

B.Voc. (Software Development)

Programme Outcomes

The program focuses on the skill enhancement of students in Software Development in which following skills are enhanced.

- Improve their computer literacy, their basic understanding of operative systems and working of computer. Knowledge of software commonly used in academic and professional environments.
- Do Academic and Professional Presentations - Designing and delivering an effective presentation and developing the various IT skills to the electronic databases.
- Use the Systems Analysis Design paradigm to critically analyze a problem. Solve the problems (programming networking database and Web design) in the Information Technology environment. Function effectively on terms to accomplish a common goal and demonstrate professional behaviour.
- Develop IT-oriented security issues and protocols. Design and implement a web page.
- Apply standard software engineering process and strategies in software project development using open source programming environment to deliver a quality product for business success.
- Acquaintance with latest trends in software development and thereby innovate new ideas in the area of software development.
- Conceptual grounding in computer usage as well as its practical business applications.
- To demonstrate advanced skills in the effective analysis designing and realization of business system utilizing in contemporary information technology.

This program fit the students for following job role

NSQF LEVEL	Job Role
4	Junior Software Developer
5	Web Developer
6	Master Trainer for Junior Software Developer
7	Software Developer

COURSE OUTCOMES

COURSE NAME: Fundamentals of Computer and Software Development

CLASS - B. Voc (SD) SEMESTER – I

Course Outcomes

After studying this course, students should be able to:

- understand the fundamental hardware components that make up a computer's hardware and the role of each of these components
- understand the difference between an operating system and an application program, and what each is used for in a computer
- describe some examples of computers and state the effect that the use of computer technology has had on some common products
- Use system development, word-processing, spreadsheet, and presentation softwares to solve basic information system problems.

COURSE NAME: Web Designing using HTML and DHTML

CLASS - B. Voc (SD) SEMESTER – I

Course Outcomes

After successful completion of the course students will be able to

- Use knowledge of HTML and CSS code and an HTML editor to create websites
- Use critical thinking skills to design and create websites.
- Create online forms
- Publish website to the web

COURSE NAME: Computer Programming using C

CLASS - B. Voc (SD) SEMESTER – I

Course Outcomes

After successful completion of the course students will be able to

- **Knowledge and Understanding:** On successful completion of this course the students have the programming ability in C Language.
- **Intellectual Cognitive/ Analytical Skills:** Enhancing Logical Thinking and Reasoning Skills through Collaborative Learning in C Programming.
- **Practical Skills:** Students would be capable of developing various applications to solve deluge of real-world problems. They can also learn to make system softwares as well as application softwares. These existing languages can become base for developing new languages which can inherent its features. On the backend of various embedded systems, these languages are deployed.
- **Transferable Skills:** In many multinational companies they can work effectively in a group or team to achieve goals and can show initiative and leadership abilities.

Semester-2

COURSE NAME: Fundamentals of DBMS

CLASS - B. Voc (SD) SEMESTER – 2

Course Outcomes

After successful completion of the course students will be able to

- **Knowledge & Understanding** : Databases and their design & development
- **Intellectual Cognitive/ analytical skills:** Normalization of Databases.
- **Practical Skills** :Using SQL and PL/SQL
- **Transferable skills:** Usage of DBMS design and administration.

COURSE NAME: Fundamentals of Windows and Server Administration

CLASS - B. Voc (SD) SEMESTER – 2

Course Outcomes

After successful completion of the course students will be able to

- Use administrative techniques and tools in Windows Server 2008.
- Implement identity Services.
- Manage network infrastructure services.
- Configure file servers and storage.
- Perform upgrades and migration related to AD DS, and storage.

COURSE NAME: Data Structure

CLASS - B. Voc (SD) SEMESTER – 2

Course Outcomes

After successful completion of the course students will be able to

- **Knowledge and Understanding:**
 - Define basic static and dynamic data structures and relevant standard algorithms for them: stack, queue, dynamically linked lists, trees, graphs, heap, priority queue, hash tables, sorting algorithms.
 - Demonstrate advantages and disadvantages of specific algorithms and data structures,
 - Select basic data structures and algorithms for autonomous realization of simple programs or program parts
 - Determine and demonstrate bugs in program, recognize needed basic operations with data structures
 - Formulate new solutions for programming problems or improve existing code using learned algorithms and data structures,

