"Education through self-help is our motto " - KARMAVEER
Rayat Shikshan Sanstha's
DAHIWADI COLLEGE, DAHIWADI
Tal. Man, Dist. Satara : 415 508
[Arts, Science, Commerce, BCA, B.Voc.Agri.,
Bank Management, Defence Studies & Vocational Education]
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[NAAC Third Cycle Reaccredited 'A' Grade (with CGPA 3.25)]
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Bachelor of Science (B.Sc.)

(Department of Computer Science)

Programme Outcomes (PO's)

After completing B.Sc. programme the student will be able to:

PO1: Bachelor of Science offers theoretical as well as practical knowledge about different special subject areas.

PO2: This course forms the basis of science for coherent understanding of the academic field to pursue multi and interdisciplinary science careers in future. These subject areas include, Chemistry, Physics, Botany, Zoology, Mathematics, Microbiology and Computer Science.

PO3: Able to plan and execute experiments or investigations, analyze and interpret data information collected using appropriate methods.

PO4: It helps to develop scientific temper, attitude and thus can prove to be more beneficial for the society as the scientific developments and make a nation or society to grow at a rapid pace through research.

PO5: Think critically, follow innovations and developments in science and technology.

PO6: Understand the issues of environmental contexts and sustainable development.

PO7: Acquire the skills and ability to engage in independent and life-long learning in the broadest context socio technological changes.

PO8: To demonstrate professional and ethical attitude with enormous responsibility to serve the society.

Programme Specific Outcomes(PSO's)

PSO1: Develop Competence in basic technical subjects in Computer applications like Programming Languages, Data Structures, Databases, Operating Systems, Software Engineering.

PSO2: Identify, analyze, formulate and develop Computer applications.

PSO3: Map real life scenarios to various theoretical optimal solutions.

PSO4: Provide simplest automated solutions to various legacy systems.
PSO5: An ability to effectively integrate IT-based solutions into the user environment.
PSO6: Work professionally with positive attitude as an individual or in multidisciplinary teams and Communicate effectively.
PSO7: Appreciate the importance of goal setting and to recognize the need for life-long learning.

Course Outcomes(CO's)

B.Sc-I Semester-I

Paper-I Problem Solving Using Computers part- I

CO1: Students will be able to Identify and define central and secondary problems.
CO2: Identify and use appropriate technology to research, solve, and present solutions to problems.
CO3: Make a decision and take actions based on analysis.
CO4: Interpret and use written, quantitative, and visual text effectively in presentation of solutions to problems.

Paper –II Database Management Systems

CO5: To analyze Data Base design methodology.
CO6: Acquire knowledge in fundamentals of Data Base Management System.
CO7: Be able to analyze the difference between traditional file system and DBMS.
CO8: Able to handle with different Data Base languages.
CO9: Draw various data models for Data Base and Write queries mathematically.

B.Sc-I Semester-II

Paper-III Programming Skills Using 'C'.

CO10: Understand the basic terminology used in computer programming
CO11: Write, compile and debug programs in C language.
CO12: Use different data types in a computer program.
CO13: Design programs involving decision structures, loops and functions.
CO14: Explain the difference between call by value and call by reference
CO15: Understand the dynamics of memory by the use of pointers and Structures.
CO16: Use different data structures and create/update basic data files.

Paper-IV Relational Database Management System

CO17: Design a relational database schema for a subject of interest to the student.
CO18: Describe the fundamental elements of relational database management systems
CO19: Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.
CO20: Design ER-models to represent simple database application scenarios
CO21: Improve the database design by normalization.

Practical Paper-I Computer Science

CO22: Use database techniques such as SQL.
CO23: To learn problem solving techniques.
CO24: To teach the student to write programs in C and to solve the problems.
CO25: To understand structured programming approach
CO26: Design E-R Model for given requirements and convert the same into database tables.

B.Sc-II Semester-III

Paper V PHP and MySQL Part II

CO27: Discuss the concepts of PHP and its advantages over other languages
CO28: Use HTML form elements that work with any server-side language
CO29: Create a PHP web page that is unique to each visitor
CO30: Seek solutions to any PHP problems and further your knowledge.
CO31: Perform various MySQL database queries

Paper-VI Object Oriented Programming Using C++

CO32: Apply object-oriented programming features to program design and implementation
CO33: Understand object-oriented concepts and how they are supported by C++
CO34: Understand implementation issues related to object-oriented techniques.
CO35: Demonstrate the ability to analyze, use, and create functions, classes, to overload operators.
CO36: Demonstrate the ability to understand and use inheritance and Pointers when creating or using classes and create templates

B.Sc-II Semester- IV

Paper VII Cyber Security Essentials-I

CO37: To write a survey on cyber security concepts

CO38: To create a case study report on practice administrating using Cyber Security open source tools.

CO39: To write problem solutions for multi-core or distributed, concurrent/Parallel environments.

