



Sadakathullah Appa College

(AUTONOMOUS)

Rahmath Nagar, Tirunelveli - 627 011.

LESSON PLAN AND RECORD OF CLASSES ENGAGED

Course : B.Sc (Physics) Class : Ist Physics Academic Year : 2016 - 2017 Semester : I
 Title of the Paper : Physical Optics and Lasers Subject Code : 15UPHC 11
 Theory / Practical Name of the Teacher : M. Mohamed Roshan

Sl.No.	Date & Order	Unit	Topics planned	Covered on
		1	INTERFERENCE	
1	16/06	A	Introduction waves/types/coherent nature	Covered on 16/6
2	17/06	B	Interference - conditions - thin film	17/6
3	20/06	C	Interference due to Reflected light	20/6
4	22/06	E	How Newton's Rings Formed theory	22/6
5	24/06	A	Expt to find μ of liquid using R	24/6
6	25/06	B	Air wedge theory	27/6
7	27/06	C	Expt to determine the diameter of wire.	29/6
8	29/06	E	Testing the planeness of the surface	01/07
9	01/07	A	Numericals related the previous topics	11/7
10	02/07	B	Michelson's Interferometer - construction	13/7
11	11/07	C	Determination of wavelength & thickness	15/7
12	13/07	E	Revision + Numericals. mica sheet.	15/7
		2	DIFFRACTION	
13	15/07	A	2 Introduction / Diffraction / types	16/7

Text books :

- Optics and Spectroscopy / Munugesan & Kiruthiga Sivarajah
- Laser physics S. Mohan & Arjunan & MJP Publications

Reference books :

- Optics Brijlal & Subramaniam S. Chand.
- Atoms, molecules, Lasers KPR Nair Narosa Publ.

Activity	Total Number	Topic I	Topic II	Topic III	Planned Date	Actual Date
Assignment		optical Activity	Threshold	Appln. Lasers in medicine & surgery		
Internal Test		I st Test Portions I chap II chapter 20%	II nd Test Portions II chap 80% III chap 50%	III rd Test Portions chapter IV 50% chapter IV		

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Sl.No.	Date & Order	Unit	Topics planned	Covered on
14	16/07	B	2	Comparison of Fresnel & Fraunhofer diffrs. 18/7
15	18/07	C	"	Fresnel's diffraction at a st. edge. 22/7
16	20/07	E	"	Grating & its construction uses 25/7
17	22/07	A	"	Theory of Grating & Grating equation 26/7
18	25/07	B	"	Determination of λ of γ -colours normal 28/7
19	26/07	C	"	Absent spectra & overlapping spectral ^{incidence} 30/7
20	28/07	E	"	Dispersive power of a grating ^{lines} . 01/08
21	30/07	A	"	Resolving power of a grating 01/08
22	01/08	B	"	Numericals Related to Previous topics. 02/08
23	02/08	C	"	Prism spectrum & Grating spectrum 04/08
24	04/08	E	2	Revision
		3	POLARISATION	
25	08/08	A	3	Introduction/Transverse waves/Polarization 08/08
26	09/08	B	"	uniaxial / Biaxial (+ve/-ve) calcite 09/8
27	10/08	C	"	Property of Double Refraction ^{crystals} 10/8
28	12/08	E	"	Huygen's explanation - Double Refraction 12/8
29	17/08	A	"	Differences between E-ray & O-ray, TIR 18/8
30	18/08	B	"	Construction, working Action of Nicol ^{prism} 19/8
31	19/08	C	"	QWP & HWP 22/8
32	22/08	E	"	Plane, Elliptically & circularly polarised light 24/8
33	24/08	A	"	Production & Detection of plane Elliptical & ^{circularly} 26/8
34	26/08	B	"	Analysis of state of Polarisation ^{by tests} 27/8
35	27/08	C	"	Optical Activity - Fresnel's explanation
36	30/08	E	3	Biquartz Polarimeter - Determ. of Rotatory Power

