DWARAKA DOSS GOVERDHAN DOSS VAISHNAV COLLEGE (Linguistic Minority Institution) [AUTONOMOUS] Accredited at 'A' Grade by NAAC

B. Sc. PHYSICS SYLLABUS (Effective from 2015-2016 batch)



"Gokulbagh" 833, Periyar E.V.R. Salai, Arumbakkam, Chennai – 600106 For updated information on Rules and Regulations, please see the University of Madras Website, College calendar and consult your teacher

UNIVERSITY OF MADRAS

BACHELOR DEGREE COURSES: UNDER THE FACULTY OF SCIENCE (B.Sc.)

B.SC PHYSICS CHOICE BASED CREDIT SYSTEM

REGULATIONS

1. ELIGIBILITY FOR ADMISSION:

Candidates for admission to the first year of the Degree of Bachelor of Science courses shall be required to have passed the Higher Secondary Examinations (with Mathematics, Physics and Chemistry) conducted by the Government of Tamil Nadu or an Examination accepted as equivalent thereof by the Syndicate of the University of Madras. Provided that candidates for admission into the specific main subject of study shall be Possess such other qualifying conditions as may be prescribed by the University as given in the APPENDIX-A.

2. ELIGIBILITY FOR THE AWARD OF DEGREE:

A candidate shall be eligible for the award of the Degree only if he /she has undergone the prescribed course of study in a College affiliated to the University for a period of not less than three academic years, passed the examinations all the Six-Semesters prescribed earning **140 Credits** (in Parts-I, II, III, IV & V).

3. DURATION:

- a) Each academic year shall be divided into two semesters. The first academic year shall comprise the first and second semesters, the second academic year the third and fourth semesters and the third academic year the fifth and sixth semester respectively.
- b) The odd semesters shall consist of the period from June to November of each year and the even semesters from December to April of each year. There shall be not less than 90 working days for each semester.

4. COURSE OF STUDY:

The main Subject of Study for Bachelor Degree Courses shall consist of the following and shall be in accordance with **APPENDIX-B**

PART – I TAMIL / OTHER LANGUAGES

PART – II ENGLISH*

PART – III CORE SUBJECTS / ALLIED SUBJECTS / ELECTIVES

PART - IV

- 1.(a) Those who have not studied Tamil up to XII Std. and taken a Non-Tamil Language under Part-I shall take Tamil comprising of two course (level will be at 6th Standard).
 - (b) Those who have studies Tamil up to XII Std. and taken a Non-Tamil Language under Part-I shall take Advanced Tamil comprising of two courses.
 - (c) Others who do not come under a + b can choose non-major elective comprising of two courses.
- 2. SKILL BASED SUBJECTS (ELECTIVE) (SOFT SKILLS)
- 3. ENVIRONMENTAL STUDIES
- 4. VALUE EDUCATION

PART – V EXTENSION ACTIVITIES

5. EXTENTION ACTIVITIES:

A candidate shall be awarded a maximum of 1 Credits for Complusory Extension Service.

All the Students shall have to enrol for NSS /NCC/ NSO (Sports & Games) Rotract/ Youth Red cross or any other service organizations in the college and shall have to put in Complusory minimum attendance of 40 hours which shall be duly certified by the Principal of the college before 31st March in a year. If a student LACKS 40 HOURS ATTENDANCE in the First year, he/she shall have to compensate the same during the subsequent years.

Students those who complete minimum attendance of 40 hours in One year will get HALF A CREDIT and those who complete the attendance of 80 or more hours in Two Years will ONE CREDIT.

Literacy and population Education Field Work shall be compulsory components in the above extension service activities.

6. SCHEME OF EXAMINATION:

Course Component	Hour	edits	Hrs	Max. Marks			
Name of the course	ıst. l	Cree	xam	Ext.	Int.	Total	
	Ir	_	Е	mark	mark	Total	
PART-I Language				60	40	100	
PART-II English				60	40	100	
PART-III Core subject				60	40	100	
Core Subject				60	40	100	
Allied Subject				60	40	100	
 PART – IV 1.(a) Those who have not studied Tamil up to XII Std. and taken a Non-Tamil Language under Part-I shall take Tamil comprising of two course (level will be at 6th Standard). (b) Those who have studies Tamil up to XII Std. and taken a Non-Tamil Language under Part-I shall take Advanced Tamil comprising of two courses. (c) Others who do not come under a + b can choose non-major elective comprising of two courses. 							
2*Skill based subjects(Elective) – (Soft Skill)							

Scheme of Examination shall be given in APPENDIX - C Model Scheme

7. REQUIREMENTS FOR PROCEEDING TO SUBSEQUENT SEMESTER:

- i. Candidates shall register their names for the First Semester Examination after the admission in UG Courses.
- ii. Candidates shall be permitted to proceed from the First Semester up to Final Semester irrespective of their failure in any of the Semester Examination subject to the condition that the candidates should register for all the arrear subject of earlier semesters along the current (subsequent) Semester Subjects.
- iii. Candidates shall be eligible to go to subsequent semester, only if they earn, sufficient attendance as prescribed there for by the Syndicate from time to time.

