SAMARTH EDUCATIONAL TRUST

ARVIND GAVALI COLLEGE OF ENGINEERING, SATARA

NAAC and NBA Accredited

DEPARTMENT OF CORE SCIENCE AND ENGINEERING

ICT TOOLS FOR TEACHING LEARNING PROCESS 2023-24

Information and Communication Technology (ICT) tools play a significant role in modernizing and enhancing the teaching and learning process. By incorporating ICT, educators can improve student engagement, increase access to information, and create a more dynamic learning environment. Below are some key ICT tools used in the teaching and learning process, along with their objectives and outcomes:

ICT Tools for Teaching and Learning Process:

1. **Learning Management Systems (LMS)**
   - **Examples: ERP,** Moodle, Google Classroom, Canvas, Blackboard
   - **Objectives:**
     - Facilitate communication between teachers and students.
     - Manage assignments, grades, and course content in a central platform.
     - Track student progress and performance.
   - **Outcomes:**
     - Improved organization and accessibility of course materials.
     - Enhanced collaboration and engagement among students and instructors.
     - Streamlined tracking of student progress.
2. **Presentation Software**
   - **Examples:** Microsoft PowerPoint, Google Slides
   - **Objectives:**
     - Deliver structured lessons using visual aids and multimedia.
     - Enhance student comprehension through the integration of visuals and animations.
   - **Outcomes:**
     - Increased student attention and retention.
     - A more interactive and visually stimulating learning experience.
3. **Interactive Whiteboards**
   - **Examples:** SMART Boards

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- **Objectives:**
  - Promote interactive learning through touch-based activities.
  - Facilitate collaborative lessons and group activities.
- **Outcomes:**
  - Enhanced participation and interactivity in lessons.
  - Improved student engagement and collaboration.

4. **Collaborative Tools**
   - **Examples:** Google Docs, Microsoft OneNote,
   - **Objectives:**
     - Foster collaboration among students on projects and assignments.
     - Allow real-time editing and feedback on documents and presentations.
   - **Outcomes:**
     - Improved teamwork and communication skills.
     - Increased student involvement in shared learning experiences.
5. **Video Conferencing Tools**
   - **Examples:** Zoom, Microsoft Teams, Google Meet
   - **Objectives:**
     - Conduct virtual classes, meetings, and discussions.
     - Promote distance learning and global collaboration.
   - **Outcomes:**
     - Enhanced access to education for remote or non-traditional students.
     - More flexible and convenient learning environments.
6. **E-Books and Digital Libraries**
   - **Examples:** Google Books, Projects
   - **Objectives:**
     - Provide students with access to a vast array of digital resources, textbooks, and journals.
     - Support independent learning and research.
   - **Outcomes:**
     - Improved access to up-to-date information and resources.
     - Encouraged self-paced learning and research.
7. **Simulation and Virtual Labs**
   - **Objectives:**
     - Provide students with virtual experiences for science, engineering, and other practical subjects.
     - Allow experimentation in a controlled, risk-free environment.

- **Outcomes:**
  - Enhanced understanding of complex concepts through practical application.
  - Increased engagement in subjects that traditionally require hands-on experiences.

8. **Social Media and Communication Platforms**
   - **Examples:** Twitter, Facebook Groups
   - **Objectives:**
     - Facilitate communication and discussion outside of traditional classroom settings.
     - Engage students in real-world conversations and knowledge-sharing.
   - **Outcomes:**
     - Strengthened student-teacher relationships.
     - Increased student motivation to engage in learning outside class hours.

Overall Objectives and Outcomes of Using ICT in Teaching and Learning:

Objectives:

- **Enhance Engagement:** Make lessons more interactive and stimulating through multimedia and collaborative tools.
- **Increase Access:** Provide students with greater access to resources and learning materials online.
- **Personalize Learning:** Tailor learning experiences to meet the diverse needs of students, promoting self-paced learning.
- **Promote Collaboration:** Foster teamwork and communication among students and teachers.
- **Support Remote Learning:** Enable distance learning and virtual classrooms, ensuring education is accessible to all students, regardless of location.

