



# MUHAMMED ABDURAHIMAN 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 COMPUTER SCIENCE

### 1. PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

Table 1: Programme Educational Objectives of B.Sc Computer Science

|      |   |
|------|---|
| PEO1 | Pursue any or a combination of the following three alternatives: (i) immediately take up a career in any area of Information Technology (IT) and Information Technology Enabled Services (ITES) and work productively as a successful computer professionals in diverse career paths including supportive and leadership roles on multidisciplinary teams, (ii) broaden the scope of the career path by pursuing higher studies and research in the field of Computer Science and allied areas and (iii) go for taking up the challenge and spearheads start-ups by positively exploiting the diverse potentials of the IT & ITES industry. |
| PEO2 | Be professionally competent, personally enlightened, socially committed, and morally upright in effectively carrying out their societal, professional and personal roles to successfully to execute their roles efficiently, effectively and with high regard to professional and ethical responsibilities.   |
| PEO3 | Effectively use their knowledge and skillset to be original, creative, innovative and systematic in their all endeavours, including individual, collaborative and entrepreneurial ventures with meticulous plans, designs and execution strategies.   |
| PEO4 | 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.Sc Computer Science

|      |  |
|------|--|
| PSO1 | <b>THEORETICAL SOUNDNESS IN COMPUTER SCIENCE:</b> Students at the time of graduation will be able to apply fundamental knowledge of theoretical computer science and critically analyze problems to provide computer based solutions for engineering applications.                     |
| PSO2 | <b>HARDWARE AND SOFTWARE SYSTEMS:</b> Students at the time of graduation will be able to design cost effective hardware/software systems and components for engineering/social applications using the knowledge of hardware and/or software architecture, programming and development. |
| PSO3 | <b>TECHNOLOGY:</b> Students at the time of graduation will be able to apply appropriate technology to find solutions for complex problems.   |



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**PSO4 RESEARCH CAPABILITY:** Students at the time of graduation will be able to apply domain knowledge and expertise for enhancing research capability to transform innovative ideas into reality.

### 3. PROGRAMME OUTCOMES (POs)

Table 3: Programme Outcomes of B.Sc Computer Science

|      |  |
|------|--|
| P01  | <b>SCIENTIFIC &amp; COMPUTING KNOWLEDGE:</b> Apply knowledge of Computing and Mathematics to provide solutions to complex problems.  |
| P02  | <b>PROBLEM ANALYSIS:</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>DESIGN/DEVELOPMENT OF SOLUTIONS:</b> Design solutions for complex real-life problems 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>CONDUCT INVESTIGATIONS OF COMPLEX PROBLEMS:</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>MODERN TOOL USAGE:</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 COMPUTING PROFESSION 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:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the computing practice.  |
| P09  | <b>INDIVIDUAL AND TEAM WORK:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.   |
| P010 | <b>COMMUNICATION:</b> Communicate effectively on complex computing activities with the computing community and with society at large, such as, being able to comprehend and write  |



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Table 3: Programme Outcomes of B.Sc Computer Science

|      |  |
|------|--|
|      | effective reports and design documentation, make effective presentations, and give and receive clear instructions.   |
| PO11 | <b>PROJECT MANAGEMENT AND FINANCE:</b> Demonstrate knowledge and understanding of the computing and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. |
| PO12 | <b>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.   |

### 4. COURSE OUTCOMES (COs)

Table 4: Courses Outcomes of B.Sc Computer Science

#### 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.  |

#### 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(2): BASIC SKILLS IN ARABIC



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Table 4: Courses Outcomes of B.Sc Computer Science

|     |  |
|-----|--|
| 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                                      |
| C04 | Knowledge of writing letters, ads, notifications, tenders and quotations in Arabic |
| C05 | Enhancement of translation skills from Arabic to English and vice versa            |

### COURSE 4: HIN1A07(3): PROSE AND ONE ACT PLAYS

|     |  |
|-----|--|
| C01 | Approach literary texts in terms of genre, gender and the canon  |
| C02 | Understand and use academic conventions: referencing and bibliography.                                     |
| C03 | The learner will be aware of socio-political and economic conditions of the society from different periods |
| C04 | Be familiar with the theoretical foundations of the genre;   |
| C05 | Be able to compare and contrast the genre with other dramatic forms;                                       |

### COURSE 5: MAL1A07(3): MALAYALA SAHITHYAM -1

|     |  |
|-----|--|
| 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.                                |

