is a hub where research scholars engage in cutting-edge studies. Our faculty, researchers, and students collaborate to tackle problems in computing, Image Processing, IoT and Data Analysis fields.

### Key areas of research :

1. Deep Learning and Medical Image Processing for Automated Detection of COVID-19 Cases
2. Design and Development of Machine Learning Model for Multi-Factor Dependent Prediction and Analysis
3. Novel Design and Analysis Techniques for Image Inpainting
4. An Enhanced Mining of Negative Association using Extended Patterns
5. Synergistic Fusion of Edge Preprocessing & Cloud Based Deep Learning in Real time object detection in smart video surveillance.

### Ongoing Research Projects:

1. Design & Development of Air Quality Monitoring System for Latur City Using IoT & WSN Sanctioned by Swami Ramanand Teerth Marathwada University, Nanded.

The Air Quality Monitoring system is installed on the terrace of west block. It monitors CO<sub>2</sub>, PM 2.5, PM 10, temperature, humidity, illuminance and pressure after every 20 minutes using real time sensors.



2. Deep Learning in Medical Image Processing for Diagnosis of Diseases, Under Seed Money by RSM, Latur.

### Recent Publications : 10

- A Review on Image Inpainting Techniques, International Journal of Engineering and Computer Science
- Advancement of Deep Learning and Its Substantial Impact on the Diagnosis of COVID-19 Cases, Iyer, B., Crick, T., Peng, SL. (eds) Applied Computational Technologies. ICCET 2022. Smart Innovation, Systems and Technologies, Springer.
- Plant Leaf Analysis Based on Color Histogram and Concurrence Matrices, International journal of Computer Sciences Engineering
- Development of Internet of Things and its substantial impact in the field of smart cities, International Journal of Research in Electronics and computer Engineering, IJRECE.
- Evolution of Internet of Things Enabling Technologies in the Field of Healthcare Services, International journal of computer sciences Engineering.
- Pervasive Computing: A New Horizons, International journal of computer sciences Engineering.

## Student Support & Guidance

1. Online learning facility center: Department has established Online learning facility center in 2017. Through this center in every semester number of students are guided to complete the online course of SWAYAM NPTEL, Spoken Tutorial IIT Bombay, Coursera, & Infosys Springboard.
2. Free Classes for Aptitude & Logical Reasoning for UG & PG final year students.
3. Mock Interviews

**NPTEL Awareness E-Workshop**

In Association with

**Builders Engineering College**  
Erode, Tamil Nadu

**Rajarshi Shahu Mahavidyalaya**  
Latur, Maharashtra

DATE: Feb 03 2023  
TIME: 10.00 am



Course Run	Present	Gold	Elite	Silver	Successful	Participation	Tepper	Rating	NPTEL Stars
14-Dec-2023	14	0	8	1	4	1	-	-	Details
04-Apr-2023	287	0	57	11	86	131	1	Active	Details
14-Dec-2022	277	0	66	0	26	114	-	Active	Details

Academic Center Information | rajarshi-kolatar.org

**Institution Name:** Rajarshi Shahu Mahavidyalaya (Autonomous), Latur

**Address:** Rajarshi Shahu Mahavidyalaya (Autonomous), Latur  
Opp. Central Bus Stand, Kaku Seth Ukka Marg, Chandra Nagar, Latur-413512 Maharashtra