8. PASSING MINIMUM:

A candidate shall be declared to have passed:

- a) There shall be no Passing Minimum for Internal.
- b) For External Examination, Passing Minimum shall be of 40% (Forty Percentage) of the maximum marks prescribed for the paper for each Paper/Practical/Project and Viva-voce.

- c) In the aggregate (External + Internal) the passing minimum shall be of 40%.
- d) He/She shall be declared to have passed the whole examination, if he/she passes in all the papers and practicals wherever prescribed / as per the scheme of examinations by earning 140 CREDITS in Parts-I, II, III, IV & V. He/she shall also fulfill the extension activities prescribed earning a minimum of 1 Credit to qualify for the Degree.

9. CLASSIFICATION OF SUCCESSFUL CANDIDATES:

PART- I TAMIL / OTHER LANGUAGES:

TAMIL/OTHER LANGUAGES: Successful candidates passing the Exami-nations for the Language and securing the marks (1) 60 percent and above and (ii) 50 percent and above but below 60 percent in the aggregate shall be declared to have passed the examination in the FIRST and SECOND class, respectively. All other successful candidates shall be declared to have passed the examination in the THIRD Class.

PART – II ENGLISH:

ENGLISH: Successful candidates passing the examinations for English and securing the marks (i) 60 percent and above and (ii) 50 percent and above but below 60 percent in the aggregate shall be declared to have passed the examination in the FIRST and SECOND Class, respectively. All other successful candidates shall be declared to have passed the examination in the THIRD class.

PART – III consisting of CORE SUBJECTS, ALLIED SUBJECTS, ELECTIVES:

Successful candidates passing the examinations for Core Courses together and securing the marks (i) 60 percent and above (ii) 50 percent and above but below 60 percent in the aggregate of the marks prescribed for the Core courses together shall be declared to have passed the examination in the FIRST and SECOND Class respectively. All other successful candidates shall be declared to have passed the examinations in the Third Class.

PART - IV (consisting of sub items 1 (a), (b) & (c), 2, 3 and 4) as furnished in the Regulations 4 Part-IV supra.

PART – V EXTENTION ACTIVITIES:

Successful Candidate earning of 1 credit SHALL NOT BE taken into consideration for Classification/Ranking/ Distinction.

10. RANKING:

Candidates who pass all the examinations prescribed for the course in the FIRST APPEARANCE ITSELF ALONE are eligible for Ranking/ Distinction.

Provided in the case of Candidates who pass all the examinations prescribed for the Course with a break in the First Appearance due to the reasons as furnished in the Regulations. 7 (iii) supra are only eligible for classification.

APPENDIX – A

ADDITIONAL ELIGIBILITY CONDITIONS FOR

ADMISSION TO THE FOLLOWING COURSE:

CANDIDATES FOR ADMISSION TO THE FOLLOWING COURSE SHALL HAVE PASSED THE QUALIFYING EXAMINATION WITH THE SUBJECTS NOTED AGAINST:

B.Sc PHYSICS : PHYSICS and MATHEMATICS

APPENDIX - B

COURSE OF STUDY

The Course of Study shall comprise the study of Part-I to Part-V Courses; .

PART - I TAMIL/OTHER LANGUAGES comprise the study of:

Tamil or any one of the following Modern (Indian or Foreign) or classical languages at the optional candidate, according to the syllabi and text-books prescribed from time to time.

- (i) Modern (Indian) Telugu, Kannada, Malayalam, Urdu & Hindi.
- (ii) Foreign Chinese, French, German, Italian, Japanese, & Russia
- (iii) Classical Sanskrit, Arabic & Persian.

AND

PART – II ENGLISH according to the syllabi and text-books prescribed from time to time.

