

**Course Outcomes-2022 Scheme**

S.No.	Subject Code	Course Code	Course Outcomes
1	MATHEMATICS -I BMATS101	C101.1	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
		C101.2	Analyse the solution of linear and nonlinear ordinary differential equations
		C101.3	Get acquainted and to apply modular arithmetic to computer algorithms
		C101.4	Make use of matrix theory for solving the system of linear equations and compute eigenvalues and eigenvectors
		C101.5	Familiarize with modern mathematical tools namely MATHEMATICA/MATLAB/ PYTHON/ SCILAB

S.No.	Subject Code	Course Code	Course Outcomes
2	APPLIED PHYSICS FOR CSE STREAM BPHYS102	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.

S.No.	Subject Code	Course Code	Course Outcomes
3	PRINCIPLES OF PROGRAMMIN G USING C BPOPS103	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
		C103.6	Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.

S.No.	Subject Code	Course Code	Course Outcomes
4	INTRODUCTION TO ELECTRONICS ENGINEERING BESCK104C	C104.1	Develop the basic knowledge on construction operation and characteristics of electronic circuits encompassing amplifiers and power supplies
		C104.2	Develop proficient knowledge to analyse the operation of oscillators and operational amplifiers
		C104.3	Develop competence knowledge to construct basic digital circuit by make use of basic gate and its function
		C104.4	Discuss the characteristics and technological advances of embedded systems
		C104.5	Construct the conceptual blocks for Basic communication system spanning from frequency Spectrum to various circuits involved

S.No.	Subject Code	Course Code	Course Outcomes
5	INTRODUCTION TO CYBER SECURITY BETCK105I	C105.1	Explain the cybercrime terminologies
		C105.2	Describe Cyber offenses and Botnets
		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	Course Outcomes
6	COMMUNICATIVE ENGLISH BENGK106	C106.1	understand and apply the fundamentals of communication skills in their communication skills
		C106.2	identify the nuance of phonetics, intonation and enhance pronunciation skills
		C106.3	to impart basic English grammar and essentials of language skills as per presentation requirement
		C106.4	understand and use all types of english vocabulary and language proficiency
		C106.5	adapt the technique of information transfer through presentation

S.No.	Subject Code	Course Code	Course Outcomes
7	SAMSKRUTHIKA KANNADA BSKKK107	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 ಹೆಚ್ಚಾಗುತ್ತದೆ.
		C107.4	ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯ ಹಾಗೂ ಅವರುಗಳ ಸಾಧಿಸಿದ ವಿಷಯಗಳನ್ನು ತಿಳಿದುಕೊಂಡು ನಾಡಿನ ಇನ್ನಿತರ ವ್ಯಕ್ತಿಗಳ ಬಗ್ಗೆ ತಿಳಿದುಕೊಳ್ಳಲು ಕೌತುಕತೆ ಹೆಚ್ಚಾಗುತ್ತದೆ.
		C107.5	ಸಾಂಸ್ಕೃತಿಕ, ಜನಪದ ಹಾಗೂ ಪ್ರವಾಸ ಕಥನಗಳ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು.
OR			

	BALAKE KANNADA BKBKK107	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.
		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.

S.No.	Subject Code	Course Code	Course Outcomes
8	INNOVATION AND DESIGN THINKING BIDTK158	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	MATHEMATICS FOR CSE STREAMS-II BMATS201	C109.1	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume.
		C109.2	Understand the applications of vector calculus refer to solenoidal, and irrotational vectors.Orthogonal curvilinear coordinates.
		C109.3	Demonstrate the idea of Linear dependence and independence of sets in the vector space, and linear transformation
		C109.4	Apply the knowledge of numerical methods in analysing the discrete data and solving the physical and engineering problems.
		C109.5	Get familiarize with modern mathematical tools namely MATHEMATICA/ MATLAB /PYTHON/ SCILAB

S.No.	Subject Code	Course Code	Course Outcomes
10	APPLIED CHEMISTRY FOR COMPUTER SCIENCE &ENGINEERIN G STREAM BCHES202	C110.1	Identify the terms and applications processes involved in scientific and engineering.
		C110.2	Explain the phenomena of chemistry to describe the methods of engineering processes.
		C110.3	Solve the problems in chemistry that are pertinent in engineering applications.
		C110.4	Apply the basic concepts of chemistry to explain the chemical properties and processes.
		C110.5	Analyze properties and multidisciplinary situations processes associated with chemical substances in multidisciplinary situations.