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Sl.No.	Date & Order	Unit	Topics planned	Covered on
37	01/09 A	4	PRINCIPLE OF LASERS Basic principle of LASERS, absorption	
38	02/09 B	"	Spontaneous & stimulated Emission	
39	06/09 C	"	characteristics of LASERS -	
40	08/09 E	"	Einstein's coefficients - Population	
41	15/09 A	"	Expression for threshold gain ^{Inversion}	
42	16/09 B	"	Solid Ruby Lasers Nd:YAG Laser	
43	17/09 C	"	Nd:YAG glass Laser - const. working	
44	20/09 E	"	Gas-Lasers - He-Ne Laser	
45	22/09 A	"	CO ₂ - Lasers - working - Energy diagram	
46	23/09 B	"	Liquid Lasers - const. working	
47	26/09 C	"	Dye Lasers - working Principle & appl.	
48	28/09 E	4	Revision	
			APPLICATIONS OF LASERS	
49	30/09 A	5	Laser applications - methods Laser drilling	
50	03/10 B	"	LASER welding & cutting	
51	04/10 C	"	LASER Remote sensing	
52	06/10 E	"	LIDAR & Raman LIDAR	
53	13/10 A	"	Holography Intro. & Principle Hologram	
54	14/10 B	"	Recording of Hologram	
55	17/10 C	"	Reconstruction of Hologram	
56	19/10 E	"	Characteristics of Hologram.	
57	21/10 A	"	Applications of Holography	
58	22/10 B	"	Applications of Lasers in medicine	
59	24/10 C	"	Revision & surgery	
60	26/10 E	5	Revision.	


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LESSON PLAN AND RECORD OF CLASSES ENGAGED

Course : UG
 Title of the Paper : Electricity
 Theory / Practical

Class : II B.Sc (Physics)
 Academic Year : 2016 - 2017 Semester : III
 Subject Code : 15UPH31
 Name of the Teacher : Dr. S. H. Mohanraj Ameer

Sl.No.	Date & Order	Unit	Topics planned	Covered on
1	20-6-16-C	I	Unit I - Electrostatics Electric dipole - Field at any point due to a dipole	20-6-16
2	21-6-16-D	I	Gauss' Law and its proof	21-6-16
3	23-6-16-F	I	applications - spherical charge of plane sheet of charge	23-6-16
4	27-6-16-C	I	Mechanical force experienced by a charged conductor	27-6-16
5	28-6-16-D	I	" "	28-6-16
6	30-6-16-F	I	conservative nature of electric dipole	30-6-16
7	11-7-16-D	I	parallel plate capacitor	11-07-16
8	12-7-16-D	I	Effect of dielectric - partially filled dielectric	12-07-16
9	14-7-16-F	I	Problems in unit - I	14-07-16
10	18-7-16-C	II	Unit II - current electricity - Thevenin's Norton's theorem	18-07-16
11	19-7-16-D	II	Wheatstone's bridge	21-07-16
12	21-7-16-F	II	Sensitivity of Wheatstone's bridge	26-07-16
13	26-7-16-C	II	Meter bridge	29-07-16
14	27-7-16-D	II	Caley's bridge	02-08-16
15	29-7-16-F	II	" "	03-08-16

Text books :

1. Electricity and Magnetism - Dr. T. Jayal
R. Murugesan
- 2.

Reference books :

1. Electricity and Magnetism - D.C. Tayal
2. Electricity and Magnetism - Brijlal and Sabramanian

Activity	Total Number	Topic I	Topic II	Topic III	Planned Date	Actual Date
Assignment	2	Dislocation theory	units and standards bridges		23-8-16 29-10-16	6-9-16 31-10-16
Internal Test	3	I st Test Portions unit I & II	II nd Test Portions unit III & IV	III rd Test Portions unit V		

