



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

	KADI SARVA VISHWAVIDYALAYA					
	B.SC.PHYSICS SEMESTER - 5 SCHEME					
Subject Code	Course	Instructions Hrs / week	Examination			Credit
			Internal	University Exam	Total	
CPH-501	Mathematical Physics-I and Classical Mechanics	3	30	70	100	3
CPH-502	Atomic and Molecular Physics	3	30	70	100	3
CPH-503	Electrodynamics	3	30	70	100	3
CPH-504	Electronics and 'C' Programming	3	30	70	100	3
FCG-501	(University Elective) Basic English – V	2	15	35	50	2
EGC-501	(Generic Elective - Institute elective) Good Laboratory Practice	2	50	00	50	2
SE PH 501-A	(Discipline Specific Specialization) Engineering Physics- III	2	50	00	50	2
SE PH 501-B	(Discipline Specific Specialization) Applied Physics-III					
PPH-501	Physics Practical – V	12	0	200	200	6
Total		30	235	515	750	24



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

CPH-501- Mathematical Physics-I and Classical Mechanics

RATIONALE: This course is designed to enable students to acquire basic understanding of the basic principles of physics.

LEARNING OUTCOMES:

- Understand the concept of physical sciences.
- Develop an understanding of the various physical laws and its applications.
- Gain knowledge about the physics existing in and around the society.

TEACHING AND EVALUATION SCHEME: The objective of evaluation is not only to measure the performance of students, but also to motivate them for better performance. Students are evaluated on the basis of Mid Term examinations for 30 marks and End Term Examination conducted by University examination for 70 marks.

Subject Code	Subject Title	Credits	Theory			Total Marks
			Hrs.	Max Marks		
				Mid Term	End Term	
CPH- 501	Mathematical Physics-I and Classical Mechanics	3	45	30	70	100

COURSE CONTENT:

Unit-1: Mathematical Physics

Multiple Integrals: Double and Triple Integrals, Applications of Integration; single and multiple integrals, change of variables in integrals, Jacobian's, Surface Integrals, Illustrative Problems.

Unit -2: Lagrangian Formulation:

Constraints, Generalized Coordinates, D'Alembert's Principle, Lagrange's Equations, A general expression for kinetic energy, Double Pendulum, Symmetries and The Laws of Conservation, Cyclic or Ignorable Coordinates, Lagrangian Formulation:, Atwood's Machine, A Bead Sliding along a uniformly rotating wire, Spherical Pendulum, Velocity dependent potential of electromagnetic field, Rayleigh's Dissipation Function, Illustrative Examples..

Unit -3: Variational Principle: Lagrange's and Hamilton's Equations

Configuration space, Some techniques of calculus of variation, Applications of the Variational principle, Hamilton's principle. Equivalence of Lagrange's and Newton's equations, Advantages of the



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

Lagrangeian formulation-Electromechanical analogies, Lagrange's undetermined multipliers, Application of the Lagrangian method of undetermined multipliers, Hamilton's equations of motion, Some applications of the Hamiltonian formulation.

REFERENCES

1. Mathematical Physics by P. K. Chatopadhyay. Wiley East Ltd.
2. Mathematical Physics by B.D.Gupta.
3. Mathematical Physics by H.K.Dass.4. Nuclear Physics by S.B.Patel (New age International (p) Ltd. Publishers)
4. Introduction to classical mechanics by Takawale and Puranic. THM Publication.
5. Classical Mechanics, by Goldstein. Narosa Publishing House, New Delhi.
6. Classical Mechanics by YasvantWaghmare.
7. Classical Mechanics by N.C.Rana and P.S.Joag, THM9. Atomic Physics by J.B.Rajam (5th Edition-1960) S. Chand & Co.

INSTRUCTION STRATEGIES

1. Explanation of Principles, protocols, expected result trends, handling of instruments and equipments, precautions and safety measures in class and demonstration of important steps.
2. Monitoring of the students performing the experiments.
3. Evaluation of results of each experiment.

TEACHING AND EXAMINATION

UNIT	Examination Scheme %Weightage	Teaching Scheme No. of Lecture
Unit I	34	15
Unit II	33	15
Unit III	33	15
Total	100	45



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

CPH 502- Atomic and Molecular Physics

RATIONALE: This course is designed to enable students to acquire basic understanding of the basic principles of physics.