**City:** Latur  
**State:** Maharashtra - 413512  
**Rating:** 1

**Trainings & Tests:**

#	FOSS	Organiser	Date	Participants	Action
1	UCSF Chennai	RENUKA RAMAKANT LONDHE	21 Aug 2023	19	<a href="#">View Participants</a>
2	Android app using Kotlin	RENUKA RAMAKANT LONDHE	02 Aug 2023	36	<a href="#">View Participants</a>
3	R	RENUKA RAMAKANT LONDHE	01 Aug 2023	17	<a href="#">View Participants</a>
4	Introduction to Computers	RENUKA RAMAKANT LONDHE	01 Aug 2023	221	<a href="#">View Participants</a>
5	HTML	RENUKA RAMAKANT LONDHE	01 Aug 2023	347	<a href="#">View Participants</a>
6	C and Cpp	RENUKA RAMAKANT LONDHE	01 Aug 2023	21	<a href="#">View Participants</a>
7	PHP and MySQL	RENUKA RAMAKANT LONDHE	01 Aug 2023	170	<a href="#">View Participants</a>
8	Biopython	RENUKA RAMAKANT LONDHE	01 Aug 2023	97	<a href="#">View Participants</a>
9	Python 3.4.3	RENUKA RAMAKANT LONDHE	01 Aug 2023	101	<a href="#">View Participants</a>
10	FrontAccounting-2.4.7	RENUKA RAMAKANT LONDHE	01 Aug 2023	48	<a href="#">View Participants</a>

## Industrial Tour



Department of Computer Science organized an Industrial Visit from 11 Dec to 15 Dec 2022 to Bangalore and Mysore located, in Karnataka state for the students. A total 46 students along with 4 faculty members, participated in the tour. The aim of this tour was the visit to U R Rao Satellite Communication Centre.

### Objectives of the Industrial Visit

- ➔ To understand satellite communication & use of computer science for the same.
- ➔ To provide the students with an insight into the workings of Multi-National Companies.
- ➔ To identify students' prospective areas of work such as software development, research, marketing, finance, logistics, etc.

## Activities Organized by the Department

Department forms Computer Science Association every year. Association organizes different activities for students such as. **University Level Coding Competition Techno Race -18 {Logic-C}**: Department in association with Lions Family, Latur, has organized "University Level Coding Competition Techno Race -18 {Logic-C}" on the occasion of 80<sup>th</sup> birthday of Hon. Dr Gopalrao Patil, Chairman, Shiv Chhatrapati Shikshan Sanstha Latur.

### Two Day Workshop on ROBOTICS and Internet of Things



### Commendation Ceremony



### Computer Science Association Inauguration and Poster Presentation



## Women Empowerment through Digital Literacy

Digital literacy is instrumental in women's empowerment as it enables them to access opportunities, resources, and information, participate in various domains of life, and assert their agency in the digital age.

As an extension activity, department has been organizing various programs for girl students & women.

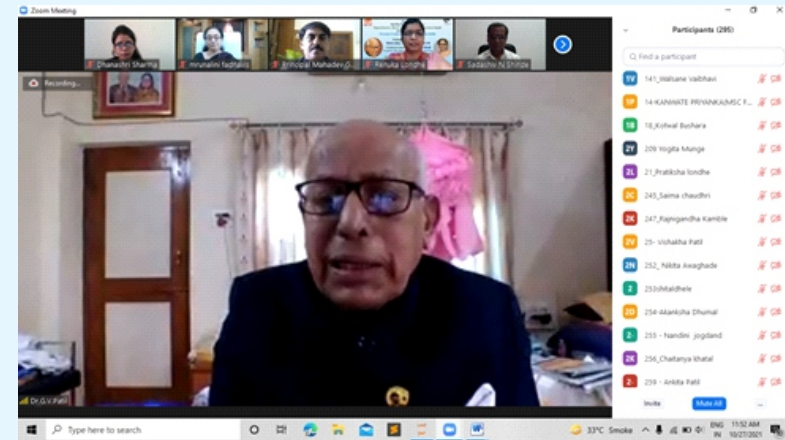
## Workshop on Women Empowerment Through Digital Literacy

One day workshop on 'Women Empowerment through Digital Literacy' was organized on 17<sup>th</sup> December 2019. This workshop was sponsored by Maharashtra State Commission for Women to empower the women from Marathwada region through Digital Literacy. Total 378 women from Latur and adjoining Talukas attended the workshop.



## One Day National Webinar on "Reproductive Choice of Women: A Fundamental Right"

Department in collaboration with National Commission for Women, New Delhi, has organized One Day National Webinar on "Reproductive Choice of Women: A Fundamental Right" on 27<sup>th</sup> Oct 2021.