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Sl.No.	Date & Order	Unit	Topics planned	Covered on
16	5-8-16-C	II	LR, RC and LCR series circuits	5-8-16
17	7-8-16-D	II	Wheatstone bridge	11-8-16
18	13-8-16-F	II	Problems in unit II	13-8-16
19	10-8-16-C	III	Unit III - Ohmic & non-ohmic conductors	17-8-16
20	11-8-16-D	III	Ohmic conductors	19-8-16
21	13-8-16-F	III	non-ohmic conductors	20-8-16
22	17-8-16-C	III	conductivity in semiconductors	23-8-16
23	20-8-16-D	III	Wheatstone bridge - Tonic voltage	22-8-16
24	23-8-16-F	III	Dependent determination of Tonic mobility	27-8-16
25	27-8-16-C	III	Drift velocity of free electrons	27-8-16
26	29-8-16-D	III	Gibbs - Helmholtz eq.	21-8-16
27	31-8-16-F	III	Problems in unit III	30-8-16
28	6-9-16-C	IV	Unit IV - Thomson's experiment	7-9-16
29	7-9-16-D	IV	Law of Thomson's experiment	7-9-16
30	9-9-16-F	IV	Thomson's atomic model diagram - uses	14-9-16
31	14-9-16-C	IV	" " " - applications	17-9-16
32	19-9-16-D	IV	Measurement of Thomson's experiment by photoelectric effect	21-9-16
33	21-9-16-F	IV	Applications of Thomson's experiment	27-9-16
34	26-9-16-C	IV	" " " " " "	27-9-16
35	27-9-16-D	IV	Bohr's model of atom - Hydrogen spectrum	27-9-16
36	29-9-16-F	IV	Problems in unit IV	09-10-16
37	4-10-16-C	V	Unit V - Alternating current - Measurement of AC	07-10-16
38	5-10-16-D	V	AC circuit containing L & R	17-10-16
39	7-10-16-F	V	LCR series and parallel circuits	18-10-16
40	17-10-16-C	V	" " " " " "	20-10-16

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LESSON PLAN AND RECORD OF CLASSES ENGAGED

Course : B.Sc. Maths Class : Mathematics Academic Year : 2016 - 2017 Semester : III
 Title of the Paper : Allied Physics Subject Code : 15UAPH31
 Theory / Practical : _____ Name of the Teacher : S. Mohamed Saleek

Sl.No.	Date & Order	Unit	Topics planned	Covered on
1	16/6 A	1	Elastic moduli	16/6
2	22/6 E	1	Poisson's ratio	22/6
3	23/6 F	1	relation between elastic constants	23/6
4	24/6 A	1	Expression for bending moment	24/6
5	29/6 E	1	catilever. expression for depression	29/6
6	30/6 F	1	Experiment to find young's modulus (uniform bending)	30/6
7	1/7 A	1	experiment to find young's modulus (non uniform bending)	1/7
8	13/7 E	1	Experiment to find young's modulus using scale & telescope	13/7
9	14/7 F	2	Young's experiment	14/7
10	15/7 A	2	condition for interference	15/7
11	20/7 E	2	Additional phase difference due to dissimilar reflections	20/7
12	21/7 F	2	colours of thin film	20/7
13	22/7 A	2	Air wedge	21/7
14	28/7 F	2	Thickness of wire	28/7

Text books :

1. Properties of matter - Brij Lal & Subramanian
2. Heat & Thermodynamics

Reference books :

1. College Physics - Vol - 1 - A.B. Ayyappa
2. A Text book of optics - Brij Lal & Subramanian

Activity	Total Number	Topic I	Topic II	Topic III	Planned Date	Actual Date
Assignment	2	*	**			
Internal Test	3	I st Test Portions Unit 1-2	II nd Test Portions Unit 2-3	III rd Test Portions Unit 4-5		

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* Application of interference and diffraction

** Transparencys



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Sl.No.	Date & Order	Unit	Topics planned	Covered on
15	29/7 F	2	Fresnel and Fraunhofer diffraction.	28/7
16	30/7 A	2	Plane transmission grating	29/7
17	4/8 E	2	Theory & experiment to find wave length by normal incidence method	30/7
18	5/8 F	2	Distinction between interference and diffraction bands	4/8
19	8/8 A	3	Double refraction	5/8
20	15/8 E	3	Nicol Prism	8/8
21	13/8 F	3	Brewster's law	12/8
22	17/8 A	3	production and analysis of plane	12/8
23	22/8 E	3	circularly and elliptically Polarised light	13/8
24	23/8 F	3	half wave plate	17/8
25	24/8 A	3	quarter wave plate	17/8
26	30/8 E	3	optical activity	22/8
27	31/8 F	3	Specific rotation.	23/8, 24/8
28	1/9 A	4	Mean free path	30/8
29	8/9 E	4	expression for mean free path. Transport phenomena	
30	9/9 F	4	viscosity	
31	15/9 A	4	Thermal conductivity	
32	20/9 E	4	diffusion	
33	21/9 F	5	conduction	
34	22/9 A	5	coefficient of thermal conductivity	
35	28/9 E	5	definition - Thermal conductivity of a bad conductor	
36	29/9 F	5	Lee's Disc Experiment	
37	30/9 A	5	Convection	
38	6/10 E	5	Newton's law of cooling	

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LESSON PLAN AND RECORD OF CLASSES ENGAGED

Course : B.sc (physics) Class : IIIrd year Academic Year : 2016 - 2017 Semester : V
ODD

Title of the Paper : Communication Electronics

Subject Code : 11 SEP H 5

Theory / Practical

Name of the Teacher : M. Mohamed Roshan

Sl.No.	Date & Order	Unit	Topics planned	Covered on
		1	RADIO COMMUNICATION SYSTEM	
1	17/06	B	1 Introduction to communication system	covered on 17/6
2	20/06	C	" Components & Block diagram of Comm sys	20/6
3	23/06	F	" Types of communication, ranges of freq. appln.	27/6
4	25/06	B	" Need for modulation, types of modulation	27/6
5	27/06	C	" Amplitude modulation, theory, Freq spectrum	30/6
6	30/06	F	" Block diagram of AM Transmitter	11/7
7	02/07	B	" Freq modulation, theory, Freq deviation	16/7
8	11/07	C	" Block diagram of FM Transmitter	16/7
9	14/07	F	1 comparison of Am & Fm / Revision / Numericals	18/7
		2	PULSE COMMUNICATION.	
10	16/07	B	" Introduction / Pulse signal / Pulsed modulation	18/7
11	18/07	C	" Types of Pulse modulation, PAM	25/7
12	20/07	F	" PAM Production & Detection	26/7
13	25/07	B	2 PWM Generation & Detection	29/7

Text books :

Reference books :

- Principles of Communication - K.S. Srinivasan
- Communications Electronics - Robin Raj
- Comm. Engg - Srinivasan
- Optical Fibre Comm. - Gerd Keisser
- Electronics Comm. Syst - George Kennedy Paris

Activity	Total Number	Topic I	Topic II	Topic III	Planned Date	Actual Date
Assignment		Digital Code	MW links repeaters	Networks, types, email, internet		
Internal Test		I st Test Portions chapter I chapter II (20%)	II nd Test Portions chapter II & III (50%)	III rd Test Portions chapter III (50%) chapter IV		

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Sl.No.	Date & Order	Unit	Topics planned	Covered on
14	26/07 C	2	PCM Generation & Detection	01/08
15	29/07 F	"	Multiplexing Types FDM	02/08
16	01/08 B	"	FDM - Complex carrier from 12 signals.	09/08
17	02/08 C	"	TDM - Analog & Digital using FF	10/8
18	05/08 F	2	Telegraph & Telex Revision	10/8
		3	DIGITAL COMMUNICATION	
19	09/08 B	3	Types of Data & transfer of Data	13/8
20	10/08 C	"	Binary & Digital signals, coding	18/8
21	13/08 F	"	characteristics of Data transmission	19/8
22	18/08 B	"	Digital codes	23/8
23	19/08 C	"	Modem, types, functions & Interfacing	26/8
24	23/08 F	"	Network organization, Network Protocols	
25	26/08 B	"	Types of Networks & Examples	27/8
26	27/08 C	"	E mail send receive Advantages.	
27	31/08 F	3	Internet Applications Revision	
		4	BROAD BAND COMMUNICATION	
28	02/09 B	4	Broad Band Introduction, Advantages, types	
29	06/09 C	"	Principle - satellite orbits	
30	09/09 F	"	satellite characteristics & construction	
31	16/09 B	"	Principle and design of MW links	
32	17/09 C	"	MW Repeaters & Earth Station	
33	21/09 F	"	Radar - Basic principle - components	
34	23/09 B	"	CW Radar systems	
35	26/09 C	"	Pulsed Radar systems	
36	29/09 F	4	Numericals & Revision.	