PART – III CORE COURSES Comprise the study of (A) Main Subjects; (B) Allied Subjects; (C) Electives;

(A) MAIN SUBJECTS:

B.Sc DEGREE COURSE IN PHYSICS

(B) ALLIED SUBJECTS:

Each candidate shall choose the Allied subjects prescribed in the Scheme of Examinations.

(C) ELECTIVES:

PART – IV

- 1.(a) Those who have not studied Tamil up to XII Std. and taken a Non-Tamil Language under Part-I shall take Tamil comprising of two course (level will be at 6th Standard).
 - (b) Those who have studies Tamil up to XII Std. and taken a Non-Tamil Language under Part-I shall take Advanced Tamil comprising of two courses.

- (c) Others who do not come under a + b can choose non-major elective comprising of two courses.
- 2. SKILL BASED SUBJECTS (ELECTIVE) (SOFT SKILLS)
- 3. ENVIRONMENTAL STUDIES
- 4 VALUE EDUCATION
- PART V EXTENSION ACTIVITIES

SYLLABUS FOR B.Sc. PHYSICS DEGREE COURSE

(According to Choice Based Credit System)

[Effective from the academic year 2015-2016 batch]

The Regulations and syllabi for the B.Sc. Physics Degree course for the I to VI semesters as per the format given by the Tamilnadu State Council for Higher Education [TANSCHE], Chennai, under Choice Based Credit System with the minimum of 120 credits for the UG Degree Courses to be offered in the affiliated colleges, is given in Annexure – I.

Accordingly Choice Based Credit System is offered for B.Sc. Physics Degree Course.

The distribution of available 30 hours per week among various papers is given in Annexure -I.

The Question Paper pattern is shown in Annexure – II

The Internal Evaluation Pattern is shown in Annexure – III.

The department takes utmost care to maintain high academic standards. The Syllabi of the University of Madras, various autonomous colleges and the model curricula of UGC were referred to and all possible updations and upgradations have been effected.

All papers are unitized to 5 units as per UGC Norms.

The proposed new syllabus is submitted herewith.

NOTE : EXTRA credits for Online courses completed

B.Sc. Physics Students can register for various **Online courses** of their choice

from SWAYAM, NPTEL, IIRS- ISRO, SAKSHAT, or other online courses

from our MHRD and MIT EDx, Couresera. Those who successfully

complete these courses will be awarded EXTRA CREDITS,

along with their regular credits earned.

ANNEXURE – I

Distribution of Hours, Marks and Credits for B.Sc Physics Degree Course

SEMESTER 1

	Course		bjects Inst. Hrs Credits Exam Hrs Exam Hrs Marks Mark		ax. Mark	S		
S.No.	Components	Subjects			Hrs	Ext. Marks	Int. Marks	Total
1	PART I	Language Paper I	6	3	3	60	40	100
2	PART II	English Paper I	6	3	3	60	40	100
3	PART III Core Courses	Core Paper I Mechanics and Properties of Matter	5	5	3	60	40	100
		Core Practical I	3	Practical examination at the end of Semester				nester II
4	Allied Subject I	Allied Mathematics 1	6	5	3	60	40	100
5	Part IV Non-Major Elective/	Basic Tamil	2	2	3	60	40	100
6	Soft Skill I		2	2	3	60	40	100
	Total	6	30			360	240	600

SEMESTER 2

	Course		Inct		Evom	Ma	x. Marks	
S.No.	Components	Subjects	Hrs Credits		Hrs	Ext. Marks	Int. Marks	Total
1	PART I	Language Paper II	6	3	3	60	40	100
2	PART II	English Paper II	6	3	3	60	40	100
3	PART III Core Courses	Core Paper II Thermal Physics and Acoustics	5	5	3	60	40	100
		Core Practical I	3	4	3	60	40	100
4	Allied Subject II	Allied Mathematics II	6	5	3	60	40	100
5	Part IV Non-Major Elective/	Basic Tamil	2	2	3	60	40	100
6	Soft Skill II		2	2	3	60	40	100
	Total	6	30			420	280	700

	Course		Inct		Evom	Μ	ax. Mark	S
S.No.	Components	Subjects	Hrs	Credits	Hrs	Ext. Marks	Int. Marks	Total
1	PART I	Language Paper III	6	3	3	60	40	100
2	PART II	English Paper III	6	3	3	60	40	100
3	PART III Core Courses	Core Paper III Optics	5	5	3	60	40	100
		Core Practical II	3			Practical examination at the end of Semester IV		
4	Allied Subject I	Allied Chemsitry I		5	3	60	40	100
5		Allied Chemistry Practicals		Practical examination at the end of Even Semester				
6	EVS		2	Examination at the end of Even Semester				ester
7	Soft Skill III		2	2	3	60	40	100
	Total			18		300	200	500

