



# MUHAMMEDABDURAHIMAN MEMORIAL ORPHANAGE (MAMO) COLLEGE

[Govt. Aided First Grade College & Affiliated to University of Calicut.  
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OFFICE OF THE PRINCIPAL

## PEOs, PSOs, POs & COs B.Sc PHYSICS

### 1. PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

Table 1: Programme Educational Objectives of B.ScPhysics

PE01	<b>COMPETENCY SKILLS:</b> To develop strong student competencies and its applications in a technology -rich, interactive environment
PE02	<b>ADAPTABILITY TO THE CHANGING ENVIRONMENTS:</b> Graduates will communicate effectively, recognize and incorporate societal needs and constraints in their professional endeavors, and practice their profession with high regard to legal and ethical responsibilities
PE03	<b>ENTHUSIASM IN RESEARCH:</b> To develop strong student skills in research, and interpretation of complex information
PE04	<b>SUSTAINABLE EXCELLENCE AND GROWTH IN THE CAREER:</b> Have sufficient breadth of understanding to enable continued professional development and lifelong learning throughout their career

### 2. PROGRAMME SPECIFIC OUTCOMES (PSOs)

Table 2: Programme Specific Outcomes of B.ScPhysics

PS01	Understand the basic concepts of fundamentals of mechanics, properties of matter and electrostatics
PS02	Understand the theoretical basis of quantum mechanics, relativistic physics, nuclear physics, optics, spectroscopy, solid state physics, astrophysics, statistical physics, photonics and thermodynamics
PS03	Understand and apply the concepts of electronics in the designing of different analog and digital circuits
PS04	Understand the basics of computer programming and numerical analysis
PS05	Apply and verify theoretical concepts through laboratory experiments

### 3. PROGRAMME OUTCOMES (POs)

Table 3: Programme Outcomes of B.ScPhysics



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Table 3: Programme Outcomes of B.ScPhysics

P01	<b>SCIENTIFIC TEMPER &amp; KNOWLEDGE:</b> Apply knowledge of physics and its branches to provide solutions to complex problems
P02	<b>PROBLEM SOLVING CAPABILITY:</b> Identify, formulate, review research literature, and analyze complex real-life problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and computing.
P03	<b>ANALYTIC SOLUTIONS:</b> Design practical solutions for complex real-life problems through proper case analysis and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations
P04	<b>CRITICAL / LOGICAL THINKING:</b> Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions
P05	<b>ADAPTABILITY THROUGH TECHNOLOGY:</b> Create, select, and apply appropriate techniques, resources, and modern computing and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
P06	<b>THE RATIONALISM AND SOCIETY:</b> Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional practice
P07	<b>ENVIRONMENT AND SUSTAINABILITY:</b> Understand the impact of the professional computing solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development
P08	<b>ETHICS &amp; HONESTY:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the computing practice.
P09	<b>INDIVIDUAL AND LEADERSHIP QUALITY:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
P010	<b>COMMUNICATION SKILLS:</b> Communicate effectively on complex computing activities with the team members and with society at large, such as, being able to comprehend and demonstrate in simple manner, and give and receive clear instructions
P011	<b>PROJECT MANAGEMENT AND FINANCE:</b> Demonstrate knowledge and understanding of the scientific and reasoning principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
P012	<b>LIFE- LIFE-LONG LEARNING:</b> Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change



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### 4. COURSE OUTCOMES (COs)

Table 4: Courses Outcomes of B.ScPhysics

#### COURSE 1: ENG1A01:TRANSACTIONS: ESSENTIAL ENGLISH LANGUAGE SKILLS

C01	To impart the necessary macro and micro English language skills to the learners to enable them to express their feelings, opinions, ideas and thoughts fluently and accurately in a variety of personal and professional contexts.
C02	To create in learners a definitive sense of the stylistic variations of English and how they are used in real life situations.
C03	To inculcate in learners a taste for deeper pursuit and acquisition of advanced level of skills in English.
C04	To guide them on how to participate in discussions and make seminar presentations with special focus on specific vocabularies and styles of usage in such contexts.
C05	To impart the necessary macro and micro English language skills to the learners to enable them to express their feelings, opinions, ideas and thoughts fluently and accurately in a variety of personal and professional contexts.