LEARNING OUTCOMES:

- Understand the concept of physical sciences.
- Develop an understanding of the various physical laws and its applications.
- Gain knowledge about the physics existing in and around the society.

TEACHING AND EVALUATION SCHEME: The objective of evaluation is not only to measure the performance of students, but also to motivate them for better performance. Students are evaluated on the basis of Mid Term examinations for 30 marks and End Term Examination conducted by University examination for 70 marks.

Subject Code	Subject Title	Credits	Theory			Total Marks
			Hrs.	Max Marks		
				Mid Term	End Term	
CPH- 502	Atomic and Molecular Physics	3	45	30	70	100

COURSE CONTENT:

Unit 1: Multi-electron Atoms - Ground States and X-Ray excitations

Introduction, Identical Particles, The Exclusion Principle, Exchange forces and the Helium Atom, The Hartree theory, Results of the Hartree theory, Ground states of multielectron atoms and the periodic table, X - Ray Line spectra, Illustrative examples.

Unit 2: Multi-electron Atoms - Optical Excitations

Introduction, Alkali Atoms, Atoms with several optically active electrons, LS coupling, Energy levels of carbon atom, The Zeeman Effect, Illustrative examples.

Unit 3:

Molecules: Ionic Bonds, Covalent Bonds, Molecular Spectra, Rotational Spectra, Vibrational - Rotational Spectra, Electronic Spectra, The Raman Effect, Determination of Nuclear Spin and Symmetry Character, Illustrative Examples.



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

REFERENCES:

1. Quantum Physics of Atoms, Molecules, Solids, Nuclei, and Particles, Robert Eisberg, Robert Resnick, Wiley, 1985
2. Concept of Modern Physics by A.Beiser. 5th edition, McGraw-Hill.
3. Atomic & Molecular-Spectra by RajKumar, KedarNathRamNath, Delhi.
4. Molecular spectroscopy by Herz-Berg.
5. Molecular spectroscopy by Banewell

INSTRUCTION STRATEGIES

1. Explanation of Principles, protocols, expected result trends, handling of instruments and equipments, precautions and safety measures in class and demonstration of important steps.
2. Monitoring of the students performing the experiments.
3. Evaluation of results of each experiment.

TEACHING AND EXAMINATION

UNIT	Examination Scheme % Weightage	Teaching Scheme No. of Lecture
Unit I	34	15
Unit II	33	15
Unit III	33	15
Total	100	45



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

CPH 503- Electrodynamics

RATIONALE: This course is designed to enable students to acquire basic understanding of the basic principles of physics.

LEARNING OUTCOMES:

- Understand the concept of physical sciences.
- Develop an understanding of the various physical laws and its applications.
- Gain knowledge about the physics existing in and around the society.

TEACHING AND EVALUATION SCHEME: The objective of evaluation is not only to measure the performance of students, but also to motivate them for better performance. Students are evaluated on the basis of Mid Term examinations for 30 marks and End Term Examination conducted by University examination for 70 marks.

Subject Code	Subject Title	Credits	Theory			Total Marks
			Hrs.	Max Marks		
				Mid Term	End Term	
CPH- 503	Electrodynamics	3	45	30	70	100

COURSE CONTENT:

Unit 1: Electric Fields in Matter

Polarization, Dielectrics, Induced Dipoles, Alignment of Polar Molecules, Polarization, The Field of a Polarized Object, Bound Charges, Physical Interpretation of Bound Charges, The Field Inside a Dielectric, The Electric Displacement, Gauss's Law in the Presence of Dielectrics, A Deceptive Parallel, Boundary Conditions, Linear Dielectrics, Susceptibility, Permittivity, Dielectric Constant, Boundary Value Problems with Linear Dielectrics, Energy in Dielectric Systems, Forces on Dielectrics, Illustrative Problems.

Unit 2: Magnetic Fields in Matter

Magnetization, Diamagnets, Paramagnets, Ferromagnets, Torques and Forces on Magnetic Dipoles, Effect of a Magnetic Field on Atomic Orbits, Magnetization, The Field of a Magnetized Object, Bound Currents, Physical Interpretation of Bound Currents, The Magnetic Field Inside Matter, The Auxiliary Field H , Ampere's law in Magnetized Materials, A Deceptive Parallel, Boundary Conditions, Linear and Nonlinear Media, Magnetic Susceptibility and Permeability, Ferromagnetism, Illustrative Examples.

