

Name of the Department : **DEPARTMENT OF
COMPUTER APPLICATIONS**

Academic Year : 2018-19

A. Program Outcome and Program Specific Outcomes

Name of the programme (UG/PG/M.Phil./ Diploma etc.)	Programme Outcomes Students will be able to	Program Specific Outcomes Students will be able to
UG BCA	1. To equip the students to meet the requirement of corporate world and Industry standard.	1. Students will be able to learn theoretical concepts on computer science and applications.
	2. To engage in professional development and to pursue post graduate education in the fields of Information Technology and Computer Applications.	2. Students will be to acquire programming skill.
	3. To provide the students about computing principles and business practices in software solutions, outsourcing services, public and private sectors.	3. Students will be able to learn various programming languages.
		4. Students will be able to Excel in soft skills and personality development.
PGDCA (PG Diploma in Computer Science and Applications)	1. To develop dynamic computer professionals in short time.	1 Students will be able to understand the formal and practical methods of Application Development using the concepts of computer programming, software and design principles.
	2. To prepare the students to undertake Master Programme.	2 Students will be able to adapt the challenges of a dynamic job environment.
	3. It also has projects for developing full software in various software languages along with current scenario.	3 Student will be able to develop and prepare documents, projects, presentations, design websites and demonstrate skills in running software programs.

B1. Course Outcomes of all Programmes Offered by the Department

Name of the Programme : B.C.A.

Sl. No.	Name of the Course	Course Code	Program Specific Outcomes (After completing this course, the students will be able to)
1.	Programming in C (Core I)	U18CA101	1 Understand the basic scalar data types, operators, and expressions.
			2 Declare and initialize variables, Arrays, constants, pointers, structures and union.
			3 Use the various constructs of a programming language via conditional, iterations, and recursion.
			4 Perform the manipulation of various string standard functions in string library.
			5 Create, open, read, manipulate, write and close files.
2	Programming in C Lab (Core Practical I)	U18CA1P1	1 Read, understand and trace the execution of programs written in C.
			2 Analyze programming problems to choose when regular loops should be used and when recursion will produce a better program.
			3 Design, Implement, Test and Debug programs that use different data types such as simple variables, arrays and structures.
			4 Create, open, read, manipulate, write and close files.
3	Programming in C++ (Core II)	U18CA202	1 Apply the object oriented concepts in programs.
			2 Use conditional, looping constructs in programs.
			3 Implement the concepts of constructor, destructors and overloading in programs.
			4 Develop programs using various types of inheritance.
			5 Manage files using C++ program.

Sl. No.	Name of the Course	Course Code	Program Specific Outcomes (After completing this course, the students will be able to)
4	Programming in C++ Lab (Core Practical II)	U18CA2P2	1 Read and understand key structured programming constructs: declarations, sequence, selection, repetition and evaluating expressions.
			2 Define functions and return values.
			3 Apply the concepts of an object-oriented programming method to a program.
			4 Create classes, objects, members of a class and the relationships among them for a specific problem.
			5 Use pointers and reference parameters.
			6 Create, open, read, manipulate, write and close files.
5	Programming in Java (Core III)	U18CA303	1 Understand the concepts of Object Oriented Programming.
			2 Create Classes and Objects.
			3 Apply the concept of Inheritance and Polymorphism.
			4 Create Multithreading.
			5 Develop GUI based applications using Abstract Windowing Toolkit.
6	Programming in Java Lab (Core Practical III)	U18CA3P3	1 Create OOPs using classes, objects, members of a class and the relationships among them for a specific problem.
			2 Create programs using packages with classes and import in other classes.
			3 Develop GUI applications that handle events.
			4 Develop client server based applications.

Sl. No.	Name of the Course	Course Code	Program Specific Outcomes (After completing this course, the students will be able to)
7	Digital Computer Fundamentals (Allied IV)	U18CAY34	1 Understand various number systems used in digital computers.
			2 Learn the functionality of logic gates, simplifying digital circuits, Boolean expressions, combinational and sequential circuits.
			3 Create combinational gates using basic gates.
			4 Learn different memory structure and technologies.
			5 Recognize D/A and A/D conversion.
8	Internet Programming (SBEC I)	U18CA3S1	1 Create static web page using HTML tags with attributes.
			2 Create dynamic web projects using CSS and JavaScript.
			3 Handle data using XML.
9	Fundamentals of Web Design (NMEC I)	U18CA3E1	1 Understand the basic internet architecture.
			2 Create web pages using tables and frames.
			3 Display images and create hyperlink for a web page.
			4 Develop attractive web pages in HTML.
			5 Create dynamic web pages.
10	Database Concepts (Core IV)	U18CA404	1 Appreciate the need for DB approach and understand the components and roles of DBMS.
			2 Write SQL queries for the given problem statement.
			3 Apply DB system development life cycle to business problems
			4 Create ER diagrams for given problem.
			5 Understand the SET operations in Oracle.

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11	Database Concepts Lab (Core Practical IV)	U18CA4P4	1 Create a database and tables.
			2 Insert and Update records using simple queries.
			3 Select records from database using constraint queries.
			4 Implement nested queries.
			5 Apply built-in functions.
			6 Implement Cursors, Triggers, Stored procedures and functions using TCL commands.
12	Microprocessor and Microcontroller (Allied V)	U18CAY45	1 Understand 8085 architecture and develop ALP.
			2 Understand the basic concepts of interfacing memory and peripheral devices to a microprocessor.
			3 Learn serial and parallel bus structure.
			4 Explain various advanced processor architectures such as 8086, Pentium and Multicore Processors.
13	Computer Architecture and Organization (Allied VI)	U18CAY46	1 Explain the Basic Computer Organization and Design.
			2 Develop the basic Computer Programming.
			3 Understand Output Organization.
			4 Understand the memory organization concept.

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14	Working Principles of Internet (NMEC II)	U18CA4E2	1 Understand internet's underlying architecture.
			2 Explain the different types of connection to internet.
			3 Create web pages, websites and multimedia communication on internet.
			4 Understand the working of Firewalls, Viruses and Digital certificates.
15	Programming in ASP.NET with C# (Core V)	U18CA505	1 Explain the architecture of Dot Net platform.
			2 Develop Simple Web form using various controls and implement the concept of master page.
			3 Manage session and controls related information for user used in multiuser web applications.
			4 Display dynamic data from a data source by using Microsoft ADO.NET and data binding in a website.
			5 Connect front end with database using ADO providers.
			6 Debug and deploy ASP.NET web applications.
16	Operating Systems (Core VI)	U18CA506	1 Understand the concepts of memory management including virtual memory.
			2 Apply various process management concepts including scheduling, synchronization, and deadlocks.
			3 Compare various device management resources sharing among the users.
			4 To be familiar in the issues related to file system interface and implementation, disk management.
			5 Compare various device scheduling algorithms.
			6 Be familiar with various UNIX commands.

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17	Fundamentals of Data Structures and Algorithms (Core VII)	U18CA507	1 Know how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms.
			2 Select an appropriate data structure as applied to specified problem.
			3 Use divide-and-conquer in recurrence relations.
			4 Learn algorithms to detect minimum spanning trees.
			5 Perform operations like searching, insertion, deletion, traversal on various data structures.
			6 Implement appropriate sorting/searching technique for given problem.
			7 Solve simple optimization problems using greedy programming techniques.
18	Programming in ASP.NET with C# Lab (Core Practical V)	U18CA5P5	1 Write object-oriented programs using custom classes.
			2 Debug and deploy ASP.NET web applications.
			3 Use the features of Dot Net Framework along with the features of ASP. NET & C#
			4 Use rich controls in web Applications
			5 Perform form validation with validation controls.
			6 Generate dynamic data from a data source by using Microsoft ADO.NET and data binding.
			7 Develop ASP.NET web applications using web services.