SEMESTER 4

	Course		Inct		Exam	Ma	x. Marks	
S.No.	Components	Subjects	Hrs	Credits	Hrs	Ext. Marks	Int. Marks	Total
1	PART I	Language Paper IV	6	3	3	60	40	100
2	PART II	English Paper IV	6	3	3	60	40	100
3	PART III Core Courses	Core Paper IV Atomic Physics	5	5	3	60	40	100
		Core Practical II	3	4	3	60	40	100
4	Allied Subject II	Allied Chemistry II		5	3	60	40	100
5		Allied chemistry Practicals		5	3	60	40	100
6	EVS		2	2	3	60	40	100
7	Soft Skill IV		2	2	3	60	40	100
	Total			29		480	320	800

SEMESTER 5

S No	Course		Inst		Evon	Μ	ax. Mark	5
5.110	Course Components	Subjects	Hrs	Credits	Exam Hrs	Ext. Marks	Int. Marks	Total
1		Core Paper V Electricity and Electromagnetism	5	5	3	60	40	100
2		Core Paper VI Mathematical methods in Physics	5	5	3	60	40	100
3	Core Courses	Core Paper VII Solid State Physics	4	5	3	60	40	100
4		Core Paper VIII Basic Electronics	4	5	3	60	40	100
5		Elective I Applied Electronics	4	5	3	60	40	100
6		Core Practical III	3	Dractical	avomino	ion at the	and of Sa	mastar
7		Core Practical IV	3	Fractical	CXamma	VI	end of Se	mester
8		Core Practical V	2			V 1		
9		Value Education		2				100
	Total		30	27				600

SEMESTER 6

			Max. Marks					
S.No.	Course Components	Course omponentsSubjectsInst. HrsCree		Credits	Exam Hrs	Ext. Mark s	Int. Marks	Total
1		Core Paper IX Relativity and Quantum Mechanics	6	5	3	60	40	100
2	PART III Core	Core Paper X Nuclear and Particle Physics	6	5	3	60	40	100
3	Courses	Elective II Digital Electronics	5	5	3	60	40	100
4		Elective III Microprocessor Fundamentals	5	5	3	60	40	100
6		Core Practical III	3	4	3	60	40	100
7		Core Practical IV	3	4	3	60	40	100
8		Core Practical V	2	4	3	60	40	100
	Total		30	32		480	220	700

ALLIED PHYSICS

			T-n a4		Enam	Max. Marks			
S.No.	Semester	Subjects	Hrs	Credits	Exam Hrs	Ext. Marks	Int. Marks	Total	
1	Odd Semester	Allied Physics I	5	5	3	60	40	100	
2		Allied Practicals	3	Practical Examination at the end of Even semester					
3	Even Semester	Allied Physics II	5	5	3	60	40	100	
4		Allied Physics Practicals	3	4	3	60	40	100	

No. of Credits earned from Department of Physics by B.Sc Physics Students

Somestan	Pa	per		Marks				
Semester	Theory	Practical	Theory	Practical	Total	Creatis		
Ι	1	-	100	-	100	5		
II	1	1	100	100	200	9		
III	1	-	100	-	100	5		
IV	1	1	100	100	200	9		
V	5	-	500	-	500	25		
VI	4	3	400	300	700	32		
IV	E	VS	75	25	100	2		
Total			1575	525	2100	91		

No. of Credits earned from Department of Physics by B.Sc Maths /Chemistry students:

Someston	P	aper			Credita	
Semester	Theory	Practical	Theory	Practical	Total	Creans
Odd Semester	1	-	100	-	100	5
Even Semester	1	1	100	100	200	9
Total	2	1	200	100	300	14

No. of Credits earned from Department of Physics by B.Com. students

Semester	Paper	Marks	Credits
Ι	Non major Elective	100	2
II	Non Major Elective	100	2
Total	2	200	4

ANNEXURE – II

Question Paper Pattern for B.Sc Physics Degree Course based on CBCS Pattern (except non-major elective)

THEORY

Maximum Ext. Marks: 100 **Duration: 3 hours**

PART A (50 words)		
To answer 10 questions		
out of 12 questions (at least two questions from each unit)	10x2marks=20 marks	
PART B (200 words)		
To answer 5 questions		
out of 7 question (at least one question from each unit)	5X7 marks=35 marks	
PART C (500 words)		
To answer 3 questions		
out of 5 question (at least one question from each unit)	3X15marks=45 marks	
	Total	100 marks