Unit 3: Electrodynamics

Electromotive Force, Ohm's Law, Electromotive Force, Motional emf, Electromagnetic Induction, Faraday's Law, The Induced Electric Field, Inductance, Energy in Magnetic Fields, Maxwell's Equations, Electrodynamics Before Maxwell, How Maxwell Fixed Ampere's Law, Maxwell's



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

Equations, Magnetic Charge, Maxwell's Equations in Matter, Boundary Conditions, Illustrative Examples.

REFERENCES:

1. Introduction to Electrodynamics by David J. Griffiths. 3rd Edition Pearson Education Asia
2. Concepts of Electrodynamics by Vinay Kumar, Y. Khajuria, Narosa Publishing House, New Delhi.
3. Introduction to Electrodynamics by P.V. Dholakia, Cyber Tech Publications.

INSTRUCTION STRATEGIES

4. Explanation of Principles, protocols, expected result trends, handling of instruments and equipments, precautions and safety measures in class and demonstration of important steps.
5. Monitoring of the students performing the experiments.
6. Evaluation of results of each experiment.

TEACHING AND EXAMINATION

UNIT	Examination Scheme % Weightage	Teaching Scheme No. of Lecture
Unit I	34	15
Unit II	33	15
Unit III	33	15
Total	100	45



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

CPH 504- Electronics and 'C' Programming

RATIONALE: This course is designed to enable students to acquire basic understanding of the basic principles of physics.

LEARNING OUTCOMES:

- Understand the concept of physical sciences.
- Develop an understanding of the various physical laws and its applications.
- Gain knowledge about the physics existing in and around the society.

TEACHING AND EVALUATION SCHEME: The objective of evaluation is not only to measure the performance of students, but also to motivate them for better performance. Students are evaluated on the basis of Mid Term examinations for 30 marks and End Term Examination conducted by University examination for 70 marks.

Subject Code	Subject Title	Credits	Theory			Total Marks
			Hrs.	Max Marks		
				Mid Term	End Term	
CPH- 504	Electronics and ‘C’ Programming-I	3	45	30	70	100

COURSE CONTENT:

Unit – 1 :

Network Transformations

Principle of duality, Reduction of Complicated network, Conversions between T and π sections, The bridged-T network, The Lattice Network, The Reciprocity theorem, superposition Theorem, The compensation theorem, Driving point impedance, transfer impedance, The parallel-T network.

Photo Electric Devices and Thyristors

Classification of Photoelectric devices, Photoconductive cells, Photovoltaic cells, SCR, Triac, Diac

Unit -2:

Basic Transistor Amplifiers

Current and Voltage amplifiers, Common Emitter Amplifiers with Emitter Resistor, Simplified Common Emitter Hybrid Model, Effect of An Emitter Bypass Capacitor in low frequency Response.

Multistage Amplifiers

Multistage Transistor Amplifiers, R-C- coupled Amplifiers, Transformer Coupled Amplifiers, Direct coupled Amplifiers, Effect of cascading on Band width.

Regulated DC Power Supply

Transistor Series voltage Regulator, Negative Feedback Voltage Regulator, Transistor Shunt Regulator,



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

Transistor Current Regulator, Glow-tube Voltage regulator.

Unit -3:

Digital Electronics

Simplification using Karnaugh Maps (Complete), Don't Care Conditions, BCD-to-7 Segment Decoder, Digital Comparator, Multiplexer, De multiplexer.

Constants, Variables & Data Types: (Programming in C)

Introduction, Character Set, C Tokens, Keywords and Identifiers, Constants, Variables, Data Types, Declaration of Variables, Declaration of Storage Class, Assigning Values of Variables, Defining Symbolic Constants, Declaring a Variable as Constant, Declaring a Variable as Volatile, Overflow and Underflow of Data.

