

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**
**Course Outcomes-2022 Scheme**

Sl. No.	Subject Code	Course Code	
1	BMATS201 Mathematics For CSE Streams-II	C101.1	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume.
		C101.2	Understand the applications of vector calculus refer to solenoidal, and irrotational vectors. Orthogonal curvilinear coordinates.
		C101.3	Demonstrate the idea of Linear dependence and independence of sets in the vector space, and linear transformation
		C101.4	Apply the knowledge of numerical methods in analysing the discrete data and solving the physical and engineering problems.
		C101.5	Get familiarize with modern mathematical tools namely MATHEMATICA/ MATLAB /PYTHON/ SCILAB

Sl. No.	Subject Code	Course Code	
2	BPHYS102 Physics For CSE Stream	C102.1	Describe the principles of LASERS and Optical fibers and their relevant applications.
		C102.2	Discuss the basic principles of the Quantum Mechanics and its application in Quantum Computing.
		C102.3	Summarize the essential properties of superconductors and its applications in qubits.
		C102.4	Illustrate the application of physics in design and data analysis.
		C102.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.

Sl. No.	Subject Code	Course Code	
3	BPOPS103 Principles Of Programming Using C	C103.1	Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.
		C103.2	Apply programming constructs of C language to solve the real world problem
		C103.3	Explore user-defined data structures like arrays in implementing solutions to problems like searching and

			sorting.
		C103.4	Explore user-defined data structures like structures, unions and pointers in implementing solutions
		C103.5	Design and Develop Solutions to problems using modular programming constructs using functions

Sl. No.	Subject Code	Course Code	
4	BESCK104B Introduction To Electrical Engineering	C104.1	Understand the concepts of various energy sources and Electric circuits.
		C104.2	Apply the basic Electrical laws to solve circuits.
		C104.3	Discuss the construction and operation of various Electrical Machines.
		C104.4	Identify suitable Electrical machine for practical implementation.
		C104.5	Explain the concepts of electric power transmission and distribution, electricity billing, circuit protective devices and personal safety measures.

Sl. No.	Subject Code	Course Code	
5	BETCK105I Introduction To Cyber Security	C105.1	Explain the cybercrime terminologies
		C105.2	Describe Cyber offenses and Bot nets
		C105.3	Illustrate Tools and Methods used on Cybercrime
		C105.4	Explain Phishing and Identity Theft
		C105.5	Justify the need of computer forensics

S.No.	Subject Code	Course Code	14Course Outcomes
6	BPWSK206 Professional Writing Skills in English	C106.1	To understand and identify the Common Errors in Writing and Speaking.
		C106.2	To Achieve better Technical writing and Presentation skills.
		C106.3	To read Technical proposals properly and make them to Write good technical reports.
		C106.4	Acquire Employment and Workplace communication skills.
		C106.5	Acquire Employment and Workplace communication skills.

S.No.	Subject Code	Course Code	Course Outcomes
	BKBKK207	C107.1	To understand the necessity of learning of local language for comfortable life.
		C107.2	To speak, read and write Kannada language as per requirement.

7	Balake Kannada	C107.3	To communicate (converse) in Kannada language in their daily life with kannada speakers.
		C107.4	To Listen and understand the Kannada language properly.
		C107.5	To speak in polite conversation.
	OR		
	BKBKK207 Samskrutika Kannada	C107.1	ಕನ್ನಡ ಭಾಷೆ, ಸಾಹಿತ್ಯ ಮತ್ತು ಕನ್ನಡದ ಸಂಸ್ಕೃತಿಯ ಕುರಿತು ಅರಿವು ಮೂಡಿರುತ್ತದೆ.
		C107.2	ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಧಾನ ಭಾಗವಾದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳನ್ನು ಸಾಂಕೇತಿಕವಾಗಿ ಕಲಿತು ಹೆಚ್ಚಿನ ಓದಿಗೆ ಮತ್ತು ಜ್ಞಾನಕ್ಕೆ ಸ್ಪೂರ್ತಿ ಮೂಡುತ್ತದೆ.
		C107.3	ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಸಾಹಿತ್ಯ ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಅರಿವು ಹಾಗೂ ಆಸಕ್ತಿಯನ್ನು ಹೆಚ್ಚಿಸುತ್ತದೆ.
		C107.4	ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯ ಹಾಗೂ ಅವರುಗಳ ಸಾಧಿಸಿದ ವಿಷಯಗಳನ್ನು ತಿಳಿದುಕೊಂಡು ನಾಡಿನ ಇನ್ನಿತರ ವ್ಯಕ್ತಿಗಳ ಬಗ್ಗೆ ತಿಳಿದುಕೊಳ್ಳಲು ಕೌತುಕತೆ ಹೆಚ್ಚಿಸುತ್ತದೆ.
		C107.5	ಸಾಂಸ್ಕೃತಿಕ, ಜನಪದ ಹಾಗೂ ಪ್ರವಾಸ ಕಥನಗಳ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು.