Sl. No.	Name of the Course	Course Code	Program Specific Outcomes (After completing this course, the students will be able to)
19	Software Engineering (Elective I)	U18CA5:1	1 Understand the terms of software Engineering, factors, and categories.
			2 Apply different software life cycle models for the given problem.
			3 Estimate the software cost using various models.
			4 Develop software requirements specification and definition documents.
			5 Apply software design techniques and handle software implementation issues.
			6 Perform various testing methods and handle software product maintenance issues.
20	Management Information System (Elective I)	U18CA5:2	1 Understand the fundamental concepts of Information technology management.
			2 Identify and analyze requirements for information systems.
			3 Understand and apply the design principles in Information Systems.
			4 Implement Management Information System tailored to a particular organisation.
21	Introduction to Internet of Things (Elective I)	U18CA5:3	1 Understand the new smart Technology, Network Connections, Wireless Technology and Big data.
			2 Implement IOT in smart appliances (Automated Appliances).
			3 Understand the working nature of smart healthcare tracking devices.
			4 Identify and analyze the Smart automobile devices.
			5 Demonstrate about the Smart automobile devices.

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22	Soft Skills (Oral and Written Communication) (SBEC II)	U18CAPS2	1 Acquire reading skills.
			2 Practise writing skills.
			3 Develop oral skills through group discussion and debate.
			4 Build communication skills.
			5 Face the interview without fear.
23	Programming in PHP (Core VIII)	U18CA608	1 Develop PHP web pages.
			2 Write regular expressions including modifiers, operators, and meta-characters.
			3 Develop PHP application that uses various PHP library functions, files and directories.
			4 Develop a Dynamic web page that incorporates SQL query operations.
24	Computer Networks (Elective II)	U18CA6:1	1 Learn 7 layers of computer networks.
			2 Create a new protocol and test its efficiency.
			3 Design different topologies using existing approaches.
			4 Apply different encoding and decoding mechanisms involved in different types of transmission media.
			5 Design a model network to handle various messages.
25	Data Warehousing and Data Mining (Elective II)	U18CA6:2	1 Understand the fundamental concepts, benefits and problem areas associated with data mining.
			2 Apply Pre-processing steps to data.
			3 Design the data warehouse for the given problem.
			4 Apply data mining methods to the given problem.

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26	E Commerce and its Applications (Elective II)	U18CA6:3	1 Understand Anatomy of E-Commerce Applications.
			2 Learn Globalization of the Academic Internet.
			3 Learn E-Commerce payment systems.
			4 Develop Encrypted Documents and Electronic Mail.
			5 Understand Legal, Security and Privacy Issues.
27	Programming in PHP Lab (Core Practical VI)	U18CA6P6	1 Apply the basic constructs of PHP for solving the given problem.
			2 Create dynamic websites using PHP.
			3 Design simple web applications using MYSQL.
			4 Develop PHP web pages using file handling features.
28	Software Testing and Quality Assurance (Elective III)	U18CA6:4	1 Understand the principles of testing and various software development life cycle models.
			2 Apply white box and black box testing for different test cases.
			3 Perform integration, system and acceptance testing for various software applications.
			4 Understand the performance, regression test factors, methodology and perform the test types and software issues.
			5 Perform internationalization testing tools and validation for different programming languages.
			6 Perform different adhoc testing for testing challenges and issues.

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29	Multimedia System Design (Elective III)	U18CA6:5	1 Create a simple animation and interaction for multimedia presentation.
			2 Understand Image type and colour models.
			3 Describe the concepts regarding the digitization of audio signals.
			4 Compress images, videos and audios using data compression method.
			5 Encode video and audio using MPEG.
30	Organizational Behaviour (Elective III)	U18CA6:6	1 Learn Biographical Characteristics.
			2 Identify Values and Ethical Behaviour in Asian Countries.
			3 Understand Contemporary Theories of Motivation.
			4 Recognize Group Behaviour Foundation and Communication.
			5 Develop Interpersonal Communication.
31	Project Work (Core Project)	U18CA6PJ	1 Apply the software engineering principles to prepare a literature survey as a team or individual for the selected problem.
			2 Design modules for the selected problem.
			3 Design the structure of the Database for the given problem.
			4 Implement the design with the coding and test the outcome.
			5 Document the literature and findings.

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32	Programming in Android (SBEC III)	U18CA6S3	1 Develop a simple GUI application.
			2 Incorporate Build-in widgets and Components to the application.
			3 Develop an application for Manipulating data.
			4 Debug android application using different tools.
			5 Install and configure Android application development tools.

B2. Course Outcomes of all Programmes Offered by the Department

Name of the Programme : P.G.D.C.A.

Sl. No.	Name of the Course	Course Code	Program Specific Outcomes (After completing this course, the students will be able to)
1	Computer Fundamentals and Digital Principles (Core I)	D14CA101	1 Apply the knowledge of mathematics and computing with the latest problems.
			2 Analyse the problem domain, identify and devise appropriate solutions.
			3 Acquire knowledge on how to operate and maintain the basic digital circuits and digital instruments.
2	Programming with C (Core II)	D14CA102	1 Develop algorithm and for the given problems.
			2 Convert algorithms into computer programs using C language.
			3 Create and initialize variables, constants, arrays, pointers, structures and unions.
			4 Create functions.
			5 Perform file operations.
3	Computer Oriented Numerical Methods (Core III)	D14CA103	1 Apply numerical methods to obtain approximate solutions to mathematical problems.
			2 Analyse and evaluate the accuracy of common numerical methods.
			3 Derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration, the solution of linear and nonlinear equations, and the solution of differential equations.

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4	Fundamentals of Data Structures (Core IV)	D14CA104	1 Explain the organization and operations of data structures such as Stack, Queues, Trees and Graphs.
			2 Compare and contrast the functionalities and applications of different data structures.
			3 Demonstrate specific search and sorting algorithms using data structures given specific user requirements.
			4 Identify suitable algorithms with appropriate data structures for real time software requirements.
5	C Programming Lab (Core Prac. I)	D14CA1P1	1 Read, understand and trace the execution of programs written in C language.
			2 Write the C code for a given algorithm.
			3 Implement Programs with pointers and arrays.
			4 Write programs that perform operations using Structure, union and files.
6	PC Packages Lab (Core Prac. II)	D14CA1P2	1 Work with office suite and understand the important features of word processing software, spreadsheet software and presentation software.
7	Object Oriented Programming with C++ (Core V)	D14CA205	1 Understand the concepts of object oriented programming such as class and object, Encapsulation, inheritance and polymorphism.
			2 Write the simple C++ programs using the variables, operators, control structures, functions and I/O objects cin and cout.
			3 Create a program using objects oriented concepts.

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8	Database Management Systems (Core VI)	D14CA206	1 Understand the basic concepts and appreciate the applications of database systems.
			2 Create and construct queries using SQL.
			3 Be familiar with a commercial relational database system (Oracle) by writing SQL using the system.
			4 Apply query evaluation techniques and query optimization.
			5 Design and develop a database application system.
9	Internet Concepts (Core VII)	D14CA207	1 Understand World Wide Web.
			2 Insert a graphic within a web page.
			3 Create a link within a web page.
			4 Create a table within a web page.
			5 Insert heading levels within a web page.
			6 Insert ordered and unordered lists within a web page.
			7 Create a web page.
10	Visual Programming (Core VIII)	D14CA208	1 Design, and create Visual Basic applications.
			2 Explore Visual Basic's Integrated Development Environment (IDE).
			3 Understand the syntax rules in Visual Basic programs.
			4 Define variables and data types.
			5 Apply loop structures to perform repetitive tasks.
			6 Write and apply functions to create manageable code.

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11	C++ Programming Lab (Core Prac. III)	D14CA2P3	1 Apply object-oriented programming features to program design and implementation.
			2 Understand implementation issues related to object-oriented techniques.
			3 Demonstrate the ability to analyze, use, and create functions, classes, to overload operators.
			4 Demonstrate the ability to understand and use inheritance when creating or using classes.
12	Visual Programming and RDBMS Lab (Core Prac. IV)	D14CA2P4	1 Design, create, build, and debug Visual Basic applications.
			2 Apply arithmetic operations for displaying numeric output.
			3 Write Windows applications using forms, controls, and events.