### COURSE 6: BCS1B01: COMPUTER FUNDAMENTALS & HTML



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Table 4: Courses Outcomes of B.Sc Computer Science

|     |  |
|-----|--|
| C01 | To equip the students with fundamentals of Computer                                      |
| C02 | To learn the basics of Computer organization   |
| C03 | To equip the students to write algorithm and draw flow chart for solving simple problems |
| C04 | To learn the basics of Internet and webpage design                                       |

### COURSE 7: MTS1C01: MATHEMATICS - 1

|     |  |
|-----|--|
| 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: ELE1C01: ELECTRONIC DEVICES

|     |  |
|-----|--|
| C01 | To learn the basics of electronic components             |
| C02 | To learn the basics of testing and measuring instruments |
| C03 | To learn the circuit assembling                          |
| C04 | To study circuit troubleshooting                         |

### 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  |



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Table 4: Courses Outcomes of B.Sc Computer Science

|   |  |
|---|--|
| C04   | To learn about biodiversity and its conse  |
| C05   | To learn about environmental pollution   |
| <b>COURSE 10: ENG2A03: WRITING FOR ACADEMIC AND PROFESSIONAL</b>        |  |
| 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.   |
| 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  |
| <b>COURSE 11: ENG2A02: ZEITGEIST - READINGS ON CONTEMPORARY CULTURE</b> |  |
| 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.                                  |
| <b>COURSE12: ARB2A08(2): READING ARABIC LITERATURE</b>                  |  |
| C01   | To understand the literary traditions of Arabs   |
| C02   | To study how Arabic literature acted as a medium of resistance against European colonialism In Medieval Malabar.   |
| C03   | Understanding the language of Arabic poetry of the classical an modern period  |
| <b>COURSE 13: HIN2A08(3): POETRY AND SHORT STORIES</b>                  |  |



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Table 4: Courses Outcomes of B.Sc Computer Science

|     |   |
|-----|---|
| C01 | Understand the common techniques underlying free verse and traditional forms of poetry  |
| C02 | Identify personal experiences that can be used when writing poems   |
| C03 | Understand the basic terminology and practical elements of poetry.  |
| C04 | Students get to know various cultures and construction of gender, nation and race throughout the history.   |
| C05 | The prescribed fiction helps the students to learn human values and the behavioral patterns from great works of art, and develops the ability to understand human race. |

### COURSE 14: MAL2A08(3): MALAYALA SAHITHYAM - 2

|     |   |
|-----|---|
| C01 | To help students develop the acumen to read, appreciate and discuss literature.   |
| C02 | To acquire concepts, principles and vocabulary of reasoning and argumentation and use analysis, synthesis, and evaluations.   |
| 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. |

### COURSE 15: BCS2B02: PROBLEM SOLVING USING C

|     |   |
|-----|---|
| C01 | To equip the students with fundamental principles of Problem Solving aspects. |
| C02 | To learn the concept of programming   |
| C03 | To learn problem solving  |
| C04 | To equip the students to write programs for solving simple computing problems |

### COURSE 16: BCS2B02: HTML AND PROGRAMMING IN C (PRACTICAL)

|     |  |
|-----|--|
| C01 | To make the students learn web designing |
|-----|--|



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Table 4: Courses Outcomes of B.Sc Computer Science

|     |  |
|-----|--|
| C02 | To make the students learn programming environments                                |
| C03 | To practice procedural programming concepts.                                       |
| C04 | To make the students equipped to solve mathematical or scientific problems using C |

### COURSE 17: MTS2C02: MATHEMATICS - 2

|     |   |
|-----|---|
| 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                |

### COURSE 18: ELE2C02: ELECTRONIC CIRCUITS

|     |  |
|-----|--|
| C01 | Understand basics of Electronic Circuits |
| C02 | Learn the concept of Amplifiers          |
| C03 | Understand basics of feedback            |
| C04 | Learn the concept of Oscillators         |

### COURSE 19: ELE2C03: ELECTRONIC DEVICES & CIRCUITS LAB

|     |  |
|-----|--|
| C01 | To learn the basics of electronic components             |
| C02 | To learn the basics of testing and measuring instruments |
| C03 | To learn the circuit assembling                          |
| C04 | To study circuit troubleshooting                         |



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Table 4: Courses Outcomes of B.Sc Computer Science

