BCA
Scheme 2021

Program Outcomes

1. **Basic knowledge:** An ability to apply knowledge of basic mathematics, science and domain knowledge to solve the computational problems.
2. **Discipline knowledge**: An ability to apply discipline –specific knowledge to solve core and/or applied computational problems.
3. **Experiments and practice:** An ability to plan and perform experiments and practices and to use the results to solve computational problems.
4. **Tools Usage**: Apply appropriate technologies and tools with an understanding of limitations.
5. **Profession and society**: Demonstrate knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional practice.
6. **Environment and sustainability**: Understand the impact of the computational solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable development.
7. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the professional practice.
8. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse/multidisciplinary teams.
9. **Communication:** An ability to communicate effectively.
10. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the context of technological changes.

Course Outcomes

First Semester:

Course Code: UGCA 1901

Course Name: Mathematics

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1901.1	Define various mathematical notions.
UGCA 1901.2	Explain different terms used in basic mathematics.
UGCA 1901.3	Illustrate various operations and formulas used to solve mathematical problems.
UGCA 1901.4	Organize data in various models.
UGCA 1901.5	Prepare solutions for various real life problems.

Course Code: UGCA 1902

Course Name:Fundamentals of Computer and IT

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1902.1	Identify of input and output devices of Computers
UGCA 1902.2	Utilize the functioning of various components of computer system
UGCA 1902.3	Define the role of Operating system
UGCA 1902.4	Prepare documents using word processing, Spreadsheet and Presentation GraphicsSoftware's.

UGCA 1902.5	Highlight the Internet safety, legally, and other issues.

Course Code: UGCA 1903
Course Name:Problem Solving using C

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1903.1	Express the logical flow used in Programming.
UGCA 1903.2	Design algorithms for solving various real life problems
UGCA 1903.3	Implement programs using C.
UGCA 1903.4	Choose the right data type and statements for programs.
UGCA 1903.5	Explain various concepts of C programming language.

Course Code: UGCA 1904
Course Name:Workshop on Desktop Publishing

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1904.1	Outline the characteristics of desktop publishing tools.
UGCA 1904.2	Identify the right components for designing documents.
UGCA 1904.3	Apply knowledge in designing various documents.
UGCA 1904.4	Prepare different types of graphic related documents.
UGCA 1904.5	Express the messages through graphical content

Course Code: UGCA 1905
Course Name:Problem Solving using C Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1905.1	Select the right statement for the program.
UGCA 1905.2	Experiment with different input values.
UGCA 1905.3	Test the output with boundary conditions.
UGCA 1905.4	Distinguish between various control statements and data types.
UGCA 1905.5	Implement programs for various problems

Course Code: UGCA 1906
Course Name:Fundamentals of Computer and IT Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1906.1	Highlight the features of word processing, spreadsheet and presentation tools

UGCA 1906.2	Identify the right components for its documents on editor, spread sheet and presentation software.
UGCA 1906.3	Prepare documents and apply formatting.
UGCA 1906.4	Select the right tool for different requirements
UGCA 1906.5	Apply various operations.

Course Code: BTHU 103/18

Course Name: English

Course Outcomes: **After the course completion, students will be able to :**	
BTHU103-18.1	The objective of this course is to introduce students to the theory, fundamentals and tools of communication.
BTHU103-18.2	To help the students become the independent users of English language.
BTHU103-18.2	To develop in them vital communication skills which are integral to their personal, social and professional interactions.
BTHU103-18.4	The syllabus shall address the issues relating to the Language of communication.
BTHU 103-18.5	Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc

Course Code: BTHU 104/18

Course Name: English

Course Outcomes : **After the course completion, students will be able to :**	
BTHU104/18.1	The objective of this course is to introduce students to the theory, fundamentals and tools of communication.
BTHU 104/18.2	To help the students become the independent users of English language.
BTHU104/18.2	To develop in them vital communication skills which are integral to their personal, social and professional interactions.
BTHU 104/18.4	The syllabus shall address the issues relating to the Language of communication.
BTHU104/18.5	Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc.