#### COURSE 2: ENG1A02: WAYS WITH WORDS: LITERATURES IN ENGLISH

C01	To help students develop the acumen to read, appreciate and discuss literature.
C02	To introduce students to the linguistic qualities of a literary text and to unravel the many meanings Of the text
C03	To acquaint the students with different genres of literature and to analyse them.

#### COURSE 3: ARB1A07:LANGUAGE SKILLS IN ARABIC

C01	To teach the students the basics of interpersonal interaction in Arabic
C02	To train the students to communicate in Arabic in selected situations
C03	Enhancement of communication skills in Arabic



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Table 4: Courses Outcomes of B.ScPhysics

C04	Enhancement of translation skills from Arabic to English and vice versa
C05	Demonstrate basic knowledge about environment and acquire skills to help individuals in identifying and solving problem
<b>COURSE 4: HIN1A07(1): PROSE &amp; DRAMA</b>	
C01	Approach literary texts in terms of genre, gender and the canon
C02	Understand and use academic conventions: referencing and bibliography.
C03	Exposed to the origin and development of Hindi drama and its various themes and forms of different ages and stages
C04	Helps students explore how writers use the resources language as a creativity to explore the entire range of human experience through dramas as a literary form.
<b>COURSE 5: MAL1A07(1): MALAYALA SAHITHYAM 1</b>	
C01	To gain an understanding of the relations between culture, history and texts. They learn to use texts as a gateway to various cultural traditions and interpret them in their historical contexts.
C02	To create in learners a definitive sense of the stylistic variations of Malayalam and how they are used in real life situations.
C03	To inculcate in learners a taste for deeper pursuit and acquisition of advanced level of skills in Malayalam.
C04	To guide them on how to participate in discussions and make seminar presentations with special focus on specific vocabularies and styles of usage in such contexts.
<b>COURSE 6: PHY1 B01: MECHANICS - I</b>	
C01	Understand and apply the basic concepts of Newtonian Mechanics to Physical Systems
C02	Understand and apply the basic idea of work-energy theorem to physical systems
C03	Understand and apply the rotational dynamics of rigid bodies
<b>COURSE 7: MTS1C01: MATHEMATICS - 1</b>	



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Table 4: Courses Outcomes of B.ScPhysics	
C01	Understand differentiation and limits
C02	Understand Second derivative and Antiderivative
C03	Understand Continuity theorem and drawing of graph
C04	Understand fundamental theorem of calculus and integration
COURSE 8: CSC1C01: COMPUTER FUNDAMENTALS	
C01	Conversion between various number system
C02	Apply Boolean algebra to real-left problems
C03	Understand basics of Computers
C04	Apply problem solving technique to real-life problems
COURSE 9: AUD1E01: ENVIRONMENTAL STUDIES	
C01	To learn the environment in the Indian context
C02	Understand renewable and non-renewable resources
C03	To learn structure and function of an ecosystem
C04	To learn about biodiversity and its consequences
C05	To learn about environmental pollution
COURSE 10: ENG2A03: WRITING FOR ACADEMIC AND PROFESSIONAL	
C01	To develop writing skills, to learn to integrate writing and thought and to apply the conventions of academic writing correctly.
C02	To acquire the correct sense of format, syntax, grammar, punctuation and spelling.



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Table 4: Courses Outcomes of B.ScPhysics

C03	To acquire concepts, principles and vocabulary of reasoning and argumentation and use analysis, synthesis, and evaluations to advance arguments.
C04	To gain an understanding of discourse conventions ranging from structure and paragraphing to tone and mechanics

### COURSE 11: ENG2A04: ZEITGEIST - READINGS ON CONTEMPORARY CULTURE

C01	To inculcate the values enshrined in the constitution of India and to provide an insight on the secular framework of the country.
C02	To familiarize the learners with concepts such as conservation, sustainability and the life of the marginalized and their interconnectedness.
C03	To foster among the learners an awareness of the diverse problems faced by women and the sexual minorities and to promote a culture of inclusion and mutual respect.
C04	To understand the "human" as articulated among the various cultures and promote a multicultural and plural understanding of rights.

