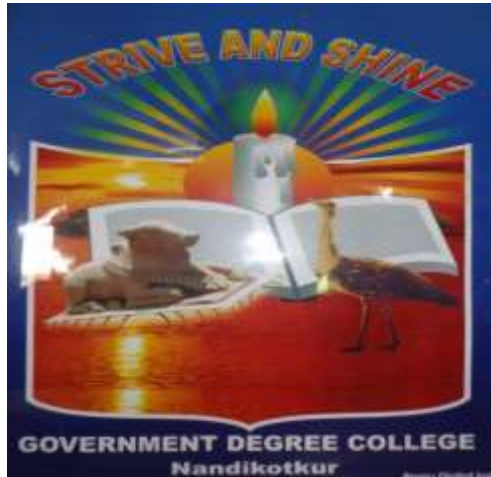


GOVT DEGREE COLLEGE

NANDIKOTKUR



REMEDIAL COACHING

DEPARTMENT OF PHYSICS

2022-2023

SEMESTER- II B.Sc. (MPCs).

SUBJECT: PHYSICS

CLASS & SEMESTER : I B.Sc. (M.P.Cs.) SEMESTER – II

PAPER : WAVE OPTICS

ACADEMIC YEAR : 2022-23

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The department of Physics has taken an initiative to conduct Remedial Coaching for II B.S.C. (M.P.Cs), students, who are failed in their II Semester Rayalaseema University Semester End Examinations.

Objectives: -The main objectives of this Remedial Coaching is

the student will be able to:

1: Understand the phenomenon of interference of light and its formation in (i) Lloyd's single mirror due to division of wave front and (ii) Thin films, Newton's rings and Michelson interferometer due to division of amplitude.

2:Distinguish between Fresnel's diffraction and Fraunhofer diffraction and observe the diffraction patterns in the case of single slit and the diffraction grating.

3:Describe the construction and working of zone plate and make the comparison of zone plate with convex lens.

4: Explain the various methods of production of plane, circularly and

polarized light and their detection and the concept of optical activity..

5: Comprehend the basic principle of laser, the working of He-Ne laser and Ruby lasers and their applications in different fields.

6: Explain about the different aberrations in lenses and discuss the methods of minimizing them.

7: Understand the basic principles of fibreoptic communication and explore the field of

Action plan: -

The total activity planned from April to July 2023 , 1 hour after college hours are over, by the faculty members from the department of Physics , and also in leisure hours, if available.

Syllabus:

- **Interference of light:**
- **Diffraction of light**
- **Polarization of light**
- **Aberrations and Fibre Optics**
- **Lasers and Holography**

Process of organization:-

The total activity was organized from 17-04-20203 to 14-07-2023 for total for 20 hours, 1 hour after college hours are over, by the faculty members from the department of Physics .

DAY WISE TOPICS (CLASS SHEDULE)

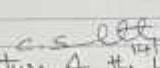
TIME TABLE

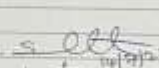
SL. NO	DATE	TOPIC	NO OF HOURS TAKEN	NO OF STUDENTS ATTENDED
1	17-04-2023	Introduction, Conditions For Interference Of Light, Interference Of Light By Division Of Wave Front And Amplitude,	1	3
2	18-04-2023	Lloyd's Single Mirror, Interference In Thin Films: Plane Parallel And Wedge- Shaped Films, Colours In Thin Films,	1	3
3	19-04-2023	Newton's Rings In Reflected Light-Theory And Experiment	1	2
4	25-04-2023	Michelson interferometer anddetermination of wavelength	1	2
5	26-04-2023	Diffraction of light Introduction, Types of diffraction	1	2
6	09-05-2023	Fresnel and Fraunhoffer	1	2

		diffractions, Distinction between Fresnel and Fraunhofer diffraction		
7	10-05-2023	Fraunhofer diffraction at a single slit, Plane diffraction grating,	1	2
8	11-05-2023	Determination of wavelength of light using diffraction grating	1	2
9	13-06-2023	Resolving power of grating, Fresnel's half period zones	1	2
10	15-06-2023	Explanation of rectilinear propagation of light, Zone plate, comparison of zone plate with convex lens.	1	2
11	16-03-2023	Polarized light: Methods of production of plane polarized light,	1	3
12	21-06-2023	Methods of production of plane polarized light, Double refraction	1	3
13	22-06-2023	Brewster's law, Malus law, Nicol prism, Nicol prism as polarizer and analyzer	1	2
14	23-06-2023	Quarter wave plate, Half wave plate, Optical activity, Laurent's half shade polarimeter determination of specific rotation.	1	3