Outcomes:

- **Improved Learning Outcomes:** Enhanced retention, understanding, and application of knowledge.
- **Increased Motivation and Participation:** Students are more engaged when technology is integrated into their learning.
- **Effective Assessment and Feedback:** Teachers can more efficiently assess and provide real-time feedback to students.
- **Better Collaboration:** Students and teachers can collaborate easily, regardless of physical location.
- **Preparation for Future Careers:** Exposure to modern tools and technologies prepares students for future workplace demands.

By strategically incorporating these ICT tools, educators can create m xible, and effective learning environments that cater to the diverse needs of students.

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DEAN

PRINCIPAL

4.1.3 Number of classrooms and seminar halls with ICT- enabled facilities such as smart class, LMS, etc.

Room number or Name of classrooms/Seminar Hall with LCD / wifi/LAN facilities with room numbers	Type of ICT facility	Link to geo tagged photos
101	Intractive Panal	https://i.ibb.co/nMRyYd9/101.webp
102	Intractive Panal	https://i.ibb.co/hVJnNJh/102.webp
103	LCD Projector	https://i.ibb.co/NyhP1Py/103.webp
202	LCD Projector	https://i.ibb.co/hXG2vxC/20241216-50822pm-By-GPSMap-Camera.webp
201	Intractive Panal	https://i.ibb.co/n3bK3LS/201.webp
204	LCD Projector	https://i.ibb.co/fpJvY4t/204.webp
206	LCD Projector	https://i.ibb.co/10hs3Mq/206.webp
208	Intractive Panal	https://i.ibb.co/6bkKWMh/208.webp
301	Intractive Panal	https://i.ibb.co/Q6SkHRV/301.webp
304	LCD Projector	https://i.ibb.co/qmDnCmh/304.webp
407	LCD Projector	https://i.ibb.co/XySzfjF/Seminar-hall.webp
Borad Room	LCD Projector	https://i.ibb.co/mvW8H2M/Board-Room.webp
BCA	LCD Projector	https://i.ibb.co/JRjWmz0/BCA-Seminar-hall.webp

** (Data for the latest completed academic year)

Tax Invoice

Shri Parshwa Electricals F.Y.18-19 38, Malhar Peth, Near Police Headquartor SATARA-415002 (M.S.) GSTIN/UIN: 27ACDFS3109B1ZL State Name : Maharashtra, Code : 27 E-Mail : vinodkumar.oswal@gmail.com	Invoice No. **255**	Dated **16-Sep-2018**
	Delivery Note	Mode/Terms of Payment
	Supplier's Ref.	Other Reference(s)
Buyer **Arvind Gavali Collage of Engeinering** State Name : Maharashtra, Code : 27	Buyer's Order No.	Dated
	Despatch Document No.	Delivery Note Date
	Despatched through	Destination
	Terms of Delivery	

Sl	Description of Goods	HSN/SAC	Quantity	Rate	per	Disc. %	Amount
1	**Epson LCD Projector**	85286200	**2.00 Nos**	22,265.63	Nos		**44,531.26**
2	**Universal Ceiling Mounting Kit**	85299090	**2.00 Nos**	1,822.03	Nos		**3,644.06**
3	**VGA Cable 15 MTR**	8544	**2.00 Nos**	1,228.81	Nos		**2,457.62**
4	**MX HDMI Cable 15mtr**	85442090	**2.00 Nos**	1,567.80	Nos		**3,135.60**
5	**HIK DS-2CE5AC0T-IRPF 1MP Dome**	85258020	**4 PCS**	975.00	PCS		**3,900.00**
							57,668.54
	Output C.G.S.T. 14%			*14*	%		**6,234.38**
	Output S.G.S.T. 14%			*14*	%		**6,234.38**

continued ...

SUBJECT TO SATARA JURISDICTION

This is a Computer Generated Invoice

Tax Invoice

Senses Electronics Private Limited
M.NO 818,
A/P BHUGAON
TAL MULSHI
Pune - 412108
GSTIN/UIN: 27AAUCS0189B1Z4
State Name : Maharashtra, Code : 27
Contact : +91-20-65333012,9850963211
E-Mail : accounts@sensesplec.com
www. sensesplec.com

Consignee
ARVIND GAVALI COLLEGE OF ENGINEERING
Gate No : 247, Panmalewadi, Varye,
Satara, Maharashtra , 415015
GSTIN/UIN : URD
State Name : Maharashtra, Code : 27