### COURSE12: ARB2A08: APPRECIATING ARABIC LITERATURE

C01	To make opportunities before the learner to acquaint with classical Literature having ethical association.
C02	To inculcate moral values in the learner through prose literature.
C03	Knowledge of the language of the Quran
C04	Knowledge of the language of the Hadith

### COURSE 13: HIN2A08(1): GRAMMAR AND TRANSLATION

C01	Understand the differences between spoken and written Hindi
C02	Understand the factors that influence use of grammar and vocabulary in speech and writing
C03	Understand the different ways in which grammar has been described
C04	Define the link between translation theory and translation practice.



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Table 4: Courses Outcomes of B.ScPhysics

C05	Define the effects of translation theories on translation practice.
C06	Define the contribution of translation practice to translation theory
<b>COURSE 14: MAL2A08(1): MALAYALA SAHITHYAM - 2</b>	
C01	To gain an understanding of the relations between culture, history and texts. They learn to use texts as a gateway to various cultural traditions and interpret them in their historical contexts.
C02	To create in learners a definitive sense of the stylistic variations of Malayalam and how they are used in real life situations.
C03	To inculcate in learners a taste for deeper pursuit and acquisition of advanced level of skills in Malayalam.
C04	To guide them on how to participate in discussions and make seminar presentations with special focus on specific vocabularies and styles of usage in such contexts.
<b>COURSE 15: PHY2B02: MECHANICS – II</b>	
C01	Understand the features of non-inertial systems and fictitious forces
C02	Understand and analyze the features of central forces with respect to planetary forces
C03	Understand the basic ideas of Harmonic Oscillations
C04	Understand the analyze the basic concepts of wave motion
<b>COURSE 16: MTS2C02: MATHEMATICS - 2</b>	
C01	Understand polar coordinates and Hyperbolic function
C02	Understand improper integral and application of numerical integration
C03	Understand vector space and matrices
C04	Understand inverse of matrices and Eigen value problem



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Table 4: Courses Outcomes of B.ScPhysics

### COURSE 17: CSC2C02: FUNDAMENTALS OF SYSTEM SOFTWARE, NETWORKS AND DBMS

C01	Understand basics of the system software
C02	Understand basics of the Computer Networks
C03	Understand basics of the SQL
C04	Apply database concepts &SQL to solve real-life problems
C05	Develop websites for real requirements

### COURSE 18: AUD2E02: DISASTER MANAGEMENT

C01	Impart basic knowledge about Hazards and Disasters
C02	Impart basic knowledge about Natural Disasters
C03	Prepare for disaster Preparedness and Response
C04	Prepare for rehabilitation, reconstruction and recovery

### COURSE 19: ENG3A05: SIGNATURES: EXPRESSING THE SELF

C01	To enable the students to read and critically appreciate the different genres of expressing the self.
C02	To appreciate the fluid and flexible narratives of self-expression that transcend the conventions of genre
C03	To understand how personal narratives intersect with the larger social realities
C04	To read personal narratives that move beyond the individual self to express the collective self
C05	To understand how the distinctions between fact and fiction blur in personal narratives

### COURSE 20: ARB3A09: READING ARABIC PROSE AND POETRY



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Table 4: Courses Outcomes of B.ScPhysics

C01	To make opportunities before the learner to appreciate modern and contemporary poetry.
C02	To develop in the learner the capacity to grasp the ideas conveyed by the poets of modern age
C03	Associate human emotions through literature to promote creative, critical uses of language and gain proficiency in Listening, Speaking, Reading, Writing skills with the fundamental knowledge of grammar

### COURSE 21: HIN3A09(1): POETRY IN HINDI

C01	Understand the common techniques underlying free verse and traditional forms of poetry.
C02	Identify personal experiences that can be used when writing poetry.
C03	Understand the basic terminology and practical elements of poetry.

### COURSE 22 MAL3A09(1): MALAYALA SAHITHYAM 3

C01	To write clearly, effectively, and creatively, and adjust writing style appropriately to the content, the context, and nature of the subject.
C02	To acquire the correct sense of format, syntax, grammar, punctuation and spelling.
C03	To acquire concepts, principles and vocabulary of reasoning and argumentation and use analysis, synthesis, and evaluations.
C04	To gain an understanding of discourse conventions ranging from structure and paragraphing to tone and mechanics.

