

**CERTIFICATE COURSE
ON
MODERN OPTICS**

**ACADEMIC YEAR- 2021-2022
[FROM 09-3-2022 TO 20-4-2022]**

DEPARTMENT OF PHYSICS



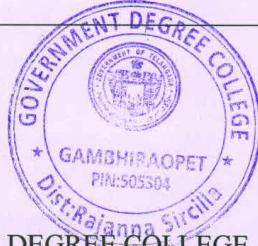
No. Of Participants: 50

No. Of Hours: 30

GOVERNMENT DEGREE COLLEGE, GAMBHIRAOPET

RAJANNA SIRCILLA DIST. 505 304

TELANGANA



GOVERNMENT DEGREE COLLEGE, GAMBHIRAOPET
RAJANNA SIRCILLA DIST
TELANGANA

DEPARTMENT OF PHYSICS

PERMISSION LETTER

Date: 07-03-2022

To
The Principal,
Government Degree College,
Gambhiraopet,
Rajanna Sircilla Dist.-506304

Respected Sir,

Permitted.

[Signature]

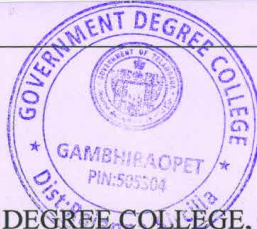
Sub:- Department of Physics - Seeking Permission to start Certificate
Course in Physics in our college Request-Reg.
-000-

We the Department of Physics would like to start Certificate Course in
Physics in our college for the academic year 2021-2022 for the betterment of all
Physics students.

Hence, we request you to permit us to start the Certificate Course on "MODERN
OPTICS" for the above mentioned academic year.

Thanking you sir,

Yours faithfully
N. Adivishnu
N. Adivishnu
In-charge
Department of Physics



GOVERNMENT DEGREE COLLEGE, GAMBHIRAOPET
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**CERTIFICATE COURSE
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ACADEMIC YEAR- 2021-2022
[FROM 09-3-2022 TO 20-4-2022]

DEPARTMENT OF PHYSICS

CIRCULAR

Date: 07-03-2022

All the students are here by informed that we, the Department of Physics planning to Start "**MODERN OPTICS**" for a period of 30 hours for this Academic Year 2021-22. The classes will be conducted during Zero hours that is from 9:00 AM to 10:00 AM (1 hour) on all working days. The detailed schedule will be intimated soon. Interested candidates may enroll their names with Sri.N.Adivishnu, Lecturer in Physics on or before

N. Adivishnu
Course coordinator

[Signature]
Principal
PRINCIPAL
GOVT. DEGREE COLLEGE
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GOVERNMENT DEGREE COLLEGE, GAMBHIRAOPET
RAJANNA SIRCILLA DIST
TELANGANA

DEPARTMENT OF PHYSICS

Certificate Course on
"MODERN OPTICS"

Curriculum of the Certificate Course:

Total Hours: 30

Unit -I

(10 Hours)

- Laser principles
- Laser Rate Equations
- Laser Properties
- Classification of Laser systems
- He-Ne Laser
- Ruby Laser
- Nd:YAG Laser
- Ga-As Laser
- Laser Applications



Unit -II

(10 Hours)

- Holography Principles
- Recording & Reconstruction of hologram
- Geber Hologram & its limitations
- Off axis Hologram
- Volume Hologram
- Fourier Hologram
- Applications of Hologram

Unit -III

(10 Hours)

- Fiber Types & Their Structures
- Fiber Materials
- Signal Attenuation In Fibers
- Material Dispersion
- Wave Guide Dispersion
- Inter-Mode Distortion
- Pulse Broadening

N. Adivishnu
Course coordinator

[Signature]
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RAJANNA SIRCILLA DIST
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CERTIFICATE COURSE
ON
"MODERN OPTICS"
ACADEMIC YEAR- 2021-2022
[FROM 09-3-2022 TO 20-4-2022]



DEPARTMENT OF PHYSICS

AIMS AND OBJECTIVES

- To acquire depth knowledge in area of optics
- To provide clear understanding about modern techniques in optics.
- To develop lateral thinking about optical fibre practices.
- To obtain specific capabilities of laser concepts.
- To apply suitable techniques to meet challenges in modern optics.
- To sensitize about the impact of modern optics.
- To understand the concept of holography.
- To extend knowledge about modern optics and their impact in the society.
- To demonstrate the practical usage of lasers, holography, fibre for efficient use.