15	24-06-2023	Aberrations and Fibre Optics Monochromatic aberrations, Spherical aberration, Methods of minimizing spherical aberration	1	1
16	01-07-2023	Coma, Astigmatism and Curvature of field, Distortion	1	3
17	11-7-2023	Chromatic aberration- the achromatic doublet; Achromatism for two lenses (i) in contact and (ii) separated by a distance	1	2
18	12-07-2023	Fibre optics: Introduction to Fibers, different types of fibers, rays and modes in an optical fiber, Principles of fiber communication Advantages of fiber optic communication.	1	2
19	13-07-2023	Lasers and Holography: Lasers: Introduction, Spontaneous emission, stimulated emission, Population Inversion, Laser principle,	1	2
20	14-07-2023	Types of lasers-He-Ne laser, Ruby laser, Applications of lasers; Holography: Basic principle of	1	3

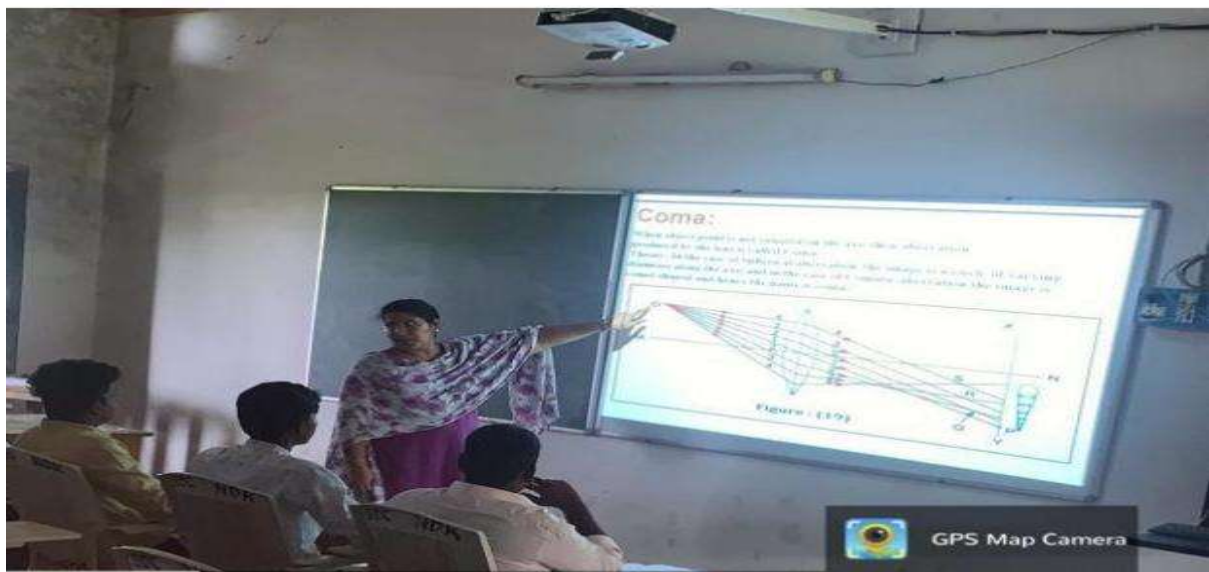
		holography, Applications of holography		
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Government Degree College Department of Physics Semester-II Paper-II													Nandikotkur - 2022-2023 Remedial classes Attendance Wave optics Paper code 2PC2307	
S.No	Name of the student	Hall Ticket No.	DAY-1 17-4-23	DAY-2 18-4-23	DAY-3 19-4-23	DAY-4 25-4-23	DAY-5 26-4-23	DAY-6 28-5-23	DAY-7 10-5-23	DAY-8 11-5-23	DAY-9 13-6-23	DAY-10 15-6-23	DAY-11 16-6-23	
1	B. Navaneeth	21360044002	P	P	A	P	A	P	P	A	P	P	P	
2	G. Saivammi	21360044003	P	P	P	A	P	P	A	P	A	P	P	
3	P. Karthik	21360044005	P	P	P	P	P	A	P	P	P	A	P	
C. S.  signature of the Lecturer 14/7/23													C. S.  signature of the incharge lecturer 14/7/23	

Government Degree College Department of Physics Semester-II Paper-II													Nandikotkur - 2022-2023 Remedial classes Attendance Wave optics Paper code 2PC2307	
S.No	Name of the student	Hall Ticket Number	DAY-12 21-6-23	DAY-13 22-6-23	DAY-14 23-6-23	DAY-15 24-6-23	DAY-16 01-7-23	DAY-17 11-7-23	DAY-18 12-7-23	DAY-19 13-7-23	DAY-20 16-7-23	Signature of the student		
1	B. Navaneeth	21360044002	P	P	P	A	P	P	A	P	P	G. Navaneeth		
2	G. Saivammi	21360044003	P	A	P	P	P	A	P	P	P	G. Saivammi		
3	P. Karthik	21360044005	P	P	P	A	P	P	P	A	P	P. Karthik		
C. S.  signature of the Lecturer 14/7/23													C. S.  signature of the Lecturer in charge 14/7/23	

REMEDIAL COACHING

SUB:PHYSICS WAVE OPTICS



SMT.C.SUMALATHA
LECTURER IN PHYSICS .

Outcomes of the Remedial Coaching :

- Students got fundamental knowledge about wave optics .
- Students got good marks in their semester end examinations
- Students passed the Semester End examination with good CGPA