S.No.	Subject Code	Course Code	Course Outcomes
11	COMPUTER AIDED ENGINEERING DRAWING BCEDK203	C111.1	Draw and communicate the objects with definite shape and dimensions
		C111.2	Recognize and Draw the shape and size of objects through different views
		C111.3	Develop the lateral surfaces of the object
		C111.4	Create a Drawing views using CAD software.
		C111.5	Identify the interdisciplinary engineering components or systems through its graphical representation.

S.No.	Subject Code	Course Code	Course Outcomes
12	INTRODUCTION TO ELECTRICAL ENGINEERING BESCK204B	C112.1	Understand the concepts of various energy sources and Electric circuits.
		C112.2	Apply the basic Electrical laws to solve circuits.
		C112.3	Discuss the construction and operation of various Electrical Machines.
		C112.4	Identify suitable Electrical machine for practical implementation.
		C112.5	Explain the concepts of electric power transmission and distribution, electricity billing, circuit protective devices and personal safety measures.

S.No.	Subject Code	Course Code	Course Outcomes
13	INTRODUCTION TO PYTHON PROGRAMMING BPLCK205B	C113.1	Demonstrate proficiency in handling loops and creation of functions.
		C113.2	Identify the methods to create and manipulate lists, tuples and dictionaries.
		C113.3	Develop programs for string processing and file organization
		C113.4	Interpret the concepts of Object-Oriented Programming as used in Python.

S.No.	Subject Code	Course Code	Course Outcomes
14	PROFESSIONAL WRITING SKILLS IN ENGLISH BPWSK206	C114.1	To understand and identify the Common Errors in Writing and Speaking.
		C114.2	To Achieve better Technical writing and Presentation skills.
		C114.3	To read Technical proposals properly and make them to Write good technical reports.
		C114.4	Acquire Employment and Workplace communication skills.
		C114.5	To learn about Techniques of Information Transfer through presentation in different level.

S.No.	Subject Code	Course Code	Course Outcomes
15	INDIAN CONSTITUTION BICOK207	C115.1	Analyse the basic structure of Indian Constitution.
		C115.2	Remember their Fundamental Rights, DPSP's and Fundamental Duties (FD's) of our constitution.
		C115.3	Know about our Union Government, political structure & codes, procedures.
		C115.4	Understand our State Executive & Elections system of India
		C115.5	Remember the Amendments and Emergency Provisions, other important provisions given by the constitution.

S.No.	Subject Code	Course Code	Course Outcomes
16	SCIENTIFIC FOUNDATIONS OF HEALTH BSFHK258	C116.1	To understand and analyse about Health and wellness (and its Beliefs) & It's balance for positive mindset.
		C116.2	Develop the healthy lifestyles for good health for their better future.
		C116.3	Build a Healthy and caring relationships to meet the requirements of good/social/positive life.
		C116.4	To learn about Avoiding risks and harmful habits in their campus and outside the campus for their bright future.
		C116.5	Prevent and fight against harmful diseases for good health through positive mindset.

S.No.	Subject Code	Course Code	Course Outcomes
17	MATHEMATICS FOR COMPUTER SCIENCE BCS301	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.
		C201.6	Apply the ANOVA test related to engineering problems.

S.No.	Subject Code	Course Code	Course Outcomes
18	DIGITAL DESIGN AND COMPUTER ORGANIZATION BCS302	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 devices.
		C202.5	Analyze internal Organization of Memory and Impact of cache/Pipelining on Processor Performance

S.No.	Subject Code	Course Code	Course Outcomes
19	OPERATING SYSTEMS BCS303	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.
		C203.6	Describe the need for information protection mechanisms

S.No.	Subject Code	Course Code	Course Outcomes
20	DATA STRUCTURES AND APPLICATIONS BCS304	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.

S.No.	Subject Code	Course Code	Course Outcomes
21	DATA STRUCTURES LABORATORY BCSL305	C205.1	Analyze various linear and non-linear data structures
		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

S.No.	Subject Code	Course Code	Course Outcomes
22	OBJECT ORIENTED PROGRAMMING WITH JAVA BCS306A	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, autoboxing and enumerations in program development

S.No.	Subject Code	Course Code	Course Outcomes
23	SOCIAL CONNECT & RESPONSIBILITY BSCK307	C207.1	Communicate and connect to the surrounding.
		C207.2	Create a responsible connection with the society.
		C207.3	Involve in the community in general in which they work.
		C207.4	Notice the needs and problems of the community and involve them in problem –solving.
		C207.5	Develop among themselves a sense of social & civic responsibility & utilize their knowledge in finding practical solutions to individual and community problems.
		C207.6	Develop competence required for group-living and sharing of responsibilities & gain skills in mobilizing community participation to acquire leadership qualities and democratic attitudes.