Buyer (if other than consignee)
ARVIND GAVALI COLLEGE OF ENGINEERING
Gate No : 247, Panmalewadi, Varye,
Satara, Maharashtra , 415015
GSTIN/UIN : URD
State Name : Maharashtra, Code : 27
Place of Supply : Maharashtra

Invoice No. SENSES19-20/278	e-Way Bill No. 251137818921
Dated 13-Sep-2019	
Delivery Note	Mode/Terms of Payment
Supplier's Ref.	Other Reference(s)
Buyer's Order No. AGCOE/JULY/2019/NO: 94	Dated 26-Jul-2019
Despatch Document No. SES19-20-303	Delivery Note Date
Despatched through TEMPO	Destination SATARA
Bill of Lading/LR-RR No. dt. 9-Sep-2019	Motor Vehicle No. MH12LT1794

Terms of Delivery

Sl No.	Description of Goods	HSN/SAC	GST Rate	Quantity	Rate	per	Amount
1	**Interactive Intelligent Panel,65"** *Automatic Data Processing Machine*	84715000	18 %	**3 No.**	1,55,000.00	No.	4,65,000.00
	SGST ON SALES 9%					9 %	41,850.00
	CGST ON SALES 9%					9 %	41,850.00
	Total			**3 No.**			₹ 5,48,700.00

Amount Chargeable (in words) E. & O.E
INR Five Lakh Forty Eight Thousand Seven Hundred Only

HSN/SAC	Taxable Value	Central Tax		State Tax		Total Tax Amount
		Rate	Amount	Rate	Amount	
84715000	4,65,000.00	9%	41,850.00	9%	41,850.00	83,700.00
Total	**4,65,000.00**		**41,850.00**		**41,850.00**	**83,700.00**

Tax Amount (in words) : **INR Eighty Three Thousand Seven Hundred Only**

Remarks
Interactive Intelligent Panel 65" 3 Nos Counted as sales to Arvind Gavali College of Engineering.

Company's PAN : **AAUCS0189B**

Declaration
We declare that this invoice shows the actual price of the goods described and that all particulars are true and correct.

Company's Bank Details
Bank Name : **RBL Bank Limited**
A/c No. :
Branch & IFS Code :

Customer's Seal and Signature

for Senses Electronics Private Limited

ARVIND GAVALI COLLEGE OF ENGINEERING EN-6545 SATARA

Roll No : 249504824 2

Register

No.	Date	Time	Name of Faculty	Name subject	class	sign.
1	18.1.2024	9.30 - 10.30	Mulla S.Y.	Machine Learning	TY	
2	19.1.2024		Mulla S.Y		TY	
3						
4						
5	24.1.2024		Mulla S.Y		TY	
6	29.1.2024	9.30 to 10.30	Dr. V.K. Bhosale	Internet of Things	TY	
7						
8						
9						
10	1.2.2024		Mulla S.Y.	Underfitting	TY	
	1.2.2024	11.20 to 12.15	Dr. V.K. Bhosale	IOT Architecture	TY	
	2.2.2024		Mulla S.Y.	Evaluation	TY	
	5.2.2024		mulla S.Y.	linear regression	TY	
	5.2.2024	1.00 to 2.00	Dr. V.K. Bhosale	Core IOT functional stack	TY	
	7.2.2024	9.30 to 10.30	Dr. V.K. Bhosale	"Things" in IOT	TY	
	16.2.2024	11.20 - 12.15	Mulla S.Y	KNN	TY	
	21.2.2024	5.00 - 5.00	Mulla S.Y.	Dimensionality Reduction	TY	
	21/2/2024	2.10 to 4.10	Mr Mandhare RM	Svm of SVDSC Algorithm	SY (A)	
	23.2.2024	10.25 - 11.20	Phasande R.S	CN	TY	Phasande
	23.2.2024		Mulla S.Y.	PCA	TY	
	23/2/2024	2.50 to 3.50	Mr Mandhare RM	Graph coloring problem	SY (A)	
	7.8.2024	9.30 - 10.25	Mulla S.Y.	DBMS	TY	

