



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited "A" Grade by NAAC | 12B Status by UGC | Approved by AICTE

www.sathyabama.ac.in

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VALUE ADDED COURSE ACADEMIC YEAR 2018-2019

S.NO	Name of the value-added courses (with 30 or more contact hours) offered	Course Code (if any)	Year of offering	No. of times offered during the same year	Duration of course	Number of students enrolled in the year	Number of Students completing the course in the year
1	INTRODUCTION TO SQL	SVA019	15.7.2018	1	35	345	340
2	AWS Fundamentals	SVA020	15.7.2018	1	30	320	316
3	Data Structures using c and C++	SVA021	6.8.2018	1	30	300	300
4	RedHat Certification Training for System Administration	SVA022	6.2.2019	1	35	150	150
5	Data Acquisition in IoT	SVA023	6.2.2019	1	30	250	248
6	Machine Learning with Python	SVA024	6.2.2019	1	35	250	250
7	ADVANCED JAVA PROGRAMMING	SVA025	6.2.2019	1	35	300	300



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Course Name	INTRODUCTION TO SQL
Course Code	SVA019
Duration	35 Hours



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
ORGANIZES
VALUE-ADDED PROGRAM
ON
"INTRODUCTION TO SQL"
FROM 15.07.2018 TO 03.08.2018
PROGRAM COORDINATOR
Dr. MURUGAN



Course Objectives: Learn about SQL – Structured Query Language -Build database using Data Definition Language Statements Perform basic CRUD operations using Data Manipulation Language statements like Insert, Update and Delete Write and call Stored Procedures and Functions stored in database.

Module 1: Introduction to SQL

In this module we learn about types of sql statements, databases in sql server, how to create a database,

datatypes in sql server, and about DDL Statements.

- ☐ Basics of SQL Types of SQL Statements
- ☐ DDL, DML, DQL, DCL and TCL
- ☐ Create Database using Management Studio
- ☐ Datatypes in SQL Server
- ☐ Exploring DDL Statements on Table using Management Studio

Module 2: DDL and DML Statements

In this module we learn about how to create a table, alter and drop a table ,and about DML statements ,like insert update and delete statements.



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- ☐ Why write statements in Frontends?
- ☐ Create, Alter and Drop Table Insert,
- ☐ Update and Delete Statement Truncate Statement

Module 3: Working with Queries (DQL)

In this module we learn about select statement, top, distinct string and arithmetic expressions, Sorting the data and about sub queries and where clause(codition).

- ☐ Understanding Select Statement
- ☐ Usage of Top, Distinct, Null etc... keywords
- ☐ Using String and Arithmetic Expressions

Exploring Where Clause with Operators

- ☐ Using Advanced Operators
- ☐ Sorting data using Order By clause
- ☐ Working with basic of Sub Queries

Module 4: Aggregate Functions

In this module we learn about how to use aggregate functions like sum,mean,max,avg what is difference

between having and where clause, group by clause rollup and cube operator.

- ☐ Using functions in Queries
- ☐ Count, Sum, Min, Max, Avg Group By and Having Clause
- ☐ Using Group By with Rollup and Cube

Module 9: Joins and Set Operations

In this module we will know about joins and types of joins how to join the tables and about

Sub queries ,types of operators like union ,intersect and except and how to add the tables and relationship

between them.

- ☐ Introduction to Joins Cross Joins
- ☐ Inner Join
- ☐ Outer Join
- ☐ Self Join
- ☐ Co-related Sub Queries



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CERTIFICATE OF COMPLETION

This is to certify that

Mr. ABHRAJYOTI DAS

Has attended and successfully completed the course on **"INTRODUCTION TO SQL"**
conducted by the Department of Computer Science and Engineering, Sathyabama University
from 15.6.2018 to 20.09.2018

DR. T. SASIKALA

Dean - School of Computing



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Course Name	INTRODUCTION TO AWS
Course Code	SVA020
Duration	30 Hours



SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956) Accredited by NAAC (A Christian Minority Institution)

"ENTRY IS NOT IMPORTANT, EXIT IS IMPORTANT"
LEARN TODAY - LEAD TOMORROW



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
ORGANIZES
VALUE-ADDED PROGRAM
ON



"INTRODUCTION TO AWS"

FROM 15.06.2018 TO 10.08.2018

PROGRAM COORDINATOR

Dr. Ashok Kumar

Linux Fundamentals

Installation and Initialization:

- Installation, Package Selection
- Anatomy of a Kickstart File, Command line
- Introduction to Bash Shell
- System Initialization, Starting the Boot Process: GRUB

Boot and Package Management:

- Configuring services to run at boot
- Securing single-user mode (SU login)
- Shutting down and rebooting the system
- RPM Package Manager, Installing and Removