

**DURG VISHWAVIDYALAYA,**

**DURG (C.G.)**

**GOVT. CHANDULAL CHANDRAKAR ART. & SCIENCE COLLEGE PATAN DURG  
(C.G)**

**BACHELOR OF COMPUTER APPLICATION (BCA)**

**Scheme of BCA**

Year	Course Code	Subject Name	Theory/ Practical
First	BCA-1T	Discrete Mathematics	Theory
	BCA-2T	Computer Fundamental and MS office	Theory
	BCA-3T	Programming with C and C++	Theory
	BCA-4T	Data Structure	Theory
	BCA-5T	Digital Electronics	Theory
	BCA-6T	Hindi	Theory
	BCA-7T	English	Theory
	BCA-1P	LAB 1: PC software	Practical
	BCA-2P	LAB 2: Programming with C and C++	Practical

Second	BCA-8T	Numerical Mathematics	Theory
	BCA-9T	Operating System	Theory
	BCA-10T	Relational Database Management System	Theory
	BCA-11T	Computer Networking and Cyber Technology	Theory
	BCA-12T	Web Technology	Theory
	BCA-13T	Hindi	Theory
	BCA-14T	English	Theory
	BCA-3P	LAB 3: Relational Database Management System	Practical
	BCA-4P	LAB 4: Web Technology	Practical

Third	BCA-15T	Python Programming	Theory
	BCA-16T	Java Programming	Theory
	BCA-17T	Software Engineering	Theory
	BCA-18T	Artificial Intelligence and Expert System	Theory
	BCA-19T	E-Commerce	Theory
	BCA-20T	Communication Skill	Theory

### PROGRAM LEARNING OUTCOME – BACHELOR OF COMPUTER APPLICATION (BCA)

1. **PLO:** Apply knowledge of computing fundamentals, computing specialization, mathematics, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.
2. **PLO:** Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.
3. **PLO:** Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.
4. **PLO:** Demonstrate knowledge and understanding of the computing and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
5. **PLO:** Communicate effectively with the computing community, and with society at large, about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.
6. **PLO:** Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.
7. **PLO:** Develop software projects in various languages as per the demand of the market.
8. **PLO:** Work on research-based projects.
9. **PLO:** Develop live software projects and will be capable of working in IT companies.
10. **PLO:** Explore and gain new knowledge through MOOC courses.
11. **PLO:** Ability to pursue higher studies of specialization and to take up technical employment.
12. **PLO:** Ability to formulate, to model, to design solutions, procedure and to use software tools to solve real world problems and evaluate.
13. **PLO:** Apply standard Software Engineering practices and strategies in real-time software project development.
14. **PLO:** The ability to work independently on a substantial software project and as an effective team member.
15. **PLO:** Ability to operate, manage, deploy and configure software operation of an organization.

**COURSE LEARNING OUTCOMES (CLO)****BACHELOR OF COMPUTER APPLICATION (BCA) (ANNUAL PART 2)****BCA-8T: NUMERICAL ANALYSIS**

<b>COURSE CODE</b>	<b>SUBJECT</b>	<b>COURSE LEARNING OUTCOMES</b>
<b>BCA-8T</b>	<b>NUMERICAL ANALYSIS</b>	<b>CLO1:</b> Knowledge of basic mathematics <b>CLO2:</b> Obtain numerical solutions of algebraic and transcendental equations. <b>CLO3:</b> Find out numerical solutions of system of linear equations and check the accuracy of the solutions. <b>CLO4:</b> Learn about various interpolating and extrapolating methods. <b>CLO5:</b> Solve initial and boundary value problems in differential equations <b>CLO6:</b> using numerical methods. <b>CLO7:</b> Apply various numerical methods in real life problems.

**BCA-9T: OPERATING SYSTEM**

<b>COURSE CODE</b>	<b>SUBJECT</b>	<b>COURSE LEARNING OUTCOMES</b>
<b>BCA-9T</b>	<b>OPERATING SYSTEM</b>	<b>CLO1:</b> Describe the important computer system resources and the role of operating system in their management policies and algorithms <b>CLO2:</b> To understand various functions, structures and history of operating systems and should be able to specify objectives of modern operating systems and describe how operating systems have evolved over time. <b>CLO3:</b> Understanding of design issues associated with operating systems. <b>CLO4:</b> Understand various process management concepts including scheduling, synchronization, and deadlocks. <b>CLO5:</b> To have a basic knowledge about multithreading. <b>CLO6:</b> To understand concepts of memory management including virtual memory. <b>CLO7:</b> To have sound knowledge of various types of operating systems including Unix and Android. <b>CLO8:</b> Describe the functions of a contemporary operating system with respect to convenience, efficiency, and the ability to evolve.

**BCA-10T: RELATIONAL DATABASE MANAGEMENT SYSTEM.**

<b>COURSE CODE</b>	<b>SUBJECT</b>	<b>COURSE LEARNING OUTCOMES</b>
<b>BCA-10T</b>	<b>RELATIONAL DATABASE MANAGEMENT SYSTEM.</b>	<b>CLO1:</b> Learn about Database Concepts, Architecture, various Users. Data Models and Data Management which helps them to interact with various Databases. <b>CLO2:</b> Develop various Tables and Databases which helps them to develop new Software. <b>CLO3:</b> Practice various SQL. commands which help them to generate new relationships among various Tables and Databases which are useful for Software Development. <b>CLO4:</b> Familiar about RDBMS Software like Oracle and SQL Server which are used as Backend for Software Development. <b>CLO5:</b> Develop new Databases for their Minor and Major Project Development which enhances their Data Storage, Data Accessibility and Data Management.

**BCA-11T: COMPUTER NETWORKING AND CYBER TECHNOLOGY**

<b>COURSE CODE</b>	<b>SUBJECT</b>	<b>COURSE LEARNING OUTCOMES</b>
<b>BCA-11T</b>	<b>COMPUTER NETWORKING AND CYBER TECHNOLOGY</b>	<b>CLO1:</b> Understand the basic computer network technology. <b>CLO2:</b> Understand and explain the Data Communications System and its components. <b>CLO3:</b> Identify the different types of network topologies and protocols. <b>CLO4:</b> Understand the layers of the OSI model and TCP/IP. <b>CLO5:</b> Expose wireless and wired LANs. <b>CLO6:</b> Understand the cyber laws in India.

**BCA-12T: WEB TECHNOLOGY**

<b>COURSE CODE</b>	<b>SUBJECT</b>	<b>COURSE LEARNING OUTCOMES</b>
<b>BCA-12T</b>	<b>WEB TECHNOLOGY</b>	<b>CLO1:</b> Analyze a web page and identify its elements and attributes. <b>CLO2:</b> Create web pages using HTML, CSS, JAVASCRIPT, XHTML <b>CLO3:</b> Build dynamic web pages using JavaScript (Client-side programming) <b>CLO4:</b> Create XML documents and Schemas. <b>CLO5:</b> Build interactive web applications using, PHP, AJAX. <b>CLO6:</b> Handling Database using MYSQL.