### COURSE 23: PHY3B03: ELECTRODYNAMICS I

C01	Understand and apply the fundamentals of vector calculus
C02	Understand and analyze the electrostatic properties of physical systems
C03	Understand the mechanism of electric field in matter.
C04	Understand and analyze the magnetic properties of physical systems



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Table 4: Courses Outcomes of B.ScPhysics

C05	Understand the mechanism of magnetic field in matter.
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### COURSE 24: MTS3C03: MATHEMATICS - 3

C01	Understand vector function , partial derivatives and its application
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C02	Understand vector calculus and double integrals
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C03	Understand Tripple integral and complex numbers
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C04	Understand contour ingral theorem , Cauchy-Goursat Theorem and its application
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### COURSE 25: CSC3C03: PROBLEM SOLVING USING C

C01	Understand features of the C Language
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C02	Apply C language features to problem solving
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C03	Develop solutions to real-life problems using C
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C04	Develop solutions to real-life problems using files
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### COURSE 26: ENG4A06: SPECTRUM: LITERATURE AND CONTEMPORARY ISSUES

C01	To make the learners aware of the humanist dimensions of literature and media in the contemporary world
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C02	To enable the learners to understand concepts like globalization, commercialization and intellectual property rights through new literatures.
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C03	To inculcate the spirit of universal brotherhood by presenting critique of race, xenophobia, war and national borders.
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C04	To disseminate knowledge about the rights of minorities such as children, animals and the disabled and thus create a positive change in the societal perception of them.
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### COURSE 27: ARB4A10: ARABIC LITERATURE AND CULTURE



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Table 4: Courses Outcomes of B.ScPhysics

C01	To make opportunities before the learner to acquaint with classical Literature having ethical association.
C02	To introduce to the students the Arabic literary contributions of different Indian writers
C03	Understanding the contribution of Indians to Arabic language and literature and drawing inspirations from it.
C04	Understanding Arab literary history of the classical and modern period

### COURSE 28: HIN4A10(1): NOVEL AND SHORT STORIES

C01	Understand the common techniques underlying free verse and traditional forms of poetry.
C02	Identify personal experiences that can be used when writing poetry.
C03	Understand the basic terminology and practical elements of poetry.

### COURSE 29: MAL4A10(1): MALAYALA SAHITHYAM4

C01	To write clearly, effectively, and creatively, and adjust writing style appropriately to the content, the context, and nature of the subject.
C02	To acquire the correct sense of format, syntax, grammar, punctuation and spelling.
C03	To acquire concepts, principles and vocabulary of reasoning and argumentation and use analysis, synthesis, and evaluations.
C04	To gain an understanding of discourse conventions ranging from structure and paragraphing to tone and mechanics.

### COURSE 30: PHY4B04: ELECTRODYNAMICS II

C01	Understand the basic concepts of electrodynamics
C02	Understand and analyze the properties of electromagnetic waves
C03	Understand the behavior of transient currents



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Table 4: Courses Outcomes of B.ScPhysics

C04	Understand the basic aspects of ac circuits
C05	Understand and apply electrical network theorems
<b>COURSE 31: PHY4B05: PRACTICAL I</b>	
C01	Apply and illustrate the concepts of properties of matter through experiments
C02	Apply and illustrate the concepts of electricity and magnetism through experiments
C03	Apply and illustrate the concepts of optics through experiments
C04	Apply and illustrate the principles of electronics through experiments
<b>COURSE 32: MTS4C04: MATHEMATICS - 4</b>	
C01	Understand linear Differential equation and its application
C02	Understand higher order differential equation
C03	Understand Laplace transform and Dirac delta function
C04	Understand Fourier Series and its Application
<b>COURSE 33: CSC4C04: DATA STRUCTURE USING C</b>	
C01	Analyse the complexity of algorithms
C02	Apply the linear data structures to real-life problems
C03	Apply the non-linear data structures to real-life problems
C04	Perform searching and sorting
<b>COURSE 34: CSC4C05: PROGRAMMING LAB: C AND DATA STRUCTURE</b>	