CO40: Assess the role of strategy and policy in determining the success of information security.

Paper VIII Data Structure Using C++

CO41: Develop programming skills with the understanding of the fundamentals and basics of C and C++ Languages.

CO42: Develop programming skills with the understanding of the fundamentals and basics of C and C++ Languages.

CO43: Ability to analyze algorithms and aalgorithm correctness.

CO44: Ability to summarize searching and sorting techniques

CO45: Ability to describe stack,queue and linked list operation

CO46: Ability to have knowledge of treeand graphs concepts.

Practical Paper-II Computer Science

CO47: Understand the environment of PHP programming language

CO48: Develop web application using php

CO49: Gain the PHP programming skills needed to successfully build interactive, data-driven sites.

Practical Paper-III Computer Science

CO50: Understand object oriented programming and advance c++ concept

CO51: Apply the concept of object classes and constructors

CO52: Implement the polymorphism in program

CO53: Understand basic data structures such as arrays, linked lists, stacks and queues.

CO54: Solve problem involving graphs, trees and heaps

CO55: Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data

B.Sc-III Semester- V

Paper IX Core Java

CO56: Understand computer basics.

CO57: Understand programming basics.

CO58: Understand binary number system.

CO59: Begin using the Java programming language.

CO60: Display output on the console.

CO61: Explain the differences between syntax errors, runtime errors, and logic errors.

Paper X C# Programming

CO62: Master using basic C# constructs.

CO63: Master using C# delegates and events.

CO64: Be familiar with using .NET collections (sets, lists, dictionaries).

CO65: Be exposed to C# documentation and community web sites.
CO66: Be exposed to exceptions, Windows Forms, .NET Remoting and Serialization

Paper XI Linux part- I
CO67: Work confidently in Unix/Linux environment
CO68: Write shell scripts to automate various tasks
CO69: Master the basics of linux administration
CO70: Scripts and programs will be accompanied by printed output demonstrating completion of a test plan.
CO71: Testing will demonstrate both black and glass box testing strategies.

Paper XII Python Part –I
CO72: To acquire programming skills in core Python.
CO73: To acquire Object Oriented Skills in Python
CO74: To develop the skill of designing Graphical user Interfaces in Python
CO75: To develop the ability to write database applications in Python
CO76: Python programming is intended for software engineers, system analysts, program managers

B.Sc-III Semester- VI
Paper XIII Advance Java
CO77: Understanding of the principles and practice of object oriented analysis and design in the construction of robust, maintainable programs which satisfy their requirements
CO78: Ability to implement, compile, test and run Java programs comprising more thanone class, to address a particular software problem.
CO79: Demonstrate the principles of object oriented programming.
CO80: Demonstrate the ability to use simple data structures like arrays in a Java program.
CO81: Understand the concept of package, interface, multithreading and File handling injava.
CO82: Ability to make use of members of classes found in the Java API

Paper XIV ASP .NET
CO83: Project structure of ASP.NET.
CO84: To create model classes for entities.
CO85: To assign relationships between entities.
CO86: Building views to display data
CO87: Building controllers that communicate between models and views.
CO88: to set up an ASP.NET project.
CO89: Project structure of ASP.NET.

Paper XV Linux Part- II
CO90: Fluently navigate and work with files and directories

CO91: Prepare the environment to analyse big amount of biological data on a super computer
CO92: Transfer files from the local computer to the remote one and vice versa
CO93: Combine bioinformatics applications into pipelines on a supercomputer

Paper XVI Python Part –II
CO94: Develop solutions to simple computational problems using Python programs.
CO95: Solve problems using conditionals and loops in Python.
CO96: Develop Python programs by defining functions and calling them.
CO97: Use Python lists, tuples and dictionaries for representing compound data
CO98: Develop Python programs using files.

Practical Paper-IV Computer Science
CO99: Create a windows form with the following controls Textbox, Radio button, Check box, Command Button
CO100: Create a program to connect with database and manipulate the records in the database using ADO .NET
CO101: Create a program to perform validation using validation controls.
CO102: knowledge of the structure and model of the Java programming language
CO103: Use the Java programming language for various programming technologies

Practical Paper-V Computer Science
CO104: To be able to introduce core programming basics and program design with functions using Python programming language.
CO105: To understand a range of Object-Oriented Programming, as well as in-depth data and information processing techniques.
CO106: Ability to explore python especially the object oriented concepts, and the built in objects of Python.
CO107: Students will be able to understand the basic commands of linux operating system and can write shell scripts
CO108: to create file systems and directories and operate them
CO109: create shared memory segements,pipes ,message queues and can exercise interprocess communication

Practical Paper-Project Computer Science
CO110: Design web application with variety of controls
CO111: Access the data using inbuilt data access tools
CO112: Configure and deploy Web Application
CO113: Develop secured web application
CO114: Design web application with variety of controls