

# BCA COURSE OUTCOMES

S.NO	COURSE NAME	COURSE CODE	COURSE OUTCOME
1	Fundamentals of Commerce	1	<p>CO1: Identify the role commerce in Economic Development and Societal Development.</p> <p>CO2: Equip with the knowledge of imports and exports and Balance of Payments.</p> <p>CO3: Develop the skill of accounting and accounting principles.</p> <p>CO4: They acquire knowledge on micro and macro economics and factors determine demand and supply.</p> <p>CO5: An idea of Indian Tax system and various taxes levied on in India.</p> <p>CO6: They will acquire skills on web design and digital marketing.</p>
2	Business Organization	2	<p>CO1: Ability to understand the concept of Business Organization along with the basic laws and norms of Business Organization.</p> <p>CO2: The ability to understand the terminologies associated with the field of Business Organization along with their relevance and to identify the appropriate types and functioning of Business Organization for solving different problems.</p> <p>CO3: The application of Business Organization principles to solve business and industry related problems and to understand the concept of Sole Proprietorship, Partnership and Joint Stock Company etc</p>
3	Office Automation Tools	3	<p>CO1: Understand concept of Word Processor and use its features.</p> <p>CO2: To use the advanced features of Ms-Word to make day to day usage easier.</p> <p>CO3: To work comfortably with Ms-Excel Environment.</p> <p>CO4: To create work sheets and user advanced feature of Excel.</p> <p>CO5: To create make presentations and inserting multimedia in them.</p>
4	Office Automation Tools Lab	3.1	<p>CO1: To perform documentation .</p> <p>CO2: To perform accounting operations.</p> <p>CO3: To perform presentation skills.</p>

5	Programming in C	4	<p>CO1:Develop a C program</p> <p>CO2:Control the sequence of the program and give logical outputs</p> <p>CO3:Implement strings in your C program</p> <p>CO4:Store different data types in the same memory</p> <p>CO5:Manage I/O operations in your C program</p> <p>CO6:Repeat the sequence of instructions and points for a memory location</p>
6	Programming in C Lab	4.1	<p>CO1:Read, understand and trace the execution of programs written in C language.</p> <p>CO2: Write the C code for a given algorithm.</p> <p>CO3: Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor.</p> <p>CO4: Write programs that perform operations using derived data types.</p>
7	Database Management System	5	<p>CO1:Understand the basic concepts of database management systems.</p> <p>CO2: Apply SQL to find solutions to a broad range of queries.</p> <p>CO3 :Apply normalization techniques to improve database design.</p> <p>CO4: Analyze a given database application scenario to use ER model for conceptual design of the database.</p>
8	Database Management System Lab	5.1	<p>CO1:Ability to design and implement a database schema for given problem.</p> <p>CO2: Apply the normalization techniques for development of application software to realistic problems.</p> <p>CO3:Ability to formulate queries using SQL DML/DDL/DCL commands.</p>

9	Data Structures	6	<p>CO1:Learn the basic types for data structure, implementation and application.</p> <p>CO2:Know the strength and weakness of different data structures.</p> <p>CO3:Use the appropriate data structure in context of solution of given problem.</p> <p>CO4: Develop programming skills which require to solve given problem.</p>
10	Data Structures Lab	6.1	<p>CO1:Be able to design and analyze the time and space efficiency of the data structure.</p> <p>CO2:Be capable to identify the appropriate data structure for given problem.</p> <p>CO3: Have practical knowledge on the applications of data structures</p>
11	Object Oriented Programming Through JAVA	7	<p>CO1:Codes basic programs in Java programming language.</p> <p>CO2:Prints to the screen in Java language.</p> <p>CO3:Makes relational operations in Java.</p> <p>CO4:Constructs loops in Java.</p> <p>CO5:Defines arrays in Java and uses them.</p>
12	Object Oriented Programming Through JAVA Lab	7.1	<p>CO1:Analyze the necessity for Object Oriented Programming paradigm and over structured programming and become familiar with the fundamental concepts in OOP.</p> <p>CO2: Demonstrate an ability to design and develop Java programs, analyze, and interpret object oriented data and report results.</p> <p>CO3: Analyze the distinguish between various types of inheritance.</p> <p>CO4:Demonstrate an ability to design an object oriented system, AWT components or multithreaded process as per needs and specifications.</p> <p>CO5:Demonstrate an ability to visualize and work on laboratory and multidisciplinary tasks like console and windows applications for standalone programs.</p>
13	Software Engineering	8	<p>CO1:Students will be able to decompose the given project in various phases of a lifecycle.</p> <p>CO2: Students will be able to choose appropriate process model depending on the user requirements.</p> <p>CO3: Students will be able perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance.</p> <p>CO4: Students will be able to know various processes used in all the phases of the product.</p> <p>CO5: Students can apply the knowledge, techniques, and skills in the development of a software product.</p>