Arvind Gavali College of Engineering
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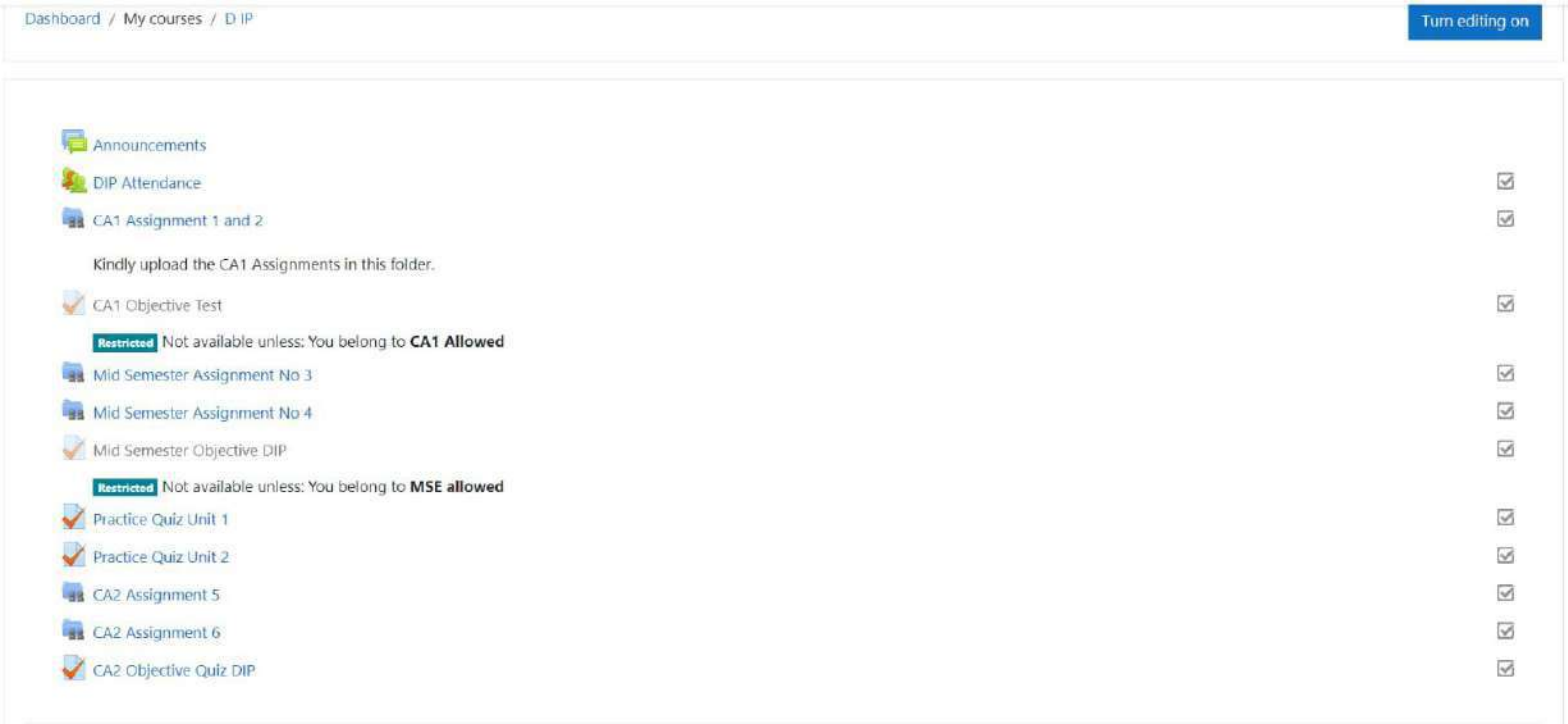
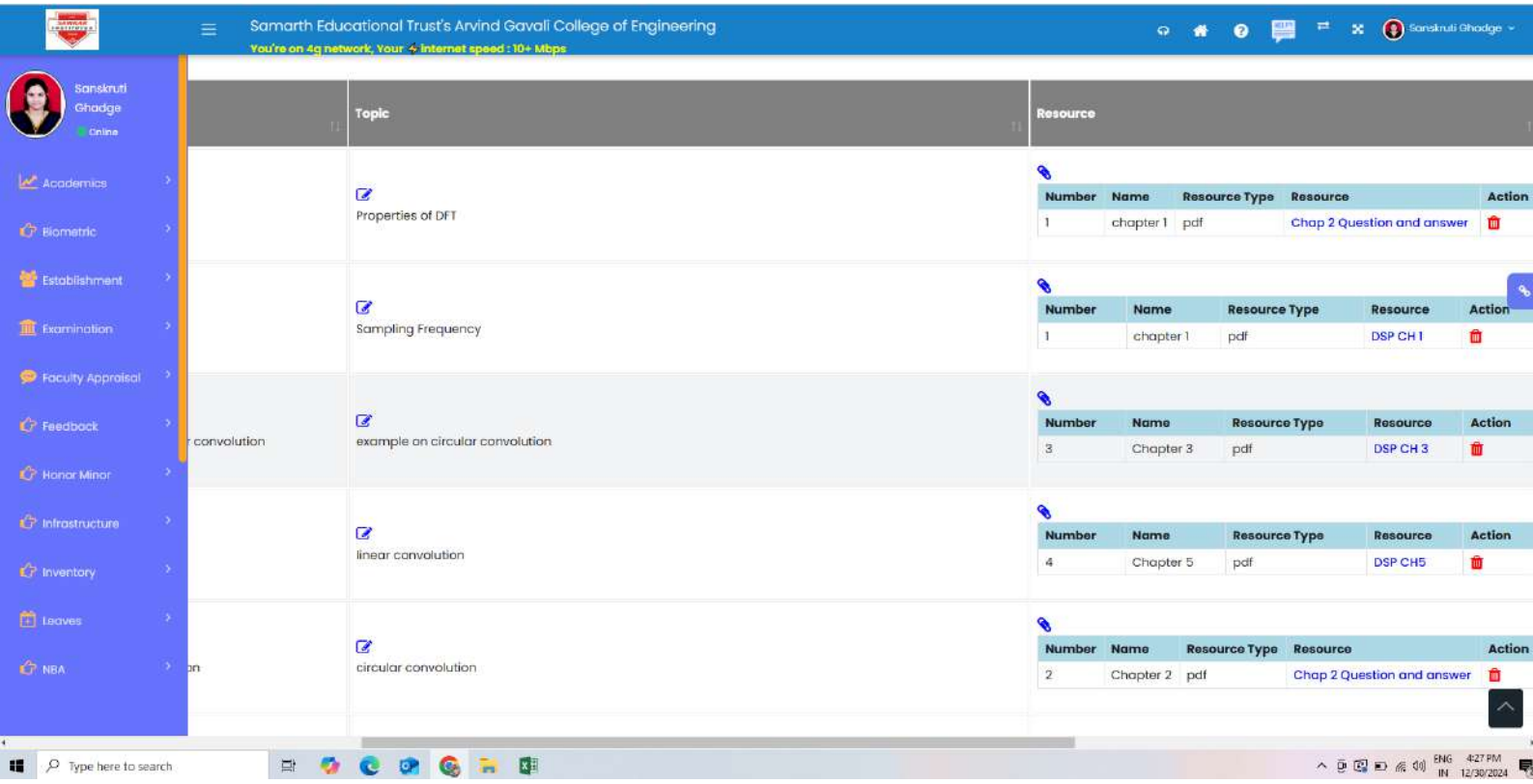
Satara