## One Week National Faculty Development Program on Cyber Security





## लोकमत

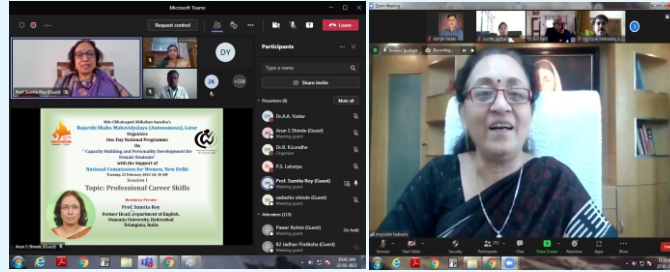
### लातूरच्या हवेतील घातक वायूंचे प्रमाण समजणार; मोबाईलवरही संदेश येणार राजर्षी शाहू महाविद्यालयामध्ये एअर क्वालिटी मॉनिटरिंग यंत्रणा

लोकमत न्यूज नेटवर्क  
लातूर : शहरातील हवा गुणवत्ता पातळी सतत मध्यम श्रेणीत असते. त्यावर नियंत्रण ठेवण्यासाठी अत्याधुनिक एअर क्वालिटी मॉनिटरिंग सिस्टीम बसविण्यात आली आहे. त्यामुळे हवेतील घातक वायूंच्या प्रमाणाची आता माहिती मिळणार आहे आणि प्रदूषण कमी करण्यासाठी वेगवेगळ्या उपाययोजना करणे शक्य होणार असल्याची माहिती डॉ. रेणुका लोंढे यांनी दिली.

लातूर शहरातील राजर्षी शाहू महाविद्यालयातील संगणकशास्त्र विभागाला मॉडेडच्या स्वारातील विद्यापीठाकडून डिझाइन अॅण्ड डेव्हलपमेंट ऑफ एअर क्वालिटी मॉनिटरिंग सिस्टीम फॉर लातूर सिटी हा लघु शोधप्रकल्प मंजूर झाला आहे.

वातावरणातील बदलांवर देखरेख ठेवता येणार...  
डॉ. रेणुका लोंढे म्हणाल्या, रस्त्यावरील धूळ, बांधकाम, वाहनांच्या प्रदूषणांमुळे लातूरच्या हवेची गुणवत्ता पातळी सतत मध्यम श्रेणीत असते. एअर क्वालिटी मॉनिटरिंग सिस्टीममुळे वातावरणात होणारे बदल, वाहनांमुळे होणाऱ्या वायू प्रदूषणावर प्रत्येक २० मिनिटांनंतर देखरेख ठेवणे शक्य आहे.  
या प्रकल्पामुळे कोणत्या घातक वायूंचे प्रदूषण होत आहे, याची अचूक माहिती मिळणार आहे. ही स्वयंचालित यंत्रणा असून, याद्वारे कार्बन डायऑक्साइड, कार्बन मोनॉक्साइड, नायट्रोजन ऑक्साइड, हायड्रोजन सल्फाइड, पीएम १०, पीएम २.५, तापमान, आर्द्रता यांचे २४ तास मोजमाप होणार आहे. ही माहिती मोबाईल अॅपद्वारे उपलब्ध होणार आहे.  
यादीकी प्राचार्य डॉ. महादेव गव्हाणे म्हणाले, शहरात गर्दीच्या ठिकाणी असे सेन्सर बसवून या प्रकल्पाची व्याप्ती वाढविली जाईल. त्याचा शहरातील नागरिकांना लाभ होईल.