Course Code: HVPE 101-18

Course Name: Human Values, De-addiction and Traffic Rules

Course Outcomes: **After the course completion, students will be able to :**	
HVPE 101-18.1	To help the students appreciate the essential complementarily between 'VALUES'

	and 'SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings
HVPE 101-18.2	To facilitate the development of a Holistic perspective among students towards life, profession and happiness, based on a correct understanding of the Human reality and the rest of Existence. Such a holistic perspective forms the basis of Value based living in a natural way
HVPE 101-18.3	To highlight plausible implications ofsuch a Holistic understanding in terms of ethical human conduct, trustful and mutually satisfying human behavior and mutually enriching interaction with Nature.

Course Code: UGCA 1907

Course Name:Fundamental of Statistics

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1907.1	Highlight the need of studying & analyzing numbers.
UGCA 1907.2	Identify visualization tools for representing data.
UGCA 1907.3	Describe various statistical formulas.
UGCA 1907.4	Compute various statistical measures.
UGCA 1907.5	Compare result of different statistical measures

Course Code: UGCA 1908

Course Name: Computer System Architecture

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1908.1	Identify the various internal and peripheral components of computer system
UGCA 1908.2	Categorize different number system.
UGCA 1908.3	Outline the role of various components of computer system.
UGCA 1908.4	Identify micro-operations.
UGCA 1908.5	Comment on the design of Combinational & Sequential circuits

Course Code: UGCA 1909

Course Name:Object Oriented Programming using C++

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1909.1	Outline the role of programming for solving real world problems.
UGCA 1909.2	Explain Object oriented approach for finding Solutions to various problems with the help of C++ language.
UGCA 1909.3	Implement computer based solutions to various real-world problems using C++
UGCA 1909.4	Select the right Object Oriented Concept for optimal solution.

UGCA 1909.5	Review different solutions for a common problem

Course Code: UGCA 1910

Course Name: Object Oriented Programming using C++ Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1910.1	Design the classes.
UGCA 1910.2	Illustrate the concept of memory representation for objects
UGCA 1910.3	Implement programs using OOP concepts for various problems.
UGCA 1910.4	Implement file handling in C++
UGCA 1910.5	Select the right data types to represent class properties.

Course Code: UGCA 1911

Course Name:Fundamentals of Statistics Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1911.1	Create Frequency table and Graphs for data representation.
UGCA 1911.2	Apply various statistical operations using statistical tool like excel.
UGCA 1911.3	Compute various statistical measures using statistical tool like excel.
UGCA 1911.4	Analyze real life data using statistical tool
UGCA 1911.5	Prepare data in different formats and styles

Course Code: UGCA 1912

Course Name:Computer System Architecture Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1912.1	Identify various types of Gates and Circuits
UGCA 1912.2	Highlight the functioning of various gates and circuits
UGCA 1912.3	Validate the outcome of various gates and circuits
UGCA 1912.4	Differentiate between the various types of gates and circuits
UGCA 1912.5	Outline the use of each type of gate and circuit.

Course Code: EVS 102-18

Course Name: Environmental Studies

Course Outcomes: **After the course completion, students will be able to :**	
EVS102-18.1	Students will enable to understand environmental problems at local and national level through literature and general awareness.
EVS102-18.2	The students will gain practical knowledge by visiting wildlife areas,

	environmental institutes and various personalities who have done practical work onvarious environmental Issues.
EVS102-18.3	The students will apply interdisciplinary approach to understand key environmental issues and critically analyze them to explore the possibilities to mitigate these problems
EVS102-18.4	Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world

Course Code: UGCA 1913

Course Name:Computer Networks

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1913.1	Highlight the characteristics of various protocols.
UGCA 1913.2	Define different network technologies and their application.
UGCA 1913.3	Identify Hardware and software components for designing network.
UGCA 1913.4	Compare the performance of different network media
UGCA 1913.5	Implement various configuration settings

Course Code: UGCA 1914

Course Name:Programming in Python

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1914.1	Explain environment, data types, operators used in Python
UGCA 1914.2	Compare Python with other programming languages.
UGCA 1914.3	Outline the use of control structures and numerous native data types with their methods.
UGCA 1914.4	Design user defined functions, modules, files, and packages and exception handlingmethods.
UGCA 1914.5	Write solutions for Object Oriented Programming Concepts

Course Code: UGCA 1915

Course Name:Data Structures

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1915.1	Apply appropriate constructs of Programming language, coding standards for application development

UGCA 1915.2	Select appropriate data structures for problem solving and programming
UGCA 1915.3	Illustrate the outcome of various operations on data structures
UGCA 1915.4	Identify appropriate searching and/or sorting techniques for wide range of problems anddata types.
UGCA 1915.5	Differentiate between various types of data structures

Course Code: UGCA 1916

Course Name: Computer Networks Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1916.1	Outline the key features of various protocols
UGCA 1916.2	Implement network configuration settings for an operating system
UGCA 1916.3	Prepare different types of cables for networking.
UGCA 1916.4	Design network model using network simulation tool.
UGCA 1916.5	Implement various setting on FTP, Proxy and other servers.