No.	Date	Time	Name of Faculty	Subject	Sign.
1.	30/07/24	10:30	Ms. Chavan S.S	T.P.O	
2)	6/8/24	9.30	Dr. Shah M.M	CAO	
3)	8/8/24	9.30	Mulla S.F	DB	
4)	9/08/24	3.10	Mrs. Phalsande R.S.	OOP	
5)	12/08/24	9.30	Mulla S.F	DB	
6)	13/08/24	4.05	Pathak P.A.	DS	
7)	14/08/24	9.30	Dr. Varsh Bhosale	SE.	
8)	20/08/24	11.25	Mulla S.F	DB	
9)	21/08/24	9.30	Dr. Varsh. Bhosale	SE	
10)	22/08/24	3.10	Pathak P.A.	DS	
11)	23/08/24	9.30	Mulla S.F	DB	
12)	23/08/24	3.10	Phalsande R.S.	OOP.	

Arvind Gavali College of Engineering EN 6545 Satara



AGCE MOODLE SCREENSHOT



AGCE ERP SCREENSHOT

1.2.2 Number of Add on /Certificate programs offered during the year

1.2.3 Number of students enrolled in Certificate/ Add-on programs as against the total number of students during the year

2023-24						
Name of Add on /Certificate programs offered	**Course Code (if any**	**Year of offering**	**offered during the same year**	**Duration of course**	**students enrolled in the year**	**Students completing the**
Enhancing Soft Skills and Personality	noc24-hs26	Jan-April 2024	one time	8 Week	28	5
Fundamentals of Automotive Systems	noc24-de03	Jan-April 2024	one time	12 Week	24	5
Cloud Computing	noc23-cs89	Jan-April 2024	one time	12 Week	11	5
Entrepreneurship Essentials	noc24-ge15	Jan-April 2024	one time	12 Week	21	1
Introduction To Industry 4.0 And Industrial Internet Of Things		Jan-April 2024	one time	12 weeks	5	2
Maintenance and Repair of Concrete Structures	noc24-ce22	Jan-April 2024	one time	12 weeks	16	1
Mechanics of Sheet Metal Forming	noc24-me51	Jan-April 2024	one time	12 weeks	29	1
Non-conventional energy Resources	noc24-ge24	Jan-April 2024	one time	12 weeks	22	2

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

SAKSHI SANJAY CHINCHKAR

for successfully completing the course

Cloud Computing

with a consolidated score of **56** %

Online Assignments	21.69/25	Proctored Exam	34.37/75

Total number of candidates certified in this course: **16686**

Jul-Oct 2023

(12 week course)

Prof. Haimanti Ban
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

No: NPTEL23CS89S546300003 To verify the certificate No. of credits recommended: 3

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

ANIL DADARAO TAWDE

for successfully completing the course

Python for Data Science

with a consolidated score of **53** %

Online Assignments	23.33/25	Proctored Exam	30.1/75

Total number of candidates certified in this course:**11953**

Devendra Jalihal

Prof. Devendra Jalihal
Chairperson,
for Outreach and Digital Education, IITM

Jan-Feb 2024

(4 week course)

Prof. Andrew Thangr
NPTEL Coordinator
IIT Madras

Indian Institute of Technology Madras

swayam

No: NPTEL24CS54S651000082 To verify the certificate No. of credits recommended: 1 c

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

MANE SHUBHANGI DATTATRAY

for successfully completing the course

Python for Data Science

with a consolidated score of **55** %

Online Assignments	24.58/25	Proctored Exam	30/75

Total number of candidates certified in this course:**11953**

Devendra Jalihal

Prof. Devendra Jalihal
Chairperson,
for Outreach and Digital Education, IITM

Jan-Feb 2024
(4 week course)

Prof. Andrew Thanga
NPTEL Coordinator
IIT Madras

Indian Institute of Technology Madras

swayam

No: NPTEL24CS54S551000043 To verify the certificate No. of credits recommended: 1 c

Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

SHRAVANI SUDHIR KULKARNI

for successfully completing the course

Python for Data Science

with a consolidated score of **61** %

Online Assignments	19.58/25	Proctored Exam	41.33/75

Total number of candidates certified in this course:**11953**

Prof. Devendra Jalihal
Chairperson,
for Outreach and Digital Education, IITM

Jan-Feb 2024

(4 week course)

Prof. Andrew Thang
NPTEL Coordinator
IIT Madras

Indian Institute of Technology Madras

swayam

No: NPTEL24CS54S551000155 To verify the certificate No. of credits recommended: 1

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

SAMEER ARAVIND NARAKE

for successfully completing the course

Cloud Computing

with a consolidated score of **54** %

Online Assignments	23.56/25	Proctored Exam	30.47/75

Total number of candidates certified in this course: **16686**

Jul-Oct 2023

(12 week course)

Prof. Haimanti Bar
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

No: NPTEL23CS89S546300216 To verify the certificate No. of credits recommended: 3

Virtual Lab Report

Newton's Rings - Wavelength of Light

Objective:

To determine the wavelength of light using the pattern of Newton's rings observed in the virtual lab setup.

Introduction:

Newton's rings are a series of concentric circles observed when light is reflected between two surfaces: a spherical lens and a flat glass plate. The phenomenon arises due to the interference of light waves reflecting off the top and bottom surfaces of the air gap between the lens and the plate. This interference creates a pattern of bright and dark rings, which can be analyzed to determine the wavelength of the light used.