याअंतर्गत महाविद्यालयाच्या इमारतीवर एअर क्वालिटी मॉनिटरिंग सिस्टीम बसविली आहे. त्याचे उद्घाटन प्राचार्य डॉ. महादेव गव्हाणे यांच्या हस्ते झाले. याप्रसंगी उपमाचार्य प्रा. सदाशिव शिंदे, डॉ. अभिजित यादव, प्रा. अरुण शिंदे, प्रवीण सूर्यवंशी उपस्थित होते. या संशोधनासाठी शिव छत्रपती शिक्षण संस्थेचे अध्यक्ष डॉ. गोपाळराव पाटील, उपाध्यक्ष डॉ. पी. आर. देशमुख, सचिव प्राचार्य अनिरुद्ध जाधव यांनी प्रोत्साहन दिले.



## लोकमत



लातूरतील राजर्षी शाहू महाविद्यालयाच्या इमारतीवर एअर क्वालिटी मॉनिटरिंग यंत्रणा बसविण्यात आली असून, उद्घाटन प्राचार्य डॉ. महादेव गव्हाणे यांच्या हस्ते झाले. यादीकी प्रा. सदाशिव शिंदे, डॉ. अभिजित यादव, डॉ. रेणुका लोंढे, अरुण शिंदे.

Hello Latur  
Page No. 3 Apr 30, 2024  
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### दिव्य मराठी विशेष • शाहू महाविद्यालयाच्या इमारतीवर 'एअर क्वालिटी मॉनिटरिंग सिस्टिम' वायू प्रदूषणावर प्रत्येक २० मिनिटांनी देखरेख

**प्रतिनिधी | लातूर**  
शहरातील राजर्षी शाहू महाविद्यालयातील संगणकशास्त्र विभागाला स्वामी रामानंद तीर्थ मठमार्फत डिझाइन अॅण्ड डेव्हलपमेंट ऑफ एअर क्वालिटी मॉनिटरिंग सिस्टिम फॉर लातूर सिटी हा लघु शोध प्रकल्प मंजूर करण्यात आला आहे. या प्रकल्पानंतर्गत शाहू महाविद्यालयाच्या इमारतीवर एअर क्वालिटी मॉनिटरिंग सिस्टिम बसविण्यात आली आहे. सर प्रकल्पान्त इंटरनेट ऑपरेटिंग आणि लॉन्गनेशन वॉरलॅस नेटवर्क (WSN) या अत्याधुनिक तंत्रज्ञानाचा वापर करण्यात आला. या संशोधनमुळे वातावरणातील बदलांवर देखरेख ठेवणे शक्य आहे. या प्रकल्पामुळे कोणत्या घातक वायूंचे प्रदूषण होत आहे, याची अचूक माहिती मिळणार आहे. ही स्वयंचालित यंत्रणा असून, याद्वारे कार्बन डायऑक्साइड, कार्बन मोनॉक्साइड, नायट्रोजन ऑक्साइड, हायड्रोजन सल्फाइड, पीएम १०, पीएम २.५, तापमान, आर्द्रता यांचे २४ तास मोजमाप होणार आहे. ही माहिती मोबाईल अॅपद्वारे उपलब्ध होणार आहे. यादीकी प्राचार्य डॉ. महादेव गव्हाणे म्हणाले, शहरात गर्दीच्या ठिकाणी असे सेन्सर बसवून या प्रकल्पाची व्याप्ती वाढविली जाईल. त्याचा शहरातील नागरिकांना लाभ होईल.