Question paper pattern for non-major elective THEORY

Maximum Ext. Marks: 100 **Duration: 3 hours**

PART A

To answer 10 questions out of 12 questions (at least two questions from each unit) 10x2marks=20 marks PART B To answer 5 questions out of 7 question (at least one question from each unit) PART C To answer 2 questions

out of 5 question (at least one question from each unit)

5X7 marks=35 marks

3X15marks=45 marks Total 100 marks

PRACTICALS

Maximum Ext. Marks: 60 **Duration: 3 hours**

The external examiner will prepare a question paper on the spot with the help of the Question Bank supplied by the controller's office.

ANNEXURE – III

Pattern of Internal Evaluation for B.Sc Physics Degree Course based on CBCS Pattern

THEORY

Maximum Int. Marks: 40

Best Two tests out of 3 Attendance Assignment/Seminar Class Activity 15 marks 5 marks 5 marks

PRACTICAL

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Attendance Practical Tests best 2 out of 3 Record 5 marks 30 marks 5 marks Maximum Int. Marks: 40

DEPARTMENT OF PHYSICS B.Sc DEGREE COURSE IN PHYSICS

Syllabus

Semester – III

Core Paper - 3

OPTICS (Effective from 2015-2016)

No. of credits: 5 No. of hours allotted: 5/ Week Unit 1: Geometrical Optics

Refraction – laws of refraction – refractive index using a microscope – critical angle – air cell – refraction through a prism – angle of minimum deviation – dispersion through a prism – spectrum – dispersive power - Combination of two small angled prisms to produce dispersion without deviation - deviation without dispersion - defects of images – coma – distortion -Spherical aberration in lenses - methods of minimizing spherical aberration - condition for minimum spherical aberration in the case of two lenses separated by a distance - Chromatic aberration in lenses - Condition for achromatism of two thin lenses (in and out of contact) – achromatic prisms.

Unit 2: Interference

Interference- Young's double slit experiment-Analytical treatment of interference - expression for intensity - condition for maxima and minima in terms of phase and path difference – interference in thin films – reflected ray- transmitted ray – colours of thin films - Air wedge - determination of diameter of thin wire - test for optical flatness - Haidinger's fringes - Michelson's interferometer - theory - applications - determination of wavelength - thickness of thin transparent material.

Unit 3: Diffraction

Fresnel diffraction - diffraction at a circular aperture – at a narrow wire - Fraunhoffer diffraction - single slit - double slit , Plane transmission grating – theory – normal incidence – experimental determination of wavelength using grating - oblique incidence (theory) - Dispersive power of a grating - Rayleigh's criterion for resolution - limit of resolution of the eye

- resolving power of telescope, microscope - Difference between resolving power and dispersive power.

Unit 4: Polarization

Double refraction - Nicol prism -polarizer and analyzer - Huygen's explanation of double refraction in uniaxial crystals - dichroism - polaroids and their uses - quarter wave plate - halfwave plate - plane, elliptically and circularly polarized light - production and detection - Babinet's compensator - optical activity - Fresnel's explanation of optical activity - specific rotatory power - determination using Laurent's half shade polarimeter.

Unit 5: Spectroscopy

Introduction to spectroscopy - Electromagnetic spectrum - characterization of electro magnetic radiation - quantization of energy - regions of the spectrum — Brownian motion – Tyndall effect - scattering of light – blue of the sky – halo of the moon - - Raman effect - experimental set up - Characteristics of Raman lines - Lasers - ruby laser - He-Ne laser, CO_2 laser - construction and working - application of lasers.

Books for Study

1. A Text book of Optics by Subrahmanyam N., Brij Lal and M.N. Avadhanulu, S.Chand & Co., New Delhi (2006).

- 2. Optics by Khanna D.R. & Gulati H.R., S.Chand & Co., New Delhi (1979).
- 3. Optics and Spectroscopy by R.Murugeshan and Kiruthiga Sivaprasath, S. Chand & Co., New Delhi (2006).
- 4. Molecular structure and spectroscopy by Aruldhas, Prentice Hall of India Pvt. Ltd., New Delhi (2005).