N. Adivishnu
Course coordinator

[Signature]
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**CERTIFICATE COURSE ON
MODERN OPTICS
ACADEMIC YEAR- 2021-2022
[FROM 03-3-2022 TO 20-4-2022]
DEPARTMENT OF PHYSICS**



Student Enrolment sheet:1

Sl.No	Name of the student	Father name	College ID	Signature of the student
1	M.Bhanu	Penta Goud	19077086441003	M. Bhanu
2	S.Naresh	Yellaiah	19077086441004	S. Naresh
3	S.Praveen Yadav	Parsaramulu	19077086441005	S P Yadav
4	D.Karika	Kistaiah	19077086468004	D. Karika
5	D.Mahesh	Rajalingam	19077086468005	D. Mahesh
6	D.Bhagyalaxmi	Venkatesam	19077086468006	D. Bhagyalaxmi
7	G.Pravalika	Narayana	19077086468008	G. Pravalika
8	K.Ravali	Laxminarayana	19077086468012	K. Ravali
9	Md.Minhaj	Vazeruddin	19077086468014	Md. minhaj
10	N.Srija	Rajaiah	19077086468018	N. Srija
11	P.Laxmiprasanna	Devaiah	19077086468020	P. Laxmiprasanna
12	D. Sirichandana	Bhaskar	20077172441024	D. Sirichandana
13	D. Ravli	Raju	20077172441025	D. Ravali
14	Sathish	Rajaiah	20077086468001	Sathish
15	Abhiram Goud	Anjaneyulu	20077086468002	Abhiram
16	G . Sairam	G. Ramesh	20077086468008	Sairam
17	G. Sindhuja	G.Balaiah	20077086468009	G. Sindhuja
18	P. Akhila	P. Rajaiah	20077086468015	P. Akhila
19	U. Shirisha	U. Balaih	20077086468019	U. Shirisha
20	B.Pranay	B. Rajesham	20077089468002	B. Pranay
21	B. Ravi Kumar	B. Adivaiah	210770864411001	B. Ravi Kumar

[Handwritten Signature]

22	G. Ramesh	G. Narsimhulu	210770864411002	G. Ramesh
23	P. Raj Kumar	P. Swamy	210770864411003	P. Raj Kumar
24	R. Vignesh	R. Rajesham	210770864411004	R. Vignesh
25	S. Bikshapathi	S. Balaiah	210770864411005	S. Bikshapathi



N. Adivishnu
Course coordinator

[Signature]
Principal
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GAMBHIRAOPET-505304
RAJANNA SIRCILLA (DIST)T.S.

**CERTIFICATE COURSE ON
MODERN OPTICS
ACADEMIC YEAR- 2021-2022
[FROM 09-3-2022 TO 20-4-2022]
DEPARTMENT OF PHYSICS**



Student Enrolment sheet:2

Sl.No	Name of the student	Father name	College ID	Signature of the student
26	Ramya.A	Rajam	210770864681004	A. Ramya
27	Praveen. A	Jethya	2107708646481005	Praveen.A
28	Mahesh babu	Kishan	2107708646481006	Mahesh babu
29	Vinay.B	Srinivas	210778046481007	B. vinay
30	D. Venu	D.Yellam	210778046481013	D. Venu
31	Dharmender	Sathyam	210778046481014	Dharmendar
32	G. Mamatha	G. Lingam	210778046481015	Mamatha
33	Srinath Goud	Raja goud	210778046481017	S.goud
34	K. Sandeep	Devendar	210778046481018	Sandeep
35	Pravan	Mahendar	210778046481019	Pravan
36	K.rajashakar	K. Rajaiah	210778046481020	Pravan
37	L. Rakesh	Laxmi narayana	210778046481022	Rakesh
38	Teja Reddy	Rajamallareddy	210778046481024	T. Reddy
39	M. Sruthi	Parsharamulu	210778046481026	M. Sruthi
40	Eshwar teja	Srinivas	210778046481027	E. Teja
41	Aravind kumar	Srinivas Reddy	210778046481030	Aravind kumar
42	Omkar	Ramesh	210778046481032	Omkar
43	Vamshi	Narayana	210778046481034	Vamshi
44	Prashanth	Ramesh	210778046481036	Prashanth
45	Pravan kumar	Balraju	210778046481037	Pravan kumar
46	S Ganesh	Lingam	210778046481038	Ganesh
47	Vineeth	Ramulu	210778046481041	Vineeth
48	Mahesh.T	Ravi	210778046481043	T. mahesh
49	Shiva kumar	Gopal Goud	210778046481045	shiva
50	T. Nikhitha	Swamy	20077086468018	T. Nikhitha

Course coordinator

N. Advisthina

Principal

PRINCIPAL
GOVT. DEGREE COLLEGE
GAMBHIRAOPET-505304
RAJANNA SIRCILLA (DIST)T.S.