### COURSE 20: 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 21: GEN3A11: PYTHON PROGRAMMING

|     |  |
|-----|--|
| C01 | Understand various statements, data types and functions in Python. |
| C02 | To learn decision making, looping and functions in Python          |
| C03 | Develop programs in Python programming language                    |
| C04 | Solve real-life problems using Python                              |

### COURSE 22: GEN3A12: SENSORS AND TRANSDUCERS

|     |  |
|-----|--|
| C01 | Explain resistance, inductance and capacitance transducers.                                    |
| C02 | Perceive the concepts of temperature transducers   |
| C03 | Perceive the concepts level transducers and pressure   |
| C04 | Explain flow transducers, electromagnetic transducers, radiation sensors and sound transducers |

### COURSE 23: BCS3B04: DATA STRUCTURES USING C

|     |   |
|-----|---|
| C01 | To introduce the concept of data structures           |
| C02 | To make the students aware of various data structures |



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Table 4: Courses Outcomes of B.Sc Computer Science

|   |  |
|---|--|
| C03   | To equip the students implement fundamental data structures                    |
| <b>COURSE 24: MTS3C03: MATHEMATICS - 3</b>                              |  |
| C01   | Understand vector function , partial derivatives and its application           |
| C02   | Understand vector calculus and double integrals                                |
| C03   | Understand Tripple integral and complex numbers                                |
| C04   | Understand contour ingral theorem , Cauchy-Goursat Theorem and its application |
| <b>COURSE 25: ELE3C04 : DIGITAL ELECTRONICS</b>                         |  |
| C01   | Understand Basics of digital circuits  |
| C02   | Construct combinational logic circuits   |
| C03   | Construct sequential logic circuits  |
| C04   | Set up memory chips  |
| <b>COURSE 26: GEN4A13: DATA COMMUNICATION AND OPTICAL FIBERS</b>        |  |
| C01   | To learn about transmissions in Computer Networks.                             |
| C02   | To learn various Protocols used in Communication.                              |
| C03   | To have a general idea on Network Administration.                              |
| C04   | To have an overview of optical fiber communication                             |
| <b>COURSE 27: GEN4A14: MICROPROCESSORS-ARCHITECTURE AND PROGRAMMING</b> |  |
| C01   | To understand internals of Microprocessor.                                     |



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Table 4: Courses Outcomes of B.Sc Computer Science

|     |  |
|-----|--|
| C02 | To learn architecture of 8085 Microprocessor             |
| C03 | Generate Interfacing                                     |
| C04 | Apply assembly language programming real-life situations |

### COURSE 28: BCS4B05: DATABASE MANAGEMENT SYSTEM AND RDBMS

|     |   |
|-----|---|
| C01 | To learn the basic principles of database and database design |
| C02 | To learn the basics of RDBMS                                  |
| C03 | To learn the concepts of database manipulation SQL            |
| C04 | To study PL/SQL language                                      |

### COURSE 29: BCS4B06: DATA STRUCTURES AND RDBMS (PRACTICAL)

|     |  |
|-----|--|
| C01 | To make the students equipped to solve mathematical or scientific problems using C     |
| C02 | To learn how to implement various data structures.                                     |
| C03 | To provide opportunity to students to use data structures to solve real life problems. |
| C04 | To learn how to manage and process databases using PL/SQL language                     |

### COURSE 30: MTS4C04: MATHEMATICS - 4

|     |   |
|-----|---|
| 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               |



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Table 4: Courses Outcomes of B.Sc Computer Science

### COURSE 31: ELE4C05 : COMMUNICATION ELECTRONICS

|     |  |
|-----|--|
| C01 | Understand Basics of electronic communication        |
| C02 | Learn to apply angle modulation techniques           |
| C03 | Learn to apply pulse modulation techniques           |
| C04 | Learn to apply digital carrier modulation techniques |

### COURSE 32: ELE4C06 :DIGITAL AND COMMUNICATION ELECTRONICS LAB

|     |  |
|-----|--|
| C01 | Design of Combinational Digital Circuits |
| C02 | Design of Sequential Digital Circuits    |
| C03 | Apply pulse modulation techniques        |

### COURSE 33: BCS5B07: COMPUTER ORGANIZATION AND ARCHITECTURE

|     |  |
|-----|--|
| C01 | To learn logic gates, combinational circuits and sequential circuits |
| C02 | To learn basics of computer organization and architecture            |
| C03 | Design combinational circuits  |
| C04 | Design sequential circuits   |
| C05 | Design components of a computer                                      |