REFERENCES:

1. Networks, Lines and Fields by J. D. Ryder., Prentice Hall.
2. Electronics and Radio Engineering by M. L. Gupta. 9th Enlarged Edition reprint 2002. (DhanpatRai Publication Co.)
3. Hand Book of Electronics by Gupta and Kumar. 30th revised Edition 2002.
4. Programming in ANSI 'C' by E.Balaguruswami (THM) (3rd Edition)

INSTRUCTION STRATEGIES

1. Explanation of Principles, protocols, expected result trends, handling of instruments and equipments, precautions and safety measures in class and demonstration of important steps.
2. Monitoring of the students performing the experiments.
3. Evaluation of results of each experiment.

TEACHING AND EXAMINATION

UNIT	Examination Scheme % Weightage	Teaching Scheme No. of Lecture
Unit I	34	15
Unit II	33	15
Unit III	33	15
Total	100	45



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

PPH 501- Physics Practical-V

RATIONALE: This course is designed to enable students to acquire on hand basic understanding of the physical phenomena, fundamental laws of physics, as well as on hand experience of handling the various instruments which have much use in industries as well as in research institutes. These experiments make the students capable and competent to work in physics related industries and research institutes

LEARNING OUTCOMES:

- Understand the basic principles and of physics.
- Develop an understanding about the handling of various instruments.
- Develop an analytical attitude for physical laws through simple and basic experiments.
- Gain knowledge and expertise in experimental physics field.

TEACHING AND EVALUATION SCHEME: The objective of evaluation is not only to measure the performance of students, but also to motivate them for better performance. General viva-voce will be conducted to analyse the knowledge of the student.

Subject Code	Subject Title	Credits	Practical		Total Marks
			Hrs.	Max Marks	
PPH- 501	Physics Practical-V	6	12	200	200

LIST OF EXPERIMENTS
Group-1 (Non-circuitry I)

1. Acceleration due to gravity (g) using Kater's pendulum (with movable and fixed knife edges)
2. Determination of Thermal conductivity 'K' of a rubber tube.
3. Study of thermocouple
4. Velocity of sound in air using CRO
5. G.M. Counter (Plateau Characteristics)

Group-2 (Non-circuitry II)

1. Refractive index ' μ ' by total internal Reflection method using Gauss eye piece
2. Resolving power of grating
3. To study absorption spectra of Iodine gas molecule
4. Newton's Ring (determination of R)



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

5. To study absorption spectra of liquid (KMnO_4)

Group-3 (Circuitry I)

1. Comparison of capacity (C_1/C_2) using method of mixture
2. Measurement of frequency f and phase difference ' θ ' of a.c wave using CRO
3. Calibration of magnetic field
4. Determination of M and H using Deflection and Vibrational Magnetometer
5. e/m Thomson method

Group-4 (Circuitry II)

1. A study of transistorized Hartley Oscillator using CRO/Wave meter
2. I/P and O/P impedance of an R-C CE amplifier at different frequency using VTVM/CRO
3. A study of Transformer coupled Amplifier using VTVM/CRO (voltage gain frequency response and band width)
4. Diac characteristics
5. Characteristic of SCR

Note: New experiments can be introduced AND/OR replaced as per the need by the permission of the Head/Principal of Institute

INSTRUCTION STRATEGIES

1. Explanation of Principles, protocols, expected result trends, handling of instruments and equipments, precautions and safety measures in class and demonstration of important steps.
2. Monitoring of the students performing the experiments.
3. Evaluation of results of each experiment.

Pattern of University Practical Exam

Time: 10:30am to 6:00pm (Including 30 minutes recess) Total Marks: 200

First Day

(A) Group-1 (35 marks)

(B) Group-2 (35 marks)

- ✓ Any one experiment to be performed from each group of experiments.

✓ **Evaluation Scheme:**

○ Aim / Apparatus	- 2	marks
○ Diagrams/ Circuit Diagrams	- 5	marks
○ Observation Tables	- 15	marks
○ Calculations / Plots	- 10	marks
○ Results, Discussion & Conclusion	- 3	marks

(C) Viva- Voce on practical base (24 marks)



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

✓ **Evaluation Scheme:**

- | | | |
|-----------|------|-------|
| ○ Group-1 | - 12 | marks |
| ○ Group-2 | - 12 | marks |

Second Day

(A) Group-3 (35 marks)

(B) Group-4 (35 marks)

- ✓ Any one experiment to be performed from each group of experiments.