**CERTIFICATE COURSE
ON
MODERN OPTICS
ACADEMIC YEAR- 2021-2022
[FROM 09-3-2022 TO 20-4-2022]
DEPARTMENT OF PHYSICS**



Student's attendance sheet:1

Sl. No	Student name	Dates																														Student Signature
		March															April															
		9	10	11	14	15	16	17	21	22	23	24	25	26	28	29	30	31	1	4	5	6	7	8	11	12	13	16	18	19	20	M. Bhanu
1	M. Bhanu	1	2	3	4	5	6	7	8	8	9	9	10	11	12	12	13	14	15	16	17	18	19	20	21	22	23	24	24	25	M. Bhanu	
2	S. Naresh	1	2	3	3	4	5	6	6	7	8	8	9	9	10	11	12	13	14	15	15	16	17	18	19	20	21	22	23	24	S. Naresh	
3	S. Praveen Yadav	1	2	3	4	5	5	6	7	8	9	10	10	11	12	13	14	15	16	17	17	18	19	20	20	21	22	23	24	S. Praveen Yadav		
4	D. Karike	1	2	3	4	5	6	7	7	8	9	9	10	11	12	12	13	14	15	15	16	17	18	19	20	21	22	22	23	D. Karike		
5	D. Mahesh	1	2	3	4	4	5	6	7	8	8	9	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	D. Mahesh			
6	D. Bhagyalaxmi	1	2	3	4	5	6	7	7	8	9	9	10	11	11	12	13	14	15	15	16	17	18	19	20	20	21	22	23	D. Bhagyalaxmi		
7	G. Pravalika	1	2	3	4	5	6	7	8	8	9	10	10	11	12	13	14	15	16	17	18	19	20	20	21	22	23	G. Pravalika				
8	K. Ravali	1	2	3	4	5	5	6	7	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	K. Ravali				
9	Md. Minhaj	1	2	3	4	4	5	6	7	8	8	9	10	11	11	12	13	14	15	16	17	18	19	20	21	21	21	Md. Minhaj				
10	N. Srija	1	2	3	4	5	6	6	7	8	9	9	10	10	11	12	13	14	15	15	16	17	18	19	20	21	22	23	24	N. Srija		
11	P. Laxmiprasanna	1	2	3	4	4	5	6	6	7	8	8	9	9	10	10	11	12	13	14	15	16	17	18	19	20	20	P. Laxmiprasanna				
12	D. Sirichandana	1	2	3	4	5	5	6	7	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	D. Sirichandana				
13	D. Ravli	1	2	3	4	5	6	7	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	D. Ravli					
14	Sathish	1	2	3	4	4	5	6	6	7	8	8	9	10	10	11	12	13	14	15	16	17	18	19	20	21	Sathish					
15	A. Abhiram Goud	1	2	3	4	5	6	7	8	8	9	9	10	11	12	13	14	15	16	17	18	19	20	20	21	21	Abhiram					
16	G. Sairam	1	2	3	4	5	6	7	8	8	9	9	10	11	12	13	14	15	16	17	18	19	20	21	22	22	Sairam					
17	G. Sindhuja	1	2	3	4	5	6	6	7	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	G. Sindhuja							
18	P. Akhila	1	2	3	4	5	6	7	7	8	9	9	10	10	11	12	13	14	15	16	17	18	19	20	20	P. Akhila						
19	U. Shirisha	1	2	3	4	4	5	6	6	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20	21	U. Shirisha						
20	B. Pranay	1	2	3	4	5	6	7	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	21	B. Pranay							
21	B. Ravi Kumar	1	2	3	4	4	5	6	6	7	8	8	9	9	10	11	12	13	14	15	16	17	18	19	20	20	B. Ravikumar					
22	G. Ramesh	1	2	3	4	4	5	6	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20	20	21	G. Ramesh						
23	P. Raj Kumar	1	2	3	4	5	6	6	7	8	8	9	10	10	12	13	14	15	16	17	18	19	20	21	P. Rajkumar							

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24	R. Vignesh	1	2	3	3	4	5	5	6	7	7	8	9	9	10	11	12	13	13	14	14	15	16	16	17	17	18	18	19	20	20	R. Vignesh
25	S. Bikshapathi	1	2	3	4	5	5	6	7	8	8	9	9	10	11	11	12	13	14	15	16	17	18	18	19	19	20	20	21	21	22	S. Bikshapathi

-N. Adivishankar
Course coordinator



[Signature]
Principal
PRINCIPAL
GOVT. DEGREE COLLEGE
GAMBHIRAOPET-505304.
RAJANNA SIRCIlla (DIST) T.S.