S.No.	Subject Code	Course Code	Course Outcomes
24	DATA ANALYTICS WITH EXCEL BCS358A	C208.1	Use advanced functions and productivity tools to assist in developing worksheets.
		C208.2	Manipulate data lists using Outline and PivotTables.
		C208.3	Use Consolidation to summarise and report results from multiple worksheets.
		C208.4	Apply Macros and Autofilter to solve the given real world scenario.

S.No.	Subject Code	Course Code	Course Outcomes
25	YOGA FOR A BETTER LIFE BYOK359	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.
	OR		
	PHYSICAL EDUCATION(SP ORTS & ATHLETICS)-I BPEK359	C209.1	Understand the fundamental concepts and skills of Physical Education, Health, Nutrition and Fitness
		C209.2	Familiarization of health-related Exercises, Sports for overall growth and development
		C209.3	Create a foundation for the professionals in Physical Education and Sports
		C209.4	Participate in the competition at regional/state / national / international levels.
		C209.5	Create consciousness among the students on Health, Fitness and Wellness in developing and maintaining a healthy lifestyle.
	OR		
	NATIONAL	C209.1	Understand the importance of his / her responsibilities

	SERVICE SCHEME (NSS) BNSK359		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.

S.No.	Subject Code	Course Code	Course Outcomes
26	ANALYSIS & DESIGN OF ALGORITHMS BCS401	C210.1	Apply asymptotic notational method to analyze the performance of the algorithms in terms of time complexity.
		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 input enhancement methods to solve graph & string based computational problems.
		C210.5	Analyse various classes (P, NP and NP Complete) of problems
		C210.6	Illustrate backtracking, branch & bound and approximation methods

S.No.	Subject Code	Course Code	Course Outcomes
27	ADVANCED JAVA BIS402	C211.1	Apply appropriate collection class/interface to solve the given problem
		C211.2	Demonstrate the concepts of String operations in Java
		C211.3	Apply the concepts of Swings to build Java applications
		C211.4	Develop web based applications using Java servlets and JSP
		C211.5	Use JDBC to build database applications

S.No.	Subject Code	Course Code	Course Outcomes
28	DATABASE MANAGEMENT SYSTEM BCS403	C212.1	Describe the basic elements of a relational database management system
		C212.2	Design entity relationship for the given scenario.
		C212.3	Apply various Structured Query Language (SQL) statements for database manipulation.
		C212.4	Analyse various normalization forms for the given application.
		C212.5	Develop database applications for the given real world problem.
		C212.6	Understand the concepts related to NoSQL databases.



S.No.	Subject Code	Course Code	Course Outcomes
29	ANALYSIS & DESIGN OF ALGORITHMS LAB BCSL404	C213.1	Develop programs to solve computational problems using suitable algorithm design strategy.
		C213.2	Compare algorithm design strategies by developing equivalent programs and observing running times for analysis (Empirical).
		C213.3	Make use of suitable integrated development tools to develop programs
		C213.4	Choose appropriate algorithm design techniques to develop solution to the computational and complex problems.
		C213.5	Demonstrate and present the development of program, its execution and running time(s) and record the results/inferences

S.No.	Subject Code	Course Code	Course Outcomes
30	GRAPH THEORY BCS405B	C214.1	Explain the fundamental concepts of properties and representation of graphs.
		C214.2	Solve the problems involving characterization and operations on graphs.
		C214.3	Apply concepts of trees and graph connectivity to solve real world problems.
		C214.4	Apply the concepts of planar graph and graph representations to solve the given problem.
		C214.5	Use the concepts of matching and coloring of graphs to solve the real world problems

S.No.	Subject Code	Course Code	Course Outcomes
31	TECHNICAL WRITING USING LATEX BCSL456D	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

S.No.	Subject Code	Course Code	Course Outcomes
32	BIOLOGY FOR ENGINEERS (CSE) BBOC407	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	Corroborate the concepts of biomimetics for specific requirements.
		C216.4	Think critically towards exploring innovative biobased solutions for socially relevant problems.

S.No.	Subject Code	Course Code	Course Outcomes
33	UNIVERSAL HUMAN VALUES (UHV) BUHK408	C217.1	They would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.
		C217.2	They would have better critical ability.
		C217.3	They would also become sensitive to their commitment towards what they have understood (human values, human relationship and human society).
		C217.4	It is hoped that they would be able to 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.

S.No.	Subject Code	Course Code	Course Outcomes
34	YOGA FOR A BETTER LIFE BYOK459	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.
	OR		
	PHYSICAL EDUCATION(SP ORTS & ATHLETICS)-I BPEK459	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 organisation and administration of sports and games.
	OR		
	NATIONAL SERVICE SCHEME (NSS) BNSK459	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.