Course Code: UGCA 1917

Course Name: Programming in Python Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1917.1	Outline various programming constructs like data types and control structures ofPython.
UGCA 1917.2	Implement different data structures..
UGCA 1917.3	Implement modules and functions
UGCA 1917.4	Illustrate concept of object oriented programming
UGCA 1917.5	Implement file handling.

Course Code: UGCA 1918

Course Name:Data Structures Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1918.1	Implement Dynamic memory allocation.
UGCA 1918.2	Create different data structures in C/ C++
UGCA 1918.3	Implement various operations of all data structures
UGCA 1918.4	Illustrate the outcome of various operations with the help of examples
UGCA 1918.5	Write programs to implement various types of searching and sorting algorithms

Course Code: UGCA 1919

Course Name:PC Assembly and Troubleshooting

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1919.1	Identify various components of computer systems.
UGCA 1919.2	Differentiate between types of processors required for different computer systems.
UGCA 1919.3	Explain the steps to install, connect and configure various peripheral devices
UGCA 1919.4	Execute the troubleshooting issues in Computer Systems
UGCA 1919.5	Explain how resources can be shared over network

Course Code: UGCA 1920

Course Name: PC Assembly and Troubleshooting Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1920.1	Identify key component of computer system while assembling a system.
UGCA 1920.2	Implement installation and configuration of computer system
UGCA 1920.3	Perform installation, configuration and sharing of peripheral devices.
UGCA 1920.4	Solve troubleshooting issues in Computer Systems
UGCA 1920.5	Execute dual booting

Course Code: UGCA 1921

Course Name:Software Engineering

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1921.1	Highlight the need of software engineering
UGCA 1921.2	Outline the phases and activities involved in the conventional software life cycle models
UGCA 1921.3	Design documents for various phases of software life cycle.
UGCA 1921.4	Compute the complexity of the software based on multiple metrics.
UGCA 1921.5	Identify the tools needed for different types of documents required in software engineering.

Course Code: UGCA 1922

Course Name: Database Management Systems

Course Outcomes: **After the course completion, students will be able to :**

UGCA 1922.1	Define the basic concepts of DBMS.
UGCA 1922.2	Design SQL queries.
UGCA 1922.3	Illustrate the concept of data normalization with the help of real life examples.
UGCA 1922.4	Explain the concept of transaction management.
UGCA 1922.5	Outline features of advanced database management systems.

Course Code: UGCA 1923

Course Name:Operating Systems

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1923.1	Discuss the evaluation of operating systems.
UGCA 1923.2	Explain different resource managements performed by operating system.
UGCA 1923.3	Describe the architecture in terms of functions performed by different types of operating systems.
UGCA 1923.4	Analyze the performance of different algorithms used in design of operating system components
UGCA 1923.5	Compare the key properties of different types of Operating Systems

Course Code: UGCA 1924

Course Name:Software Engineering Laboratory

Course Outcomes : **After the course completion, students will be able to :**	
UGCA 1924.1	Identify the scope and objective of different domains that have impact on society.
UGCA 1924.2	Create data flow diagrams.
UGCA 1924.3	Compute software complexity using latest tools.
UGCA 1924.4	Design a software engineering process life cycle.
UGCA 1924.5	Implement specification, design, implementation, and testing process using latest tools

Course Code: UGCA 1925

Course Name: Database Management Systems Laboratory

Course Outcomes : **After the course completion, students will be able to :**	
UGCA 1925.1	Differentiate between DDL, DML and DCL commands
UGCA 1925.2	Implement DDL, DML and DCL commands
UGCA 1925.3	Write integrity constraints on a database
UGCA 1925.4	Design Databases and Tables in relational model for some project related to societywelfare.
UGCA 1925.5	Implement PL/SQL.

