



Lady Doak College

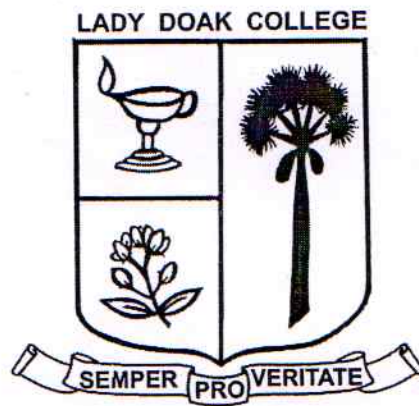
AUTONOMOUS

*1.1.2 Percentage of  
Programmes where syllabus  
revision was carried out during  
2015-2020*

# Lady Doak College, Madurai – 2

*(An Autonomous Institution Affiliated to Madurai Kamaraj University)*

**"COLLEGE WITH POTENTIAL FOR EXCELLENCE"**  
Re-accredited (3<sup>rd</sup> cycle) by NAAC with Grade 'A'  
CGPA 3.44 on a 4 point scale



## SCIENCES

ACADEMIC COUNCIL MEETING

6 May, 2015

APPENDIX 'AW'

**Revised Copy**

# Lady Doak College, Madurai

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

## 54<sup>th</sup> Academic Council Meeting

May 6<sup>th</sup>, 2015 - Multimedia Theatre-1

**CHAIRPERSON:** Dr. A. Mercy Pushpalatha  
Principal & Secretary

### A G E N D A

1. Prayer
2. Introductory Remarks - Chairperson
3. Confirmation of minutes of the Academic Council Meetings held on 18<sup>th</sup> March, 2014 and 10<sup>th</sup> June, 2014.
4. Introduction of Programmes:
  - a. Tamil
  - b. Hindi
  - c. English
  - d. French
  - e. History
  - f. Social Sciences
  - g. Economics
  - h. Commerce
  - i. Business Administration
  - j. Mathematics
  - k. Physics
  - l. Chemistry
  - m. Botany
  - n. Zoology
  - o. Biotechnology
  - p. Computer Science
  - q. Fashion Designing
  - r. Physical Sciences
  - s. Interdisciplinary Courses
  - t. Life-Frontier Engagement
  - u. Centre for Environmental Studies
  - v. Curriculum Planning and Evaluation Cell
5. Concluding Remarks - Chairperson

*Samuel Getha Saragavel*  
DEANS OF ACADEMIC AFFAIRS

*A. Mercy Pushpalatha*  
PRINCIPAL

Venkataraman.M.K, *Statics*, Trichy: Agasthiar Book Depot, 2005, Chapters: 2, 3(3.1-3.13), 4, 5 (5.1 - 5.6 (upto pg. no. 122), 5.7), 7(7.1 - 7.13 (upto pg. no. 251)) Print.

#### REFERENCE BOOK(S)

Duraipandian. P, LaxmiDuraipandian, Muthamizh Jaya Pragasam, *Mechanics*, New Delhi:Chand. S & Company Ltd, 2006. Print.

Loney.S.L, *The Elements of Statics and Dynamics Part I statics*, New Delhi: Surjeet Publications, 1989. Print.

Loney.S.L, *The Elements of Statics and Dynamics Part II Dynamics*, New Delhi: Surjeet Publications, 1989. Print.

### DEPARTMENT OF PHYSICS

#### PREAMBLE :

The Department of Physics revised the undergraduate curriculum to fit into the Integrated Curriculum Model evolved by the College in 2013. The course profile, course content and evaluation pattern for the semesters I & II and III-IV were passed in the Academic Council held during 2013 and 2014 respectively. The department is now presenting the same for semesters V and VI for the 2013 batch Undergraduate programme and the course profile of semesters III and IV for 2014 batch. **The M.Sc. course profile is being modified to benefit students towards better learning. In this regard, the department presents the course content and the evaluation pattern for semesters I and II and Course Profile for 2015 PG programme.**

### B.Sc. (Special) Physics - Aided

#### Course Profile

Sem.	Course Code	Course Title	Hrs/ Week	Credit	Passed in
<b>2014 Batch</b>					
III	PHY3501CM/PHY3401CM	WAVE OPTICS	5	5	AV-2014
	PHY3402CM	ELECTRICITY & MAGNETISM	4	4	AV-2014
	PHY3403CT	PROGRAMMING IN C	3T + 2L	4	AV-2014
	PHY3201CP	LAB PHYSICS II	3	2	AV-2014
	PHY3202CP	LAB PHYSICS III	3	2	AV-2014
	MAT3411AA	PARTIAL DIFFERENTIAL EQUATIONS, STATISTICS AND COMPLEX ANALYSIS	5	4	AV-2014
	ELECTIVE	NON-MAJOR ELECTIVE	2	2	AV-2014
		VOCATIONAL COURSE	2	2	
	VBC0102FV / VBC0103FV	CIVIC EDUCATION / FAMILY LIFE EDUCATION	1	1	
	<b>Total</b>	<b>30</b>	<b>26</b>		
IV	PHY4401CM	ELECTRONICS - II	4	4	AV-2014
	PHY4501CM/PHY4402CM	MATHEMATICAL PHYSICS	5	5	AV-2014

**UNIT IV: ENTERTAINMENT ELECTRONICS**

Principles involved in the working of the radio, TV, the remote control- principle and working of the tape recorder, the CD player and the DVD player - microphones, amplifiers and loud speakers- the cinema.