Books for Reference

- Fundamentals of Physics, by D.Halliday, R. Resnick and J. Walker, Wiley, 6th Edition, New York (2001)
- 1. Optics by Ajay Ghatak, Tata McGraw-Hill publishing Co. Ltd., New Delhi (1998)
- 2. Spectroscopy by Gurdeep Chatwal, Sham Anand, Himalaya Publishing House (1990)

Semester – IV

Core Paper – 4

ATOMIC PHYSICS (Effective from 2015-2016 batch)

No. of credits: 5 No. of hours allotted: 5/ Week Unit 1: Discharge phenomenon through gases

Movement of charge in transverse electric and magnetic fields - specific charge of an electron - Dunnington's method- positive rays – Dempster's mass spectrograph – Bainbridge mass spectrograph - critical potential – experimental determination of critical potential – Frank and Hertz experiment – Davis and Gaucher experiment.

Unit 2 : Photo-electric effect

Photo electric effect - Lenard's experiment - Richardson and Compton experiment - Laws of photoelectric emission – Einstein's photo electric equation – Experimental verification of Einstein's photo electric equation by Millikan's experiment - photo electric cell - photo emissive cell - photo conducting cell - photomultiplier.

Unit 3: Atomic structure

Bohr atom model - Sommerfield atom model – various quantum numbers - Vector atom model - Pauli's exclusion principle - electronic configuration of elements and periodic classification - coupling schemes - LS and JJ coupling - spatial quantization - Stern and Gerlach experiment - Bohr magneton.

Unit 4: Fine structure of spectral lines

Spectral terms and notations - selection rules - intensity rule and interval rule - fine structure of sodium D lines - Zeeman effect – Zeeman shift - Larmor's theorem - Debye's explanation of normal Zeeman effect - anamalous Zeeman effect - theoretical explanation - Lande's `g' factor - explanation of splitting of D1 and D2 lines of sodium - Paschen - Back effect - Stark effect (qualitative study only).

Unit 5: X-Rays

X- rays - continuous X-rays - characteristic X-ray spectra – absorption of X-rays by matter – Moseley's law - diffraction of X- rays - Bragg's law in one dimension – Bragg's spectrometer - uses of X- rays - Compton effect – expression for Compton shift in wavelength - experimental verification.

Books for Study

- 1. Atomic Physics by J.B. Rajam, S. Chand & Co., 20th Edition, New Delhi (2004).
- 2. Modern Physics by D.L.Sehgal, K.L.Chopra and N.K.Sehgal., Sultan Chand & Sons Publication, 7th Edition, New Delhi (1991).
- 3. Atomic and Nuclear Physics by N. Subrahmanyam and BrijLal, S. Chand & Co. 5th Edition, New Delhi (2000).
- 4. Modern Physics by R. Murugeshan, Kiruthiga Sivaprasath, S. Chand & Co., New Delhi (2008).

Book for Reference:

- 1. Modern Physics by J.H. Hamilton and Yang, McGraw-Hill Publication, (1996).
- 2. Concepts of Modern Physics by A. Beiser, Tata McGraw-Hill, New Delhi (1997).
- 3. Fundamentals of Physics by D.Halliday, R.Resnick and J. Walker, Wiley, 6th Edition, New York (2001).
- 4. Modern Physics by Kenneth S.Krane, John Willey & sons, Canada (1998).

CORE PRACTICAL – II

(Practical Examination at the end of the Fourth semester) (Any fifteen experiments)

No. of credits: 4

External: 60 marks. Record: 10 marks Practical Exam: 50 marks

- 1. Young's modulus cantilever depression Static method-Scale and telescope
- 2. Young's modulus cantilever oscillations Dynamic method
- 3. Rigidity modulus Static torsion
- 4. Compound pendulum g and k
- 5. Sonometer A.C. Frequency Using Steel wire.
- 6. Melde's string frequency, Relative Density of a solid and liquid
- 7. Thermal conductivity of a bad conductor Lee's disc method
- 8. Spectrometer μ of a glass prism i-d Curve
- 9. Spectrometer Grating N and λ normal incidence method
- 10. Spectrometer Grating N and λ minimum deviation method
- 11. Air wedge Thickness of a wire
- 12. m and B_H deflection magnetometer -Tan C position and vibration magnetometer
- 13. Carey Foster's bridge Temperature coefficient of resistance of a coil
- 14. Potentiometer Calibration of low range voltmeter
- 15. Potentiometer Ammeter calibration.
- 16. Figure of merit of galvanometer (Mirror Galvanometer Or Table Galvanometer).

Note: Use of Digital balance is permitted

The following procedure is to be followed for internal marks (40 marks)

Attendance: 5 marks Practical test – best 2 out of 3: 30 marks Record: 5 marks.