**CERTIFICATE COURSE
ON
MODERN OPTICS
ACADEMIC YEAR- 2021-2022
[FROM 09-3-2022 TO 20-4-2022]
DEPARTMENT OF PHYSICS**



Student's attendance sheet:2

Sl. No	Student name	March												April												Student Signature					
		9	10	11	14	15	16	17	22	23	24	25	26	28	29	30	31	1	4	5	6	7	8	11	12		13	16	18	19	20
26	Ramya.A	1	2	3	4	5	6	7	8	8	9	10	11	12	13	14	15	16	17	18	19	19	20	21	22	23	A.Ramya				
27	Praveen. A	1	2	3	3	4	5	5	6	7	7	8	9	9	10	11	12	13	13	14	15	16	16	17	18	19	19	20	21	22	Praveen.A
28	Mahesh babu	1	2	3	4	5	5	6	7	8	9	10	11	11	12	13	14	15	16	17	18	18	19	20	21	21	22	23	maheshbabu		
29	Vinay.B	1	2	3	4	4	5	6	7	7	8	9	10	11	11	12	13	14	14	15	16	16	17	18	19	19	20	20	21	22	B.Vinay
30	D. Venu	1	2	3	4	4	5	6	7	8	8	9	10	10	11	12	13	14	15	15	16	16	17	17	18	19	20	20	21	D.Venu	
31	Dharmender	1	2	3	4	5	5	6	7	7	8	9	9	10	10	11	12	13	13	14	15	15	16	17	17	18	19	20	21	22	Dharmender
32	G. Mamatha	1	2	3	3	4	5	5	6	7	7	8	9	10	10	11	12	13	14	15	16	17	17	18	19	20	20	21	22	23	Mamatha
33	Srinath Goud	1	2	3	4	4	5	5	6	7	8	9	10	10	11	12	13	14	15	15	16	16	17	18	19	19	20	20	21	22	S.Goud
34	K. Sandeep	1	2	3	4	5	5	6	7	8	9	9	10	10	11	12	13	14	15	16	16	17	18	19	19	20	20	21	22	Sandeep	
35	Sravan	1	2	3	4	4	5	6	7	8	9	9	10	11	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Sravan
36	K.rajashekar	1	2	3	4	5	5	6	7	8	9	10	11	12	12	13	14	15	16	17	18	19	20	21	22	23	24	25	25	Sravan	
37	L. Rakesh	1	2	3	4	4	5	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Rakesh	
38	Teja Reddy	1	2	3	3	4	5	6	7	8	9	10	11	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	25	T.Reddy	
39	M. Sruthi	1	2	3	4	5	5	6	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	25	M.Sruthi	
40	Eshwar teja	1	2	3	4	4	5	6	7	8	9	9	10	11	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	E.Teja	
41	Aravind kumar	1	2	3	4	4	5	6	7	7	8	9	9	10	11	11	12	13	14	15	16	17	18	19	20	21	22	23	24	24	Aravind kumar
42	Omkar	1	2	3	3	4	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	24	24	omkar	
43	Vamshi	1	2	3	4	5	5	6	7	8	9	10	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	25	vamshi	
44	Prashanth	1	2	3	4	5	5	6	7	8	9	10	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	24	24	Prashanth	
45	Sravan kumar	1	2	3	3	4	5	6	7	7	8	9	10	11	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	25	Sravan kumar
46	S Ganesh	1	2	3	4	5	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	24	25	25	Vineeth	
47	Vineeth	1	2	3	4	4	5	6	7	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	23	24	25	Ganesh
48	Mahesh.T	1	2	3	4	4	5	6	7	7	8	9	9	10	10	11	12	13	14	15	16	17	18	19	20	21	22	23	23	24	Mahesh
49	Shiva kumar	1	2	3	4	5	6	7	7	8	9	10	11	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	25	Shiva	
50	T. Nikhitha	1	2	3	3	4	5	6	7	8	9	10	11	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	25	T.Nikhitha	

N. Adivishnu
Course coordinator


Principal
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RAJANNA SIRICILLA (DIST).S.