14	Software Engineering Lab	8.1	CO1:Understand the role of software. CO2: Determine the problems occurred due to various software crisis. CO3: Understand the need of requirements engineering process. CO4:Compare the process of requirements development and requirements management. CO5: Determine the importance of requirements classification.
15	Python Programming	9	CO1:Import and export data using files. CO2: Perform data handling using Numpy arrays. CO3: Load data in Pandas data frames and its manipulation. CO4:Visualize data using Matplot library.
16	Python Programming Lab	9.1	CO1:Develop the application specific codes using python. Understand Strings, Lists, Tuples and Dictionaries in Python. CO2: Verify programs using modular approach, file I/O, Python standard library. CO3: Implement Digital Systems using Python.
17	Operating Systems	10	CO1:Will be able to control access to a computer and the files that may be shared. CO2: Demonstrate the knowledge of the components of computer and their respective roles in computing. CO3: Ability to recognize and resolve user problems with standard operating environments. CO4: Gain practical knowledge of how programming languages, operating systems, and architectures interact and how to use each effectively.
18	Operating Systems Lab	10.1	CO1:Appreciate the advantages of Unix OS. CO2: Develop and debug, C programs created on UNIX platforms. CO3:Use and if necessary install standard libraries.
19	Mobile Application Development using Android	11	CO1:Design and develop user interfaces for mobile apps using basic building blocks, UI components and application structure using Emulator . CO2:Write simple programs and develop small applications using the concepts of UI design, layouts and preferences. CO3:Develop applications with multiple activities using intents, array adapter, exceptions and options menu. CO4: Implement activities with dialogs, spinner, fragments and navigation drawer by applying themes. CO5:Develop mobile applications using SQLite.

20	Mobile Application Development using Android Lab	11.1	CO1:To create a basic website using HTML and Cascading Style Sheets. CO2: To design and implement dynamic web page with validation using JavaScript objects. CO3:To apply different event handling mechanisms. CO4: To design front end web page and connect to the back end databases.
21	Web Programming	12	CO1:Develop web pages using HTML, DHTML and Cascading Styles Sheets. CO2:Develop a dynamic web pages using JavaScript (client side programming). CO3: Build and consume web services. CO4:Develop a Program using XML.
22	Web Programming lab	12.1	CO1:Write simple programs in PHP. CO2: Understand how to use regular expressions, handle exceptions, and validate data using PHP. CO3:Apply In-Built functions and Create User defined functions in PHP programming. CO4: Write PHP scripts to handle HTML forms. CO5: Know how to use PHP with a MySQL database and can write database driven web pages.
23	Web Development Using PHP & MySQL	13	CO1:This course covers basic programming and Object oriented techniques used in Php. CO2:It teaches them the fundamentals of Php language and syntax, introduces them to web development with most used web development language. CO3: It will help them to develop applications with different technologies and database driven applications
24	Web Development Using PHP & MySQL Lab	13.1	CO1:Explain the core concepts of the cloud computing paradigm: how and why this paradigm shift came about, the characteristics, advantages and challenges brought about by the various models and services in cloud computing. CO2:Apply the fundamental concepts in datacenters to understand the tradeoffs in power, efficiency and cost. CO3:Identify resource management fundamentals, i.e. resource abstraction, sharing and sandboxing and outline their role in managing infrastructure in cloud computing. CO4:Analyze various cloud programming models and apply them to solve problems on the cloud.
25	Cloud Computing	14	CO1:Understand the fundamental principles of distributed computing. CO2:Create virtual machines and virtual templates. CO3:Create Cloud platform using Virtual machines. CO4:Identify suitable business models of cloud computing.

26	Cloud Computing Lab	14.1	CO1:Understand the fundamental principles of distributed computing . CO2: Create virtual machines and virtual templates. CO3:Create Cloud platform using Virtual machines. CO4:Identify suitable business models of cloud computing.
27	Machine Learning	14	CO1:Appreciate the importance of visualization in the data analytics solution. CO2:Apply structured thinking to unstructured problems. CO3:Understand a very broad collection of machine learning algorithms and problems. CO4: Learn algorithmic topics of machine learning and mathematically deep enough to introduce the required theory. CO5:Develop an appreciation for what is involved in learning from data.
28	Machine Learning Lab	14.1	CO1:Design and implement machine learning solutions to classification, regression problems. CO2: Analyze the complexity of Machine Learning algorithms and their limitations. CO3:Apply appropriate data sets to the Machine Learning algorithms. CO4:Identify and apply Machine Learning algorithms to solve real world problems. CO5:Apply supervised and unsupervised techniques on various data sets.
29	Software Testing	15	CO1:Identify a number of test styles and techniques and assess their usefulness in your context.  CO2:Understand the basic application of techniques used to identify useful ideas for tests.  CO3:Help determine the mission and communicate the status of your testing with the rest of your project team.  CO4:Characterize a good bug report, peer-review the reports of your colleagues, and improve your own report writing.
30	Software Testing Lab	15.1	CO1:Design and develop the best test strategies in accordance to the development model. CO2:To provide knowledge of Software Testing Methods. CO3:To develop skills in software test automation and management using latest tools.

31	Foundations of Data Science	<b>15</b>	<p>CO1:perform statistical analysis of data.</p> <p>CO2:cultivate skills in using computational tools for data analysis.</p> <p>CO3:apply statistical and computational tools to real-world problems.</p> <p>CO4:learn about the importance of proper data management.</p>
32	Foundations of Data Science Lab	<b>15.1</b>	<p>CO1:Have an understanding of basic mathematical concepts in data science, relating to linear algebra, probability, and calculus.</p> <p>CO2:Be able to employ methods related to these concepts in a variety of data science applications.</p>