Course Code: UGCA 1926

Course Name: Operating Systems Laboratory

Course Outcomes : **After the course completion, students will be able to :**	
UGCA 1926.1	Implement the installation and configuration of different operating systems.
UGCA 1926.2	Write programs for different scheduling algorithms.
UGCA 1926.3	Execute various commands in Vi editor.
UGCA 1926.4	Implement the dual boot installation.
UGCA 1926.5	Execute commands in shell programming.

Course Code: UGCA 1927

Course Name:Web Designing

Course Outcomes : **After the course completion, students will be able to :**	
UGCA 1927.1	Create pages with simple tags in HTML
UGCA 1927.2	Design webpages with multiple sections or frames
UGCA 1927.3	Explain how to link webpages through hypertext or images a links
UGCA 1927.4	Outline the key web designing concepts using java script
UGCA 1927.5	Design forms with special controls using HTML

Course Code: UGCA 1928

Course Name: Web Designing Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA 1928.1	Design pages with simple tags in HTML
UGCA 1928.2	Create web pages with Audio and Video content in it.
UGCA 1928.3	Illustrate the movement from one web page to another
UGCA 1928.4	Implement advanced web designing concepts using java script
UGCA 1928.5	Execute a small web passed project for the benefit of society

Course Code: UGCA 1929

Course Name: Programming in PHP

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1929.1	Outline the importance and benefits of PHP

UGCA1929.2	Compare Client Side Script & Server Side Script.
UGCA1929.3	Explain the use of control structures, data types used in PHP
UGCA1929.4	Implement database connectivity.
UGCA1929.5	Develop Dynamic Website that can interact with different kinds of Database Languages

Course Code: UGCA 1930

Course Name: Programming in PHP Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1930.1	Write scripts for basic web page designs
UGCA1930.2	Design the work flow of web page with the help of various control statements
UGCA1930.3	Differentiate between client side and server side scripting
UGCA1930.4	Illustrate the concept of static and dynamic websites
UGCA1930.5	Implement the database concepts in PHP

Course Code: UGCA 1931

Course Name: Data Warehouse and Mining

Course Outcomes : **After the course completion, students will be able to :**	
UGCA1931.1	Highlight the need of Data Warehousing & Mining
UGCA1931.2	Differentiate between the Transactional and Analytical data models.
UGCA1931.3	Identify the real life applications where data mining can be applied.
UGCA1931.4	Apply different data mining algorithms on wide range of data sets.
UGCA1931.5	Explain the role of visualization in data representation and analysis.

Course Code: UGCA 1937

Course Name: Data Warehouse and Mining Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1937.1	Identify different data mining tools used to analyze data.
UGCA1937.2	Implement classification/ Clustering techniques in R/ Weka.
UGCA1937.3	Create visualization for representing data.
UGCA1937.4	Execute various data preprocessing techniques.
UGCA1937.5	Analyze the data which has direct impact on the society.

Course Code: UGCA 1932

Course Name: Programming in Java

Course Outcomes : After the course completion, students will be able to :	
UGCA1932.1	Define various Object Oriented concepts in Java Programming
UGCA1932.2	Compare different data types in java
UGCA1932.3	Differentiate between built-in and user defined functions/methods, interfaces and packages etc.
UGCA1932.4	Outline the importance of exception handling in programs.
UGCA1932.5	Explain advanced concepts like multithreading, applet used in java.

Course Code: UGCA 1938

Course Name: Programming in Java Laboratory

Course Outcomes: After the course completion, students will be able to :	
UGCA1938.1	Execute Core Java concepts
UGCA1938.2	Illustrate the role of different data type, operators and control statement in java with thehelp of programs.
UGCA1938.3	Write programs to handle exceptions
UGCA1938.4	Implement multithreading in java
UGCA1938.5	Execute interfaces and packages.

Course Code: UGCA 1933

Course Name: Internet of Things

Course Outcomes: After the course completion, students will be able to :	
UGCA1933.1	Define the concept of IoT
UGCA1933.2	Outline various domains of IOT
UGCA1933.3	Explain M2M (machine to machine) applications with necessary protocols
UGCA1933.4	Express the need of IOT system management.
UGCA1933.5	Implement the basic Raspberry PI platform for creating IOT applications.

Course Code: UGCA 1939

Course Name: Internet of Things Laboratory

Course Outcomes: After the course completion, students will be able to :	
UGCA1939.1	Identify different types of IOT devices and sensors.
UGCA1939.2	Analyze sensor generated data
UGCA1939.3	Outline the use of Bluetooth for connectivity of mobile application with IOT device.
UGCA1939.4	Designing small IoT applications
UGCA1939.5	Building interface of application with various devices

Course Code: UGCA 1934

Course Name: Computer Graphics

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1934.1	Identify different types of Input and Output devices.
UGCA1934.2	Outline the key characteristics of virtual reality.
UGCA1934.3	Explain different algorithms to draw shapes like line, circle, point, etc.
UGCA1934.4	Differentiate between 2-D and 3-D coordinate system
UGCA1934.5	Define projection

Course Code: UGCA 1940

Course Name: Computer Graphics Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1940.1	Implement algorithms for drawing basic shapes like circle, line and point.
UGCA1940.2	Write programs to implement 2-D and 3-D coordinate transformations.
UGCA1940.3	Design basic shapes for logo's
UGCA1940.4	Develop programs for basic animations using C or C++
UGCA1940.5	Design a small gaming project**.**

Course Code: UGCA 1935

Course Name: Linux Operating System

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1935.1	Discuss the evolution of Open Source operating systems.
UGCA1935.2	Prepare environment for working on open source operating system like Linux.
UGCA1935.3	Perform resource management in Linux
UGCA1935.4	Write scripts in Linux.
UGCA1935.5	Execute user level privileges

Course Code: UGCA 1941

Course Name: Linux Operating System Laboratory

Course Outcomes: **After the course completion, students will be able to :**

UGCA1941.1	Prepare the environment for installation and use of Linux operating system.
UGCA1941.2	Write Shell Scripts
UGCA1941.3	Implement C programs using gcc compiler
UGCA1941.4	Implement virtualization
UGCA1941.5	Execute commands related to grantinf and revoking user privileges.

Course Code: UGCA 1936

Course Name: Course Name: Cloud Computing

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1936.1	Define the concept of cloud computing.
UGCA1936.2	Outline the benefits if migrating to a cloud solution for different applications.
UGCA1936.3	Compare different virtualization technologies.
UGCA1936.4	Identify various resources needed to build cloud.
UGCA1936.5	Explain various security threats to cloud.

Course Code: UGCA 1942

Course Name: Course Name: Cloud Computing Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1942.1	Identify major commercial projects in the field of cloud computing.
UGCA1942.2	Design basic cloud applications
UGCA1942.3	Execute basic functionalities of open source tools like Open Stack.
UGCA1942.4	Implement virtualization
UGCA1942.5	Define major services provided by cloud service provider

Course Code: UGCA 1943

Course Name: Android Programming

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1943.1	Prepare environment for working on Android OS.
UGCA1943.2	Highlight various security issues in Android platform.
UGCA1943.3	Design innovative User Interface and develop activity for android app.
UGCA1943.4	Outline the steps for creating database applications.
UGCA1943.5	Write programs for basic Android based applications.

Course Code: UGCA 1944

Course Name: Android Programming Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1944.1	Prepare environment for working on Android OS.
UGCA1944.2	Program basic Android based applications
UGCA1944.3	Highlight various security issues in Android platform.
UGCA1944.4	Implement database applications.
UGCA1944.5	Design innovative User Interface and develop activity for android app

Course Code: UGCA 1945

Course Name: Artificial Intelligence

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1945.1	Highlight the significance and domains of Artificial Intelligence and knowledge representation.
UGCA1945.2	Outline the advantages and disadvantages of various search techniques.
UGCA1945.3	Identify various Expert Systems and AI applications.
UGCA1945.4	Define the role of AI in different areas like NLP, Pattern Recognition etc
UGCA1945.5	Select the right AI tool for different AI based applications.

Course Code: UGCA 1951

Course Name: Artificial Intelligence Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1951.1	Identify right tool for different AI based problems.
UGCA1951.2	Develop basic applications using AI tools.
UGCA1951.3	Represent various real life problem domains using logic based techniques and use thisto perform inference or planning.
UGCA1951.4	Outline the use of Bayesian approach to solve uncertain problems.
UGCA1951.5	Implement basic Natural Language processing programs**.**

Course Code: UGCA 1946

Course Name: R Programming

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1946.1	Identify the key components of R programming Language.
UGCA1946.2	Define the concept of data Science.
UGCA1946.3	Differentiate between vectors and arrays.
UGCA1946.4	Outline the usage of data frames, lists, factors, tables and R structures.
UGCA1946.5	Explain the need and utilization of various visualization tools.