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ACADEMIC YEAR- 2021-2022
[FROM 03-3-2022 TO 20-4-2022]
DEPARTMENT OF PHYSICS**



Resource Person: Sri. N.Adivishnu, Lecturer in physics

Learning outcomes

After studying this course:

- The graduate will be able to acquire in depth knowledge in the area of Modern Optics and its techniques.
- The graduate will attain the lateral thinking and problem solving capabilities in the area of Modern Optics.
- The graduate will obtain the capabilities of critical thinking, analyzing real world problems and handling the complexities to arrive feasible and optimal solutions considering social factors.
- The graduate will be able to apply appropriate analytical techniques and tools to solve challenges in the field of Modern Optics.
- To sensitize the graduate about the impact of Modern Optics challenges in society and demonstrates the knowledge of and need for sustainable developments.
- The graduate will become socially responsible and follow ethical practices to contribute to the community for sustainable development of society.
- The graduate will demonstrate knowledge and understands the importance of Modern Optics and apply the same for efficient use.

N. Adivishnu
Course coordinator

[Signature]
Principal
PRINCIPAL
GOVT. DEGREE COLLEGE
GAMBHIRAOPET-505304
RAJANNA SIRICILLA (DIST).S.



Government Degree College :: Gambhiraopet *

Department Of Physics

Model paper for certificate course : 2021-2022

Answer the following questions
Each question carries two marks

10x2=20

1. Which is unique property of Laser? []
a) Direction b) Speed c) Coherence d) Wavelength
2. Which is used for the generation of laser pulse []
a) Ruby laser b) CO₂ laser c) He-Ne laser d) Nd-YAG laser.
3. Laser is called as non-material knife []
a) True b) False c) Both d) None
4. Which of the following is used in atomic clocks []
a) Laser b) Quartz c) Maser d) Helium
5. In holographic data storage, the information is stored in []
a) Pen drives b) Cells c) Crystals d) Diode
6. Which of the following is used for the formation of holograms []
a) X-Ray b) Visible Light c) Infrared d) Laser
7. The information in the hologram exists in []
a) Coloured image b) Black & White Image c) 3D Image d) Coded Form
8. Optical fibre works on the phenomenon of []
a) Total internal reflection b) Polarization c) Diffraction d) Refraction
9. Optical fibers are used in []
a) CAT scans b) X-Ray photos c) Ultrasound scans d) Endoscopy
10. Main advantage of fiber optic cable over co-axial cable is []
a) Easy handling b) Less Weight c) Easy testing d) Low Loss

N. Advishankar
Course coordinator

[Signature]
Principal

PRINCIPAL
GOVT. DEGREE COLLEGE
GAMBHIRAOPET-505304
RAJANNA SIRICILLA (DIST) T.S.



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ACADEMIC YEAR- 2021-2022
[FROM 09-3-2022 TO 20-4-2022]
DEPARTMENT OF PHYSICS**

Certificate Course Summary

Name of the course : MODERN OPTICS

Name of the course coordinator : N. Adivishnu

Number of students attended the course : 46

No of hours of the course taken : 30

Dates of the course (from - to) : 09-3-2022 to 20-4-2022

Name of the department conducted : Physics

N. Adivishnu
Course coordinator

[Signature]
Principal
PRINCIPAL
GOVT. DEGREE COLLEGE
GAMBHIRAOPET-505304
RAJANNA SIRCIILLA (DIST)T.S.

GOVERNMENT DEGREE COLLEGE - GAMBHIRAOPET
(Affiliated to Satavahana University)
DEPARTMENT OF PHYSICS
Academic Year - 2021-2022

Students Feed Back Analysis on Certificate Course in Modern Optics

Name of the Lecturer: N.ADIVISHNU		Subject: PHYSICS					
Sl. No.	Questionnaire	Excellent	Very Good	Good	Average	Poor	Total
1	Syllabus	5	5				10
2	Coverage of Syllabus	6	4				10
3	Explanation of the topics	4	6				10
4	Teaching Mehods	7	3				10
5	Interaction	8	2				10
6	Doubts Clarification	7	3				10
7	Teacher Presentation	6	4				10
8	Generating interest	5	5				10
9	Time Maintenance	8	2				10
10	Overal opinion	6	4				10
Remarks of the Principal on Certificate Course		<i>Excellent</i>					



[Signature]
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