Sl. No.	Subject Code	Course Code	
8	BIDTK158 Innovation And Design Thinking	C108.1	Appreciate various design process procedure
		C108.2	Generate and develop design ideas through different technique
		C108.3	Identify the significance of reverse Engineering to Understand products
		C108.4	Draw technical drawing for design ideas

S.No.	Subject Code	Course Code	Course Outcomes
9	BMATS201 Mathematics-I for Computer Science and Engineering stream	C110.1	Apply the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions
		C110.2	analyze the solution of linear and nonlinear ordinary differential equations
		C110.3	get acquainted and to apply modular arithmetic to computer algorithms
		C110.4	make use of matrix theory for solving the system of linear equations and compute eigenvalues and eigen vectors

		C110.5	familiarize with modern mathematical tools namely MATHEMATICA/MATLAB/ PYTHON/ SCILAB
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Sl. No.	Subject Code	Course Code	
10	BCHES202 Chemistry For CSE Streams	C111.1	Identify the terms and applications processes involved in scientific and engineering.
		C111.2	Explain the phenomena of chemistry to describe the methods of engineering processes.
		C111.3	Solve the problems in chemistry that are pertinent in engineering applications.
		C111.4	Apply the basic concepts of chemistry to explain the chemical properties and processes.
		C111.5	Analyze properties and multidisciplinary situations processes associated with chemical substances in multidisciplinary situations.

Sl. No.	Subject Code	Course Code	
11	BCEDK203 Computer Aided Engineering Drawing	C112.1	Draw and communicate the objects with definite shape and dimensions
		C112.2	Recognize and Draw the shape and size of objects through different views
		C112.3	Conversion of simple isometric drawings into orthographic views and Isometric Projections.
		C112.4	Develop the lateral surfaces of the object
		C112.5	Create a Drawing views using CAD software.

Sl. No.	Subject Code	Course Code	
12	BESCK204C Introduction To Electronics Engineering	C113.1	Develop the basic knowledge on construction operation and characteristics of electronic circuits encompassing amplifiers and power supplies
		C113.2	Develop proficient knowledge to analyze the operation of oscillators and operational amplifiers
		C113.3	Develop competence knowledge to construct basic digital circuit by make use of basic gate and it's function
		C113.4	Discuss the characteristics and technological advances of embedded systems
		C113.5	Construct the conceptual blocks for Basic communication system spanning from frequency Spectrum to various circuits involved

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13	BPLCK205B Introduction To Python Programming	C114.1	Learn the syntax and semantics of the Python programming language.
		C114.2	Illustrate the process of structuring the data using lists, tuples
		C114.3	Appraise the need for working with various documents like Excel, PDF, Word and Others.
		C114.4	Demonstrate the use of built-in functions to navigate the file system.
		C114.5	Implement the Object Oriented Programming concepts in Python.

Sl. No.	Subject Code	Course Code	
14	BENGK206 Communicative English	C115.1	understand and apply the fundamentals of communication skills in their communication skills
		C115.2	identify the nuance of phonetics , intonation and enhance pronunciation skills
		C115.3	to impart basic english grammar and essentials of language skills as per presentation requirement
		C115.4	understand and use all types of english vocabulary and language proficiency
		C115.5	adapt the technique of information transfer through presentation

Sl. No.	Subject Code	Course Code	
15	BICOK207 Indian Constitution	C116.1	Analyse the basic structure of Indian Constitution.
		C116.2	Remember their Fundamental Rights, DPSP's and Fundamental Duties (FD's) of our constitution.
		C116.3	Know about our Union Government, political structure & codes, procedures.
		C116.4	Understand our State Executive & Elections system of India
		C116.5	Remember the Amendments and Emergency Provisions, other important provisions given by the constitution.

Sl. No.	Subject Code	Course Code	
16	BSFHK258 Scientific Foundation Of Health	C112.1	To understand and analyse about Health and wellness (and its Beliefs) & It's balance for positive mindset.
		C112.2	Develop the healthy lifestyles for good health for their better future
		C112.3	Build a Healthy and caring relationships to meet the requirements of good/social/positive life.
		C112.4	To learn about Avoiding risks and harmful habits in their

			campus and outside the campus for their bright future.
		C112.5	Prevent and fight against harmful diseases for good health through positive mindset.