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LESSON PLAN AND RECORD OF CLASSES ENGAGED

Course : B.Sc Maths

Class : II . B.Sc Maths

Academic Year : 2016 - 2017 Semester : III

Title of the Paper : Allied Physics - I

Subject Code : 15UPHA31

Theory / Practical : Theory

Name of the Teacher : Ms. Kaison Mubina

Sl.No.	Date & Order	Unit	Topics planned	Covered on
1	16.6.16 - A	I	Elasticity, Elastic Modulus, Poisson's ratio	16.6.16
2	20.6.16 - D	I	Relation b/n elastic constants	20.6.16
3	22.6.16 - F	I	Expression for bending moment, Cantilevers	22.6.16
4	23.6.16 - A	I	Expression for depression	23.6.16
5	28.6.16 - D	I	Experiment to find Young's modulus (uniform bending)	28.6.16
6	30.6.16 - F	I	Expression for elevation	30.8.16
7	1.7.16 - A	I	Experiment to find Young's modulus using microscope (non uniform bending)	1.7.16
8	12.7.16 - D	I	Expression for depression	12.7.16
9	14.7.16 - F	I	experiment to find Young's modulus using scale and telescope.	12.7.16
10	15.7.16 - A	II	Interference and Diffraction, Young's experiment	15.7.16
11	19.7.16 - D	II	Condition for interference	19.7.16
12	21.7.16 - F	II	Additional phase difference due to dissimilar reflections	21.7.16
13	22.7.16 - A	II	Colours by thin film, Air wedge	22.7.16
14	27.7.16 - D	II	Thickness of wire	27.7.16
15	29.7.16 - F	II	Fresnel and Fraunhofer Diffraction	29.7.16

Text books :

- 1.
- 2.

Reference books :

1. Properties of matter - Brijlal & Subramaniam, S. Chand & Co., New Delhi
2. College Physics, Vol. 1, A. B. Gupta, Books & allied (P) Ltd, Kolkata

Activity	Total Number	Topic I	Topic II	Topic III	Planned Date	Actual Date
Assignment						
Internal Test		I st Test Portions	II nd Test Portions	III rd Test Portions		

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Sl.No.	Date & Order	Unit	Topics planned	Covered on
16	30.7.16 - A	II	plane transmission grating	30.7.16
17	3.8.16 - D	II	theory and experiment to find wavelength by normal incidence	3.8.16
18	5.8.16 - F	II	Distinction between interference and diffraction ^{method} bands.	5.8.16
19	8.8.16 - A	III	Polarisation, Double refraction	5.8.16
20	11.8.16 - D	III	Nicol prism	8.8.16
21	13.8.16 - F	III	Brewster's law	11.8.16
22	17.8.16 - A	III	Production of plane, circularly and elliptically polarised light	17.8.16
23	20.8.16 - D	III	Analysis of plane, circularly and elliptically polarised light	20.8.16
24	23.8.16 - F	III	half wave and quarter wave plate	23.8.16
25	24.8.16 - A	III	Optical activity	24.8.16
26	29.8.16 - D	III	Specific rotation	24.8.16
27	31.8.16 - F	III	Revision	29.8.16
28	1.9.16 - A	IV	Transport phenomena - Introduction	1.9.16
29	7.9.16 - D	IV	Mean free path	1.9.16
30	9.9.16 - F	IV	expression for mean free path (Zeroth order approximation)	7.9.16
31	15.9.16 - A	IV	Transport phenomena	9.9.16
32	19.9.16 - D	IV	Viscosity	15.9.16
33	21.9.16 - F	IV	"	19.9.16
34	22.9.16 - A	IV	Thermal conductivity	21.9.16
35	27.9.16 - D	IV	"	22.9.16
36	29.9.16 - F	IV	diffusion	27.9.16
37	30.9.16 - A	V	Transfer of Heat	29.9.16
38	5.10.16 - D	V	Conduction	30.9.16
39	7.10.16 - F	V	Coefficient of thermal conductivity, definition	5.10.16
40	13.10.16 - A	V	Thermal conductivity of a bad conductor	7.10.16

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