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C01	Apply C programming knowledge to solve real-life problems
C02	Analyse algorithms to select efficient one
C03	Apply data structures to solve real-life problems
C04	Apply files to solve real-life problems
<b>COURSE 35: PHY5B06: COMPUTATIONAL PHYSICS I</b>	
C01	Understand the Basics of Python programming
C02	Understand the applications of Python modules
C03	Understand the basic techniques of numerical analysis
C04	Understand and apply computational techniques to physical problems
<b>COURSE 36: PHY5B07: QUANTUM MECHANICS</b>	
C01	Understand the particle properties of electromagnetic radiation
C02	Describe Rutherford – Bohr model of the atom
C03	Understand the wavelike properties of particles
C04	Understand and apply the Schrödinger equation to simple physical systems
C05	Apply the principles of wave mechanics to the Hydrogen atom
<b>COURSE 37: PHY5B08: OPTICS</b>	
C01	Understand the fundamentals of Fermat's principles and geometrical optics
C02	Understand and apply the basic ideas of interference of light



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Table 4: Courses Outcomes of B.ScPhysics

C03	Understand and apply the basic ideas of diffraction of light
C04	Understand the basics ideas of polarization of light
C05	Describe the basic principles of holography and fibre optics
<b>COURSE 38: PHY5B09: ELECTRONICS (ANALOG &amp; DIGITAL)</b>	
C01	Understand the basic principles of rectifiers and dc power supplies
C02	Understand the principles of transistor
C03	Understand the working and designing of transistor amplifiers and oscillators
C04	Understand the basic operation of Op - Amp and its applications
C05	Understand the basics of digital electronics
<b>COURSE 39: CHE5D01: ENVIRONMENTAL CHEMISTRY</b>	
C01	Recall the technical/scientific terms involved in pollution.
C02	Understand the causes, effects and consequences of different types of pollution
C03	Describe water quality parameters.
C04	Study various pollution control measures.
C05	Understand the basics of green Chemistry.
<b>COURSE 40: BCM5D03: BASIC ACCOUNTING</b>	
C01	To enable the students to acquire knowledge of Accounting Principles
C02	Acquire basic skills in handling Subsidiary Books



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C03 Acquire basic skills in handling Final Accounts

### COURSE 41: BCS5D01: INTRODUCTION TO COMPUTERS AND OFFICE AUTOMATION

C01 Describe the usage of computers and why computers are essential components in business and society.

C02 Solve common business problems using appropriate Information Technology applications and systems.

C03 Ability to Choose electronic tools best suitable for the business requirements at hand.

C04 Develop new designs that are suitable for a given case.

### COURSE 42: EC05D01: ECONOMICS IN EVERYDAY LIFE

C01 Familiarizing non economics students with the most basic concepts of economics.

C02 Helps them to understand various theories and laws applied in economics

C03 Enables them to apply various concepts of economics in their daily life

C04 Analyse the manner in which price, income and other variables are determined

### COURSE 43: ENG5D01: ENGLISH FOR COMPETITIVE EXAMINATIONS

C01 Understand the historical background of travel in India

C02 Identify important tourist destinations in India

C03 Analyse the basic components of Tourism

C04 Understand the cultural heritage of Kerala

C05 Classify important tourist attractions in India based on their nature.



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# MUHAMMEDABDURAHIMAN MEMORIAL ORPHANAGE (MAMO) COLLEGE

[Govt. Aided First Grade College & Affiliated to University of Calicut. Re-Accredited by NAAC with A Grade]



OFFICE OF THE PRINCIPAL

## PEOs, PSOs, POs & COs B.Sc PHYSICS

Table 4: Courses Outcomes of B.ScPhysics

### COURSE 44: HIS5D02: HISTORICAL TOURISM

C01	Understand the historical background of travel in India
C02	Identify important tourist destinations in India
C03	Analyse the basic components of Tourism
C04	Understand the cultural heritage of Kerala

### COURSE 45: BBA5D1: E-COMMERCE

C01	Analyse the impact of E- E-Commerce Describe
C02	Describe the major types of E E-Commerce
C03	Explain the process that should be followed in building an E-Commerce
C04	Identify the key security threats in the E-Commerce

### COURSE 46: MTA5D02: MATHEMATICS FOR NATURAL SCIENCES.

C01	Explain the basic mathematical ideas of functions, their graphs and their applications in daily life for those students not having mathematics as a course in their degree programme.
C02	Familiarize the important concepts of limits, continuity and differentiation to needy students.
C03	Enable them to apply these ideas in daily life.

### COURSE 47: MBG5D01: PUBLIC HEALTH AND EMERGING MICROBIAL DISEASES

C01	Provides learning opportunities in the basic principles of public health
C02	It covers mechanism of infectious disease transmission and its spreading pattern.
C03	Principles of aseptic practice and role of human body's normal flora.