Sl. No.	Subject Code	Course Code	Course Outcomes
17	BCS301 Mathematics for Computer Science	C201.1	Explain the basic concepts of probability, random variables, probability distribution
		C201.2	Apply suitable probability distribution models for the given scenario.
		C201.3	Apply the notion of a discrete-time Markov chain and n-step transition probabilities to solve the given problem
		C201.4	Use statistical methodology and tools in the engineering problem-solving process.
		C201.5	Compute the confidence intervals for the mean of the population & apply the ANOVA test related to engineering problems.

Sl. No.	Subject Code	Course Code	Course Outcomes
18	BCS302 Digital Design and Computer Organization	C202.1	Apply the K-Map techniques to simplify various Boolean expressions.
		C202.2	Design different types of combinational and sequential circuits along with Verilog programs.
		C202.3	Describe the fundamentals of machine instructions, addressing modes and Processor performance.
		C202.4	Explain the approaches involved in achieving communication between processor and I/O device
		C202.5	Analyze internal Organization of Memory and Impact of cache/Pipelining on Processor Performance.

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19	BCS303 Operating Systems	C203.1	Explain the structure and functionality of operating system
		C203.2	Apply appropriate CPU scheduling algorithms for the given problem
		C203.3	Analyse the various techniques for process synchronization and deadlock handling
		C203.4	Apply the various techniques for memory management
		C203.5	Explain file and secondary storage management strategies

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20	BCS304 Data Structures and Applications	C204.1	Explain different data structures and their applications
		C204.2	Apply Arrays, Stacks and Queue data structures to solve the given problems.
		C204.3	Use the concept of linked list in problem solving.
		C204.4	Develop solutions using trees and graphs to model the real-world problem
		C204.5	Explain the advanced Data Structures concepts such as Hashing Techniques and Optimal Binary Search Trees

Sl. No.	Subject Code	Course Code	Course Outcomes
21	BCSL305 Data Structures Lab	C205.1	Analyze various linear and non-linear data structure
		C205.2	Demonstrate the working nature of different types of data structures and their applications
		C205.3	Use appropriate searching and sorting algorithms for the give scenario.
		C205.4	Apply the appropriate data structure for solving real world problems

Sl. No.	Subject Code	Course Code	Course Outcomes
22	BCS306A Object Oriented Programming with Java	C206.1	Demonstrate proficiency in writing simple programs involving branching and looping structures
		C206.2	Design a class involving data members and methods for the given scenario.
		C206.3	Apply the concepts of inheritance and interfaces in solving real world problems.
		C206.4	Use the concept of packages and exception handling in solving complex problem.
		C206.5	Apply concepts of multithreading, auto boxing and enumerations in program development

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23	BCS358A Data Analytics with Excel	C207.1	To Apply analysis techniques to datasets in Excel
		C207.2	Learn how to use Pivot Tables and Pivot Charts to streamline your workflow in Excel.
		C207.3	Understand and Identify the principles of data analysis.
		C207.4	Become adept at using Excel functions and techniques for analysis.

		C207.5	Build presentation ready dashboards in Excel.
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24	BSCK307 Social Connect and Responsibility	C208.1	Communicate and connect to the surrounding.
		C208.2	Create a responsible connection with the society.
		C208.3	Notice the needs and problems of the community and involve them in problem –solving
		C208.4	Develop among themselves a sense of social & civic responsibility & utilize their knowledge in finding practical solutions to individual and community problems
		C208.5	Develop competence required for group-living and sharing of responsibilities & gain skills in mobilizing community participation to acquire leadership qualities and democratic attitudes

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25	BPEK459 Physical Education(Sports & Athletics)-II	C209.1	Understand the ethics and moral values in sports and athletics	
		C209.2	Perform in the selected sports or athletics of student's choice.	
		C209.3	Understand the roles and responsibilities of organization and administration of sports and games.	
	OR			
	BNSK459 National Service Scheme (NSS)	C209.1	Understand the importance of his / her responsibilities towards society	
		C209.2	Analyse the environmental and societal problems/issues and will be able to design solutions for the same.	
		C209.3	Evaluate the existing system and to propose practical solutions for the same for sustainable development.	
		C209.4	Implement government or self-driven projects effectively in the field.	
		C209.5	Develop capacity to meet emergencies and natural disasters & practice national integration and social harmony in general.	
	OR			
	BYOK459 Yoga for a Better Life	C209.1	Understand the meaning, aim and objectives of Yoga.	
		C209.2	Perform Suryanamaskar and able to Teach its benefits.	
		C209.3	Understand and teach different Asanas by name, its importance, methods and benefits.	
		C209.4	Instruct Kapalabhati and its need and importance	
		C209.5	Teach different types of Pranayama by its name, precautions, procedure and uses	
C209.6		Coach different types of Kriyas , method to follow and		



			usefulness.
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26	BCS401 Analysis & Design of Algorithm	C210.1	Apply asymptotic notational method to analyze the performance of the algorithms in terms of time complexity and demonstrate Brute force approaches for sorting and searching.
		C210.2	Demonstrate divide & conquer approaches and decrease & conquer approaches to solve computational problems.
		C210.3	Make use of transform & conquer and dynamic programming design approaches to solve the given real world or complex computational problems.
		C210.4	Apply greedy and dynamic programming methods to solve graph & string based computational problems.
		C210.5	Analyse various classes (P, NP and NP Complete) of problems and Illustrate backtracking, branch & bound and approximation methods.