### COURSE34: BCS5B08: JAVA PROGRAMMING

|     |  |
|-----|--|
| C01 | To review on concept of OOP            |
| C02 | To learn Java Programming Environments |



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|   |   |
|---|---|
| C03   | Apply programming knowledge in Java to real-life application                                      |
| C04   | Develop GUI Applications in JAVA  |
| <b>COURSE 35: BCS5B09: WEB PROGRAMMING USING PHP</b>                                    |   |
| C01   | To familiar with the concept HTML, CSS, Javascript, Server Side Scripting                         |
| C02   | To learn PHP Programming Environments   |
| C03   | Apply programming knowledge in HTML, CSS, Javascript, Server Side Scripting to real-life problems |
| C04   | Design applicatios in PHP with Database   |
| <b>COURSE 36: BCS5B10: PRINCIPLES OF SOFTWARE ENGINEERING</b>                           |   |
| C01   | To Practice engineering practices in Software development.  |
| C02   | To practice various software development methodologies.   |
| C03   | To apply various Evaluation methods in Software Development.                                      |
| C04   | Develop solutions to real-life problems   |
| <b>COURSE 37: OPEN COURSE - I (DEPT. OF CHEMISTRY) 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.   |



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## PEOs, PSOs, POs & COs B.Sc COMPUTER SCIENCE

Table 4: Courses Outcomes of B.Sc Computer Science

### COURSE 38: OPEN COURSE - II (DEPT. OF COMMERCE) BCM5D03: BASIC ACCOUNTING

|     |  |
|-----|--|
| C01 | To enable the students to acquire knowledge of Accounting Principles |
| C02 | Acquire basic skills in handling Subsidiary Books                    |
| C03 | Acquire basic skills in handling Final Accounts                      |

### COURSE 39: OPEN COURSE - III (DEPT. OF ECONOMICS) EC05D01: ECONOMICS IN EVERYDAY LIFE

|     |   |
|-----|---|
| C01 | Familiarising 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 40: OPEN COURSE - IV (DEPT. OF ENGLISH) 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. |

### COURSE 41: OPEN COURSE - V (DEPT. OF HISTORY) HIS5D02: HISTORICAL TOURISM

|     |   |
|-----|---|
| C01 | Understand the historical background of travel in India |
|-----|---|



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|     |  |
|-----|--|
| C02 | Identify important tourist destinations in India |
| C03 | Analyse the basic components of Tourism          |
| C04 | Understand the cultural heritage of Kerala       |

### COURSE 42: OPEN COURSE – VI (DEPT. OF MANAGEMENT) BBA5D1E: COMMERCE

|     |   |
|-----|---|
| C01 | Analyze 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 43: OPEN COURSE – VII (DEPT. OF MATHEMATICS) MAT5D02: 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 | Familiarise the important concepts of limits, continuity and differentiation to nedy students.  |
| C03 | Enable them to apply these ideas in daily life.   |

### COURSE 44: OPEN COURSE – VIII (DEPT. OF MOCROBIOLOGY) 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.             |
| C04 | Give general awareness on emerging microbial disease._ understand                 |



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Table 4: Courses Outcomes of B.Sc Computer Science

|  |  |
|--|--|
| C05  | Importance of personal hygiene and its role in disease control practices, understand                       |
| <b>COURSE 45: OPEN COURSE – IX (DEPT. OF PHY. EDUCATION)PE5D03: PHYSICAL ACTIVITY - HEALTH &amp; WELNESS</b> |  |
| 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                          |
| <b>COURSE 46: OPEN COURSE – X (DEPT. OF PHYSICS)PHY5D01(1): NON-CONVENTIONAL ENERGY SOURCES</b>              |  |
| C01  | Understand the importance of non conventional energy sources   |
| C02  | Understand basic aspects of solar energy   |
| C03  | Understand basic principles of wind energy conversion  |
| C04  | Understand the basic ideas of geothermal and biomass energy and recognize their merits and demerits        |
| C05  | Understand the basic ideas of oceans and chemical energy resources and recognize their merits and demerits |
| <b>COURSE 47: BCS6B11: ANDROID PROGRAMMING</b>   |  |
| C01  | To learn Android programming Environments  |
| C02  | Practice programming in Android  |
| C03  | Develop GUI Application in Android platform with XML   |
| C04  | Develop solutions to real-life problems  |



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Table 4: Courses Outcomes of B.Sc Computer Science