✓ **Evaluation Scheme:**

- | | | |
|------------------------------------|------|-------|
| ○ Aim / Apparatus | - 2 | marks |
| ○ Diagrams/ Circuit Diagrams | - 5 | marks |
| ○ Observation Tables | - 15 | marks |
| ○ Calculations / Plots | - 10 | marks |
| ○ Results, Discussion & Conclusion | - 3 | marks |

(C) Viva- Voce on practical base (24 marks)

✓ **Evaluation Scheme:**

- | | | |
|-----------|------|-------|
| ○ Group-3 | - 12 | marks |
| ○ Group-4 | - 12 | marks |

Journal (12 marks)

Note: Certified practical journal is compulsory for practical exam.



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

FCG 501- Basic English – V

RATIONALE: This course is designed to enable students to acquire basic understanding of English grammar. The course would help students to fortify their knowledge of English and strengthen their basic communication abilities.

LEARNING OUTCOMES:

- Develop language skills of reading through filling in appropriate words in blanks, correcting errors, choosing correct forms out of alternative choices, etc.
- Acquire interest in English language and literature through text book lessons.
- Acquire translation skill through translate from English to Gujarati / Hindi exercises
- Acquire the knowledge of different kinds of dialogue writing.

TEACHING AND EVALUATION SCHEME: The objective of evaluation is not only to measure the performance of students, but also to motivate them for better performance. Students are evaluated on the basis of Mid Term examinations for 15 marks and End Term. Examination conducted by University examination for 35 marks.

Subject Code	Subject Title	Credit s	Theory			Total Marks
			Hrs.	Max Marks		
				Mid Term	End Term	
FCG - 501	Basic English – V	2	24	15	35	50

Course Content

Unit 1 Lesson1: <i>AnAstrologer'sDay</i> byR.K.Narayan Lesson 6 : <i>Education: India and America</i> by Anurag Mathur Poem11: <i>WherethemindiswithoutFear</i> byRabindranathTagore Poem12: <i>StoppingbyWoodsonaSnowyEvening</i> byRobertFrost Poem13: <i>Sonnet29</i> byWilliamShakespeare	Number of lectures: 8	Weightage: 33%
Unit 2 Text Based Vocabulary Enhancing English Reading Skills • Importance of Reading Skill • Structure of paragraph • Skimming and Scanning • Reasons For poor Reading Skills	Number of lectures: 4	Weightage: 17%



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

Unit 3	Number of lectures: 8	Weightage: 33%
Translation from English to Gujarati / Hindi		
Unit 4	Number of lectures: 4	Weightage: 17%
Capitalization and punctuation Marks in official Correspondence		

REFERENCES

1. High School English Grammar – Wrenn & Martin
2. Contemporary English Grammar – David Green

INSTRUCTION STRATEGIES

1. Interactions with the students to understand the level of students
2. Explaining & discussing English language structures.
3. Teaching the topics included in the syllabus with the help of teaching aids like OHP, LCD (Powerpoint presentation), Notes, Question Banks, References and Reprints / Copy of Articles, Models, Diagrams
4. Assistance in solving of questions from our question bank.

TEACHING AND EXAMINATION

UNIT	Examination Scheme % Weightage	Teaching Scheme No. of Lecture
Unit 1	33	8
Unit 2	17	4
Unit 3	33	8
Unit 4	17	4
Total	100	24



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

EGC 501 Good Laboratory Practice

RATIONALE: This course is designed to enable students to acquire understanding about development and measurement of Good Laboratory Practice in physics.

Subject Code	Subject Title	Credits	Theory			Total Marks
			Hrs.	Max Marks		
				Internal Theory	End Term	
EGC 501	Good Laboratory Practice	2	24	50	--	50

COURSE CONTENT:

Unit – 1 Good Laboratory Practice- I: Introductory Concepts

- Aim of the Experiment
- Importance of Laboratory Work
- General Instructions for Performing Experiments
- How to Record an Experiment in the Practical File
- Errors and Observations
- Accuracy of Observations
- Accuracy of the Result
- Permissible Error in the Result
- How to Estimate the Permissible Error in the Result
- Estimating Maximum Permissible Error
- Percentage Error
- Significant Figures (Precision of Measurement)
- Rounding Off
- Graph
- Calculations of Slope of a Straight Line
- International System of Units (S.I. Units)
- Rules for Measurements in the Laboratory
- Occupational Health and safety, Chemical substances, Radiation safety,
- Safe electrical practice in the Laboratory
- General Laboratory and workshop practice.