Sl. No.	Subject Code	Course Code	Course Outcomes
27	BCS402 Microcontrollers	C211.1	Explain the ARM Architectural features and Instructions.
		C211.2	Develop programs using ARM instruction set for an ARM Microcontroller
		C211.3	Explain C-Compiler Optimizations and portability issues in ARM Microcontroller.
		C211.4	Apply the concepts of Exceptions and Interrupt handling mechanisms in developing applications.
		C211.5	Demonstrate the role of Cache management and Firmware in Microcontrollers.

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28	BCS403 Database Management System	C212.1	Describe the basic elements of relational database management system
		C212.2	Design entity relationship for the given scenario
		C212.3	Apply various structure query language statements for database and manipulation
		C212.4	Analyze various normalization forms for the given

			application
		C212.5	Understand the concepts related to no SQL database

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29	BCS405B Graph Theory	C213.1	Explain the fundamental concepts of properties and representation of graphs.
		C213.2	Solve the problems involving characterization and operations on graphs.
		C213.3	Apply concepts of trees and graph connectivity to solve real world problems
		C213.4	Apply the concepts of planar graph and graph representations to solve the given problem.
		C213.5	Use the concepts of matching and colouring of graphs to solve the real world problems.

Sl. No.	Subject Code	Course Code	Course Outcomes
30	BCSL404 Analysis & Design of Algorithms Lab	C214.1	Develop programs to solve computational problems using suitable algorithm design strategy.
		C214.2	Compare algorithm design strategies by developing equivalent programs and observing running times for analysis (Empirical).
		C214.3	Make use of suitable integrated development tools to develop programs
		C214.4	Choose appropriate algorithm design techniques to develop solution to the computational and complex problems.
		C214.5	Demonstrate and present the development of program, its execution and running time(s) and record the results/inferences.

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31	BCSL456D Technical writing using LATEX Lab	C215.1	Apply basic LaTeX command to develop simple document.
		C215.2	Develop LaTeX script to present the tables and figures in the document.
		C215.3	Illustrate LaTeX script to present theorems and mathematical equations in the document.
		C215.4	Develop programs to generate the complete report with citations and a bibliography.
		C215.5	Illustrate the use of Tikz and algorithm libraries to design graphics and algorithms in the document.

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32	BBOK407 Biology for Engineers	C216.1	Elucidate the basic biological concepts via relevant industrial applications and case studies
		C216.2	Evaluate the principles of design and development, for exploring novel bioengineering projects
		C216.3	Collaborate the concepts of biometrics for specific requirements.
		C216.4	Think critically towards exploring innovative bio based solutions for socially relevant problems.

Sl. No.	Subject Code	Course Code	Course Outcomes
33	BUHK408 Universal Human Values Course	C217.1	Understand the responsibilities in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.
		C217.2	Develop better critical thinking ability
		C217.3	Develop commitment towards what they have understood (human values, human relationship and human society).
		C217.4	Apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.

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34	BPEK459 Physical Education(Sports & Athletics)-II	C218.1	Understand the ethics and moral values in sports and athletics
		C218.2	Perform in the selected sports or athletics of student's choice.
		C218.3	Understand the roles and responsibilities of organization and administration of sports and games.
	OR		
	BNSK459 National Service Scheme (NSS)	C218.1	Understand the importance of his / her responsibilities towards society
		C218.2	Analyse the environmental and societal problems/issues and will be able to design solutions for the same.
		C218.3	Evaluate the existing system and to propose practical solutions for the same for sustainable development.
		C218.4	Implement government or self-driven projects effectively in the field.
		C218.5	Develop capacity to meet emergencies and natural disasters & practice national integration and social harmony in general.

OR		
<p style="text-align: center;">BYOK459 Yoga for a Better Life</p>	C218.1	Understand the meaning, aim and objectives of Yoga.
	C218.2	Perform Suryanamaskar and able to Teach its benefits.
	C218.3	Understand and teach different Asanas by name, its importance, methods and benefits.
	C218.4	Instruct Kapalabhati and its need and importance
	C218.5	Teach different types of Pranayama by its name, precautions, procedure and uses
	C218.6	Coach different types of Kriyas , method to follow and usefulness.