Course Code: UGCA 1952

Course Name: R Programming Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1952.1	Write programs for arrays and matrices
UGCA1952.2	Execute data frames and lists.
UGCA1952.3	Differentiate between arrays from vectors.
UGCA1952.4	Implement factors in R
UGCA1952.5	Execute minor projects using R

Course Code: UGCA 1947

Course Name: Course Name: Digital Marketing

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1947.1	Highlight the key elements of a digital marketing strategy.
UGCA1947.2	Choose the right platform for digital marketing
UGCA1947.3	Identify the major digital marketing channels
UGCA1947.4	Design content for digital marketing
UGCA1947.5	Develop digital marketing strategy and plan.

Course Code: UGCA 1953

Course Name: Digital Marketing Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1953.1	Highlight the key elements of a digital marketing strategy.
UGCA1953.2	Implement common digital marketing exerciseusing SEO, Social media and Blogs.
UGCA1953.3	Identify the major digital marketing channels.
UGCA1953.4	Design content for digital marketing.
UGCA1953.5	Develop digital marketing strategy and plan.

Course Code: UGCA 1948

Course Name: Information Security

Course Outcomes: **After the course completion, students will be able to :**

UGCA1948.1	Identify issues involved in the field of information security
UGCA1948.2	Categorize various types of viruses.
UGCA1948.3	Outline the information security risks across de Internet and WWW.
UGCA1948.4	Explain different encryption techniques
UGCA1948.5	Define cryptography

Course Code: UGCA 1954

Course Name: Information Security Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1954.1	Outline various types of attacks.
UGCA1954.2	Categorize various types of viruses.
UGCA1954.3	Prepare solutions to various threats.
UGCA1954.4	Review security policy.
UGCA1954.5	Implement Encryption Techniques.

Course Code: UGCA 1949

Course Name: Cyber Laws & IPR

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1949.1	Identify statutory, regulatory, constitutional, and organizational laws that affect theinformation technology professional.
UGCA1949.2	Categorize case law and common law to current legal dilemmas in the technology field.
UGCA1949.3	Outline the primary forms of intellectual property rights.
UGCA1949.4	Compare the different forms of intellectual property protection in terms of their keydifferences and similarities.
UGCA1949.5	Analyze the effects of intellectual property rights on society as a whole.

Course Code: UGCA 1955

Course Name: Cyber Laws & IPR Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1955.1	Identify statutory, regulatory, constitutional, and organizational laws that affect theinformation technology professional.
UGCA1955.2	Categorize case law and common law to current legal dilemmas in the technology field.

UGCA1955.3	Outline the primary forms of intellectual property rights.
UGCA1955.4	Compare the different forms of intellectual property protection in terms of their keydifferences and similarities.
UGCA1955.5	Analyze the effects of intellectual property rights on society as a whole.

Course Code: UGCA 1950

Course Name: Machine Learning

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1950.1	Define the concept of machine learning
UGCA1950.2	Outline the key characteristics of machine learning algorithms
UGCA1950.3	Compare the performance of different machine learning algorithms
UGCA1950.4	Design solution for basic problems using machine learning algorithms
UGCA1950.5	Explain the concept of reinforcement learning

Course Code: UGCA 1956

Course Name: Machine Learning Laboratory

Course Outcomes: **After the course completion, students will be able to :**	
UGCA1956.1	Differentiate between various data types.
UGCA1956.2	Implement programs for various Learning algorithms.
UGCA1956.3	Compare different machine learning algorithms.
UGCA1956.4	Choose the right algorithm for different problems.
UGCA1956.5	Apply Machine Learning algorithms to solve real world problems**.**

Course Code: BMPD 102-18/BMPD 202-18/ BMPD 302-18/ BMPD 402-18/BMPD 502-18/BMPD 602-18

Course Name: Mentoring and Professional Development

Course Outcomes: **The objective of mentoring will be development of:**	
BMPD102-18.1	Overall Personality
BMPD102-18.2	Aptitude (Technical and General)
BMPD102-18.3	General Awareness (Current Affairs and GK)
BMPD102-18.4	Communication Skills
BMPD102-18..5	Presentation Skills