Theory:

Interference and Newton's Rings

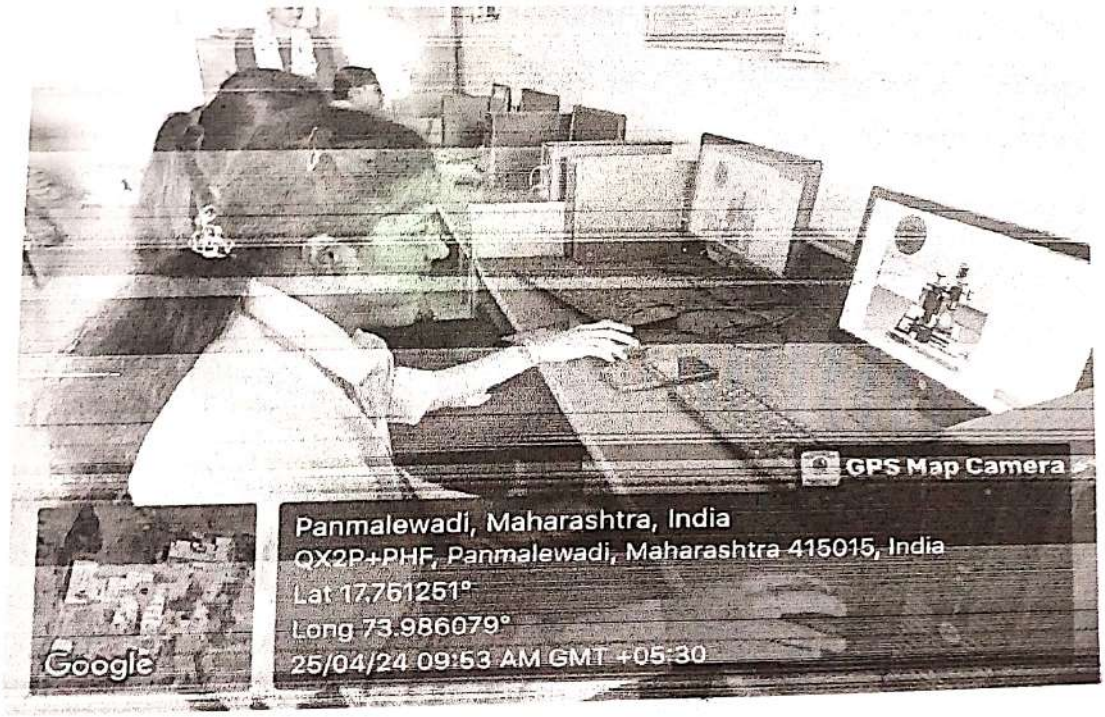
When light reflects between the curved surface of a lens and a flat plate, constructive and destructive interference occurs. The conditions for constructive interference (bright rings) and destructive interference (dark rings) depend on the path difference between the two reflected beams.

The formula for the radius of the n-th ring is given by:

$$Rn=\sqrt{n.\lambda R/2}$$

where:

- R_n= radius of the n-th ring
- λ = wavelength of light
- R = radius of curvature of the lens
- n= ring number



Experimental Setup:

In the virtual lab, the setup typically involves:

- A convex lens with a known radius of curvature RRR
- A flat glass plate
- A monochromatic light source (usually a laser or a sodium lamp)

Methodology:

Virtual Experiment

1. **Setup Configuration**: Arrange the virtual convex lens and the flat glass plate. Ensure they are aligned properly.
2. **Light Source**: Choose a monochromatic light source from the virtual lab options.

3. **Observation**: Observe the interference pattern (Newton's rings) formed on the screen or detector.

Discussion:

1. Accuracy

Discuss any potential sources of error in the virtual lab, such as limitations in measurement precision or assumptions made during calculations.

2 .Implications

Interpret the wavelength obtained and compare it with known values for different light sources. Discuss the relevance of this measurement in practical applications, such as optical testing and material characterization.

Results and Conclusion:

- The Newton's rings pattern was successfully observed.
- The wavelength of light was determined using the interference pattern.
- Results were consistent with expected values for the light source used.

Resources: https:// Vlab.amrita.edu

Co-ordinator

AMC

HOD.