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C04	Give general awareness on emerging microbial disease._ understand
C05	Importance of personal hygiene and its role in disease control practices,_ understand

### COURSE 48 PE5D03: PHYSICAL ACTIVITY - HEALTH & WELLNESS

C01	Impart concepts of physical education and fitness
C02	Practice basic exercise principles, first aid and nutrition
C03	Introduce yoga, stress management and postural deformities
C04	Basic knowledge on vital signs, lifestyle/hypokinetic diseases and its management

### COURSE 49: PHY6B10: THERMODYNAMICS

C01	Understand the zero and first laws of thermodynamics
C02	Understand the thermodynamics description of the ideal gas
C03	Understand the second law of thermodynamics and its applications
C04	Understand the basic ideas of entropy
C05	UNDERSTAND THE CONCEPTS OF THERMODYNAMIC POTENTIALS AND PHASETRANSITIONS

### COURSE 50: PHY6B11: STATISTICAL PHYSICS, SOLID STATE PHYSICS, SPECTROSCOPY & PHOTONICS

C01	Understand the basic principles of statistical physics and its applications
C02	Understand the basic aspects of crystallography in solid state physics
C03	Understand the basic elements of spectroscopy
C04	Understand the basics ideas of microwave and infra-red spectroscopy



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Table 4: Courses Outcomes of B.ScPhysics

C05 Understand the fundamental ideas of photonics

### COURSE 51 PHY6B12: NUCLEAR PHYSICS AND PARTICLE PHYSICS

C01 Understand the basic aspects of nuclear structure and fundamentals of radioactivity

C02 Describe the different types of nuclear reactions and their applications

C03 Understand the principle and working of particle detectors

C04 Describe the principle and working of particle accelerators

C05 Understand the basic principles of elementary particle physics

### COURSE 52: PHY6B13: RELATIVISTIC MECHANICS AND ASTROPHYSICS

C01 Understand the fundamental ideas of special relativity

C02 Understand the basic concepts of general relativity and cosmology

C03 Understand the basic techniques used in astronomy

C04 Describe the evolution and death of stars

C05 Describe the structure and classification of galaxies

### COURSE 53: PHY6B14(E11): BIOMEDICAL PHYSICS

C01 Understand the basic principles of biophysics

C02 Understand the fundamentals of medical instrumentation

C03 Understand the principles of ultrasound and x-ray imaging

C04 Understand the basic principles of NMR



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Table 4: Courses Outcomes of B.ScPhysics

C05	Describe the applications of lasers in medicine
<b>COURSE 54 PHY6B14(EL2): NANOSCIENCE AND TECHNOLOGY</b>	
C01	Understand the elementary concepts of nanoscience
C02	Understand the electrical transport mechanisms in nanostructures
C03	Understand the applications of quantum mechanics in nanoscience
C04	Understand the fabrication and characterization techniques of nanomaterials
C05	Enumerate the different applications of nanotechnology
<b>COURSE 55: PHY6B14(EL3): MATERIALS SCIENCE</b>	
C01	Understand the basic ideas of bonding in materials
C02	Describe crystalline and non-crystalline materials
C03	Understand the types of imperfections and diffusion mechanisms in solids
C04	Describe the different properties of ceramics and polymers
C05	Describe the different types of material analysis techniques
<b>COURSE 56: PHY6B15: PRACTICAL II</b>	
C01	Apply and illustrate the concepts of properties of matter through experiments
C02	Apply and illustrate the concepts of electricity and magnetism through experiments
C03	Apply and illustrate the concepts of optics through experiments
C04	Apply and illustrate the principles of electronics through experiments



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### COURSE 57 PHY6B16: PRACTICAL III

C01	Apply and illustrate the principles of semiconductor diode and transistor through experiments
C02	Apply and illustrate the principles of transistor amplifier and oscillator through experiments
C03	Apply and illustrate the principles of digital electronics through experiments
C04	Analyze and apply computational techniques in Python programming

### COURSE 58: PHY6B17(P): PROJECT

C01	Understand research methodology
C02	Understand and formulate a research project
C03	Design and implement a research project
C04	Identify and enumerate the scope and limitations of a research project
C05	Understand research methodology



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