### COURSE 48: BCS6B12: OPERATING SYSTEMS

|     |  |
|-----|--|
| C01 | To understand objectives & functions of Operating Systems.                     |
| C02 | To understand the processor, memory and device management in Operating System. |
| C03 | To implement process scheduling and memory management problems.                |
| C04 | To create simple Operating System Modules                                      |

### COURSE 49: BCS6B13: COMPUTER NETWORKS

|     |  |
|-----|--|
| C01 | To learn about transmissions in Computer Networks. |
| C02 | To learn various Protocols used in Communication   |
| C03 | Perform Network Administration                     |
| C04 | Perform network configuration and implementation   |

### COURSE 50: BCS6B14: PROGRAMMING LABORATORY III: JAVA AND PHP PROGRAMMING

|     |   |
|-----|---|
| C01 | Solve real-life problems using Java                       |
| C02 | Create client side and server side scripting applications |
| C03 | Solve real-life problems using PHP                        |
| C04 | Developing dynamic websites                               |
| C04 | Perform network configuration and implementation          |

### COURSE 51: BCS6B15: PROGRAMMING LABORATORY IV: ANDROID AND LINUX SHELL PROGRAMMING

|     |  |
|-----|--|
| C01 | To create solutions to real-life problems using Android programming. |
|-----|--|



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|     |  |
|-----|--|
| C02 | To develop user interface applications.          |
| C03 | To develop mobile application.                   |
| C04 | To practice shell programming                    |
| C04 | Perform network configuration and implementation |

### COURSE 52: BCS6B17: PROJECT WORK AND INDUSTRIAL VISIT

|     |   |
|-----|---|
| C01 | To impart practical knowledge on software development process |
| C02 | Build Real-Life application                                   |
| C03 | Apply Software Development Strategies                         |
| C04 | Perform network configuration and implementation              |

### COURSE 53: BCS6B16A: SYSTEM SOFTWARE

|     |   |
|-----|---|
| C01 | Understand the fundamental concepts in system software. |
| C02 | Build scanners  |
| C03 | Build lexical analysers                                 |
| C04 | Build compilers   |

### COURSE 54: BCS6B16B: MACHINE LEARNING

|     |  |
|-----|--|
| C01 | To familiarize with the basic concepts of Linear Algebra, Probability Theory for Machine Learning. |
| C02 | Introduce Machine Learning   |
| C03 | Apply machine learning techniques  |



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|     |  |
|-----|--|
| C04 | Develop systems with machine learning features |
|-----|--|

### COURSE 55: BCS6B16C: DISCRETE STRUCTURES

|     |                             |
|-----|-----------------------------|
| C01 | Learn the concept of logics |
|-----|-----------------------------|

|     |                                    |
|-----|------------------------------------|
| C02 | Apply logics to real-life problems |
|-----|------------------------------------|

|     |                                       |
|-----|---------------------------------------|
| C03 | Learn the principles of distributions |
|-----|---------------------------------------|

|     |  |
|-----|--|
| C04 | Apply principles of distribution to real-life problems |
|-----|--|

### COURSE 56: BCS6B16D: COMPUTER GRAPHICS

|     |  |
|-----|--|
| C01 | Understand the concepts of computer graphics |
|-----|--|

|     |                          |
|-----|--------------------------|
| C02 | Learn drawing algorithms |
|-----|--------------------------|

|     |                                      |
|-----|--------------------------------------|
| C03 | Learn two-dimensional transformation |
|-----|--------------------------------------|

|     |   |
|-----|---|
| C04 | Understand Clipping, filling and an introduction to 3-D graphics. |
|-----|---|

### COURSE 57: BCS6B16E: TECHNICAL WRITING

|     |  |
|-----|--|
| C01 | Understand basics of technical communication |
|-----|--|

|     |  |
|-----|--|
| C02 | Understand constituents of technical written communication |
|-----|--|

|     |   |
|-----|---|
| C03 | Understand forms of technical communication |
|-----|---|

|     |                           |
|-----|---------------------------|
| C04 | Prepare technical reports |
|-----|---------------------------|

### COURSE 58: BCS6B16F: FUNDAMENTALS OF LIFE SKILL EDUCATION

|     |   |
|-----|---|
| C01 | Use intra-personal and inter-personal and communication skills in real life situations. |
|-----|---|



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Table 4: Courses Outcomes of B.Sc Computer Science

|     |   |
|-----|---|
| C02 | Use critical thinking and decision making skills in real life situations. |
| C03 | Establish self management and help to maintain work life balance.         |
| C04 | Perform career planning and development                                   |



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