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

Unit – 2 Good Laboratory Practice- II: Instruments and Accessories

- Some Instruments for Measurement of Length
- Travelling Microscope
- The Balance
- The Optical Bench, Parallax
- The Spectrometer: Adjustments of the Spectrometer, Theory of Schuster's Method
- Spectrum: Electromagnetic Spectrum
- Sources of Light: Sodium Vapour Lamp, Mercury Vapour Lamp
- Prism and Diffraction grating
- Simple Pendulum and Compound pendulum: Bar pendulum, Kater's pendulum, Torsional pendulum
- Deflection magnetometer and vibration magnetometer,
- Battery and battery eliminator, Keys, Rheostat, Ammeter and Voltmeter, Galvanometer
- Electrical Accessories with symbols.
- Electronic components: Si-diode, Zener diode, LED, Photo-diode, Transistors: PNP & NPN
- Transformer, CRO and bread board.

Methodology of Teaching

- Class room sessions
- Explanation using multimedia projector
- Surprise test

Reference Books:

1. Practical Physics by R. K. Shukla and A. Srivastava, New Age International Ltd., New Delhi.
2. Measurement, Instrumentation and Experiment Design in Physics and Engineering, Michael Sayer and AbhaiMansingh, Phi Learning Pvt. Ltd., New Delhi
3. Engineering Practical Physics by S. Panigrahi and B. Mallick, Cengage Learning India Pvt Ltd, Delhi

Method of assessment:

Theory Exam (Internal)	40 Marks
Attendance & assignment	10 Marks



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

Subjective Elective: SE Ph501-A ENGINEERING PHYSICS-III

RATIONALE: This course is designed to enable students to acquire understanding about development and measurement of some basic of Engineering Physics.

Subject Code	Subject Title	Credits	Theory				Total Marks
			Hrs.	Max Marks			
				Mid Term Theory	Mid Term Viva*	End Term	
SE Ph 501-A	ENGINEERING PHYSICS-III	2	24	20	30	--	50

COURSE CONTENT

Unit – 1

Lectures – 12

Weightage – 50%

Sound waves and architectural acoustics

Introduction, Classification of sound, Characteristics of musical sounds, Acoustics of buildings, Sabine's formula for reverberation, measurement of absorption coefficient, sound absorbing materials, factors affecting acoustics of buildings and their remedies, principals to be observed in the acoustical design of an auditorium, sound insulation.

Unit – 2

Lectures – 12

Weightage – 50%

Non Destructive Testing

Introduction, classification of testing methods, visual inspection, liquid/dye penetrating method, radiography and fluoroscopy, ultrasonic testing, thermography.

REFERENCES:

1. Engineering Physics by V. Rajendran. McGraw Hill Education, New Delhi
2. Engineering Physics by G. Vijyakumari, S.Chand, New Delhi

TEACHING AND EXAMINATION

UNIT	Examination Scheme % Weightage	Teaching Scheme No. of Lecture
Unit I	50	12
Unit II	50	12
Total	100	24

***Note: Mid Term Viva is conducted on the basis of Project/Model/Poster preparation**



KADI SARVA VISHWAVIDYALAYA
B.Sc Semester 5 Syllabus (W.E.F. June 2019)

THEORY EXAMINATION QUESTION PAPER PATTERN
SUBJECT: Physics semester-5 & semester-6 (NEW CBCS Syllabus)

KADI SARVA VISHWAVIDYALAYA, GANDHINAGAR
B.Sc. Physics Semester-5/6 (NEW), End Term Examination, Month/Year
Subject: Code-Title

Date: _____ **Time: 3 hrs.** _____ **Maximum marks: 70**

Que-1	(A) Write any two out of Three questions.	12 marks
	(B) Write any One out of Two questions.	8 marks
Que-2	(A) Write any two out of Three questions.	12 marks
	(B) Write any One out of Two questions.	8 marks
Que-3	(A) Write any two out of Three questions.	12 marks
	(B) Write any One out of Two questions.	8 marks
Que-4	Write any Ten out of Twelve (Four questions to be asked from each unit) Short question/MCQ/Short numerical/Diagram/Match the following, True or False, Fill in the blanks	10 marks each
Total		70 marks