**घातक वायू-घटकांचे २४ तास मोजमाप होणार**  
एअर क्वालिटी मॉनिटरिंग सिस्टिम फॉर लातूर सिटी हा लघु शोध प्रकल्प मंजूर करण्यात आला आहे. या प्रकल्पानंतर्गत शाहू महाविद्यालयाच्या इमारतीवर एअर क्वालिटी मॉनिटरिंग सिस्टिम बसविण्यात आली आहे. सर प्रकल्पान्त इंटरनेट ऑपरेटिंग आणि लॉन्गनेशन वॉरलॅस नेटवर्क (WSN) या अत्याधुनिक तंत्रज्ञानाचा वापर करण्यात आला. या संशोधनमुळे वातावरणातील बदलांवर देखरेख ठेवणे शक्य आहे. या प्रकल्पामुळे कोणत्या घातक वायूंचे प्रदूषण होत आहे, याची अचूक माहिती मिळणार आहे. ही स्वयंचालित यंत्रणा असून, याद्वारे कार्बन डायऑक्साइड, कार्बन मोनॉक्साइड, नायट्रोजन ऑक्साइड, हायड्रोजन सल्फाइड, पीएम १०, पीएम २.५, तापमान, आर्द्रता यांचे २४ तास मोजमाप होणार आहे. ही माहिती मोबाईल अॅपद्वारे उपलब्ध होणार आहे. यादीकी प्राचार्य डॉ. महादेव गव्हाणे म्हणाले, शहरात गर्दीच्या ठिकाणी असे सेन्सर बसवून या प्रकल्पाची व्याप्ती वाढविली जाईल. त्याचा शहरातील नागरिकांना लाभ होईल.

**एअर क्वालिटी मॉनिटरिंग सिस्टिम फॉर लातूर सिटी हा लघु शोध प्रकल्प मंजूर करण्यात आला आहे.**



**Coordinators**  
Prof. Andrew Thangaraj  
Dept. of Electrical Engg,  
IIT Madras  
Prof. Vignesh Muthuvijayan  
Dept. of Biotechnology,  
IIT Madras  
Prof. Ramkrishna Pasumarthy  
Dept. of Electrical Engg,  
IIT Madras  
Prof. Niket Kaisare  
Dept. of Chemical Engg,  
IIT Madras

**To,**  
Dr Mahadev Gavhane  
Principal  
Rajarshi Shahu Mahavidyalaya  
Latur  
Maharashtra - 413512

**Sub:** NPTEL Awareness E-Workshop in Association with Rajarshi Shahu Mahavidyalaya, Latur, Maharashtra

**Dear Sir/Mam,**

This is to certify that an NPTEL Awareness E-Workshop was organised in association with **Rajarshi Shahu Mahavidyalaya** on **Feb 3, 2023**.

The aim of this workshop was to create awareness among students and faculty members about NPTEL and its various initiatives.

<b>College Name</b>	Rajarshi Shahu Mahavidyalaya
<b>Time</b>	10:00 AM - 12:00 PM

We would like to take this opportunity to extend our gratitude to **Mr/Ms Dr. Renuka R. Londhe** who was instrumental in organizing this workshop in a successful manner.

We hope to continue our collaboration with your esteemed college in the coming days as well!

Thank You.

Prof. Andrew Thangaraj  
Coordinator  
IIT Madras Online Degree Program



# Alumni Success



## Details of Recently Placed Students



**Pranita Vhasale**  
Wipro Pvt. Ltd.



**Nikita Awaghade**  
TCS, Mumbai



**Sarswati Natve**  
Capgemini



**Pratiksha Kulkarni**  
Wipro Pvt. Ltd.



**Shireen Sultana**  
L&T Infotech.



**Punam Biradar**  
Wipro Pvt. Ltd.



**Aishwarya Gaikwad**  
Wipro Pvt. Ltd.



**Ganesh Chavhan**  
TCS Pune



**Patel Mumtarin**  
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Tech Mahindra



**Shradha Khandagale**  
Cognizant



**Nikita Jadhav**  
DXC Technology



**Prajakta Sakhare**  
Infosys



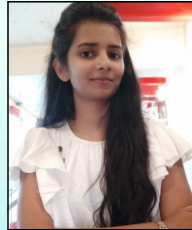
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Wipro Pvt. Ltd.



**Aishvarya Shendage**  
DXC Technology



**Rohini Shendge**  
Tech Mahindra



**Ruchita Madarpalle**  
Infosys



**Rajesh Jadhav**  
Wipro Pvt. Ltd.



**Bhakti Kankal**  
TCS



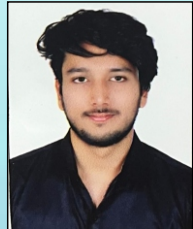
**Gajanan Yadav**  
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