**UNIT V: PHYSICS OF SIMPLE TOYS**

Case study – demonstration of the physics principle behind simple toys

**REFERENCE BOOK(S):**

Andrade, **Physics for the Modern World**, The English Language Book Society. Print.

Ivar Utial, **101 Science Games**, New Delhi: Pustak Mahal. Print.

Leslie Cromwell, **Biomedical Instrumentation and Measurements**, New Delhi: Prentice Hall of India. Print.

Sedov E., **Entertaining Electronics**, University Publishers. Print.

**M.Sc. PHYSICS (Self-Financed)  
COURSE PROFILE  
(2015 BATCH ONWARDS)**

Sem.	Course Code	Course Title	Hrs./Week	Credit	Passed in
I	PGP1622M/ PGP1521M	CLASSICAL MECHANICS & NONLINEAR DYNAMICS	6	6	AT 2012
	PGP1623M	MATHEMATICAL PHYSICS I	6	6	
	PGP1624M	INTEGRATED ELECTRONICS	6	6	
	PGP1522M	NUMERICAL METHODS WITH C	5	5	AT 2012
	PGP1323P	GENERAL LAB I	3	3	AT 2012
		VALUE EDUCATION	2	1	
		LIBRARY	1		
		CLUB	1		
	<b>Total</b>		<b>30</b>	<b>27</b>	
II	PGP2622M	MATHEMATICAL PHYSICS II	6	6	
	PGP2523M	QUANTUM MECHANICS I	5	5	AT 2012
	PGP2525M/PGP4 521M	STATISTICAL MECHANICS & THERMODYNAMICS	5	5	AT 2012
	PGP2321P	GENERAL LAB II	3	3	AT 2012
	PGP2324P	ELECTRONICS LAB	3	3	
		VALUE EDUCATION	2	1	
		ELECTIVE	4	4	
		CLUB	1		
	LIBRARY	1			
	<b>Total</b>		<b>30</b>	<b>27</b>	
III	PGP3522M	SOLID STATE PHYSICS I	5	5	
	PGP3523M	QUANTUM MECHANICS II	5	5	
	PGP3621M	ELECTROMAGNETIC THEORY	6	6	
	PGP3523O/ PGP3524O/ PGP3525O	MICRO CONTROLLER / MOLECULAR BIOPHYSICS & BIOINFORMATICS/ GIS AND ITS APPLICATIONS	5	5	
	PGP3327P/ PGP 3328P/ PGP3329P	COMPUTATIONAL PHYSICS & MICROCONTROLLER LAB / COMPUTATIONAL PHYSICS & MOLECULAR BIOPHYSICS AND BIOINFORMATICS LAB / COMPUTATIONAL PHYSICS & GIS LAB	3	3	
		ELECTIVE	4	4	
		CLUB	1		
		LIBRARY	1		

Sem.	Course Code	Course Title	Hrs./Week	Credit	Passed in
		<b>Total</b>	<b>30</b>	<b>28</b>	
IV	PGP4522M	SOLID STATE PHYSICS II	5	5	
	PGP4523M	NUCLEAR PHYSICS	5	5	
	PGP4621M	MOLECULAR SPECTROSCOPY	6	6	
	PGP4521O/ PGP4524O	NANOSCIENCE / MODERN OPTICS	5	5	
	PGP0621M	PROJECT	6	6	
		LIB/SEMINAR	2	-	
		CLUB	1	-	
		<b>Total</b>	<b>30</b>	<b>27</b>	

# - alternate weeks

### ELECTIVE COURSES

II	PGP2422E	HISTORY AND PHILOSOPHY OF SCIENCE	4	4
III	PGP3421E	DIGITAL IMAGE PROCESSING	4	4

### SELF-LEARNING COURSES

PGP 0423D	PHYSICS APPLICATIONS WITH MATLAB	-	4
PGP 0424D	LASERS AND ITS APPLICATIONS	-	4
PGP 0425 D	THIN FILM PHYSICS	-	4

### COMPREHENSIVE VIVA/MINIPROJECT

PGP 0321MV	COMPREHENSIVE VIVA	-	3
PGP 0321MP	MINI PROJECT	-	3

### PGP1623M MATHEMATICAL PHYSICS I

(Theory)

**LEARNING OUTCOME :**

**6 Hrs./Wk.**

On successful completion of the course, the student will be able to

- understand the fundamental concepts of vectors and tensors
- identify the use of special functions in real time problems
- compare the various probability distributions
- apply the concepts of matrix analysis and complex analysis to physical problems