- Evaluate algorithms and data structures in terms of time and memory complexity of basic operations.
- **Intellectual Skills:**
 - Ability to define the computer science problems.
 - Ability to drive different solution alternatives for the computer science problems.
 - Ability to analyze the solution alternatives and choose the optimum one
- **Practical Skills:**
 - Design, build and develop programs of varying levels of complexity.
- **Transferable Skills:** Knowledge of the concepts and material presented in this course will provide the students with the capability to:
 - Use data structures effectively to solve practical problems.
 - Write and present effective computer programs that employ efficient algorithms.
 - Work in stressful environment and within constraints.
 - Search for information and adopt life-long self-learning
- **COURSE NAME: Fundamentals of Computer and Software Development**

Semester-3

COURSE NAME: Software Engineering

CLASS - B. Voc (SD) SEMESTER – 3

Course Outcomes

After studying this course, students should be able to:

- Understanding the issues affecting the organisation, planning, and control of software-based systems' development.
- Complete the analysis and design of software intensive systems.
- Read and understand the professional and technical literature on software engineering.

COURSE NAME: Programming with Java

CLASS - B. Voc (SD) SEMESTER – 3

Course Outcomes

After studying this course, students should be able to:

- **Knowledge and Understanding:**
 - Implement Object Oriented programming concept using basic syntaxes of control structures, strings and function for developing skills of logic building activity.
 - Identify classes, objects, members of a class and the relationships among them required for a finding the solution to specific problem
- **Intellectual (Cognitive/ Analytical) Skills:**
 - Evaluate how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.

- Understand and use of different exception handling mechanisms and concepts of multithreading for robust faster and efficient application development.
- **Practical Skills:**
 - Design, implement, test, debug, and document programs that use basic data types and computation, simple I/O, conditional and control structures, string handling and functions.
 - The importance of Classes & objects and will be able to implement it along with constructors, Arrays and Vectors.
 - Develop computer-based systems.

COURSE NAME: Programming using C++

CLASS - B. Voc (SD) SEMESTER – 3

Course Outcomes

After studying this course, students should be able to:

- **Knowledge and Understanding:**
 - Able to know how to do programming in C++ environment.
 - Able to understand and implement the concepts of object oriented approach using C++.
 - Able to acquire in depth knowledge and develop software in C++
- **Intellectual(Cognitive/ Analytical) Skills:**
 - Identify different class attributes, member functions, base class and derived class and their relationships among them
 - Learn how to reuse the code using polymorphism
 - Understand and use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.
- **Practical Skills:**
 - to solve a real life existing problems using the features of C++
 - to develop software/ big and complex programs for a complex problems
 - implement advance features of object oriented approach in other various language(s).

Semester

4

COURSE NAME: Web Development using PHP and MYSQL

CLASS - B. Voc (SD) SEMESTER – 4

Course Outcomes

After studying this course, students should be able to:

- create web applications using PHP and MySQL
- connect PHP web application with MySQL database.
- send and receive data to and from database.

COURSE NAME: Content Management System

CLASS - B. Voc (SD) SEMESTER – 4

Course Outcomes

After studying this course, students should be able to:

- create website using Joomla
- create user with different roles
- backup and restore website
- online their website

Semester5

COURSE NAME: Web Development using ASP.Net

CLASS - B. Voc (SD) SEMESTER – 5

Course Outcomes

After studying this course, students should be able to:

- To develop Web pages, Static Websites, Dynamic Websites.
- To use ASP as Server Side Scripting Language.
- To use PHP as Server Side Scripting Language.
- To use JSP, JavaScript.
- To understand database and it's connectivity with Server Side Scripting language.
- To develop Web Applications with MySQL/SQL as backend.

COURSE NAME: Software Testing Concepts and Tools

CLASS - B. Voc (SD) SEMESTER – 3

Course Outcomes

After studying this course, students should be able to:

- **Knowledge and Understanding:**
 - Design test planning.
 - Manage the test process.
- **Intellectual Cognitive/Analytical Skills:**
 - Investigate the reason for bugs and analyze the principles in software testing to prevent and remove bugs.
 - Implement various test processes for quality improvement.
 - To handle types of errors and fault models
- **Practical Skills:**

- Use practical knowledge in various ways to test software and an understanding of some of the tradeoffs between testing techniques.
- Generate various test documents.
- Identify and apply appropriate automated testing tool.
- **Transferable Skills:**
 - Apply the software testing techniques in commercial environment.
 - Perform various types of software testing like E-commerce websites, Real time software testing, Multiplatform testing, Security Testing, Client server testing.

Semester-6

Project Dissertation (Industrial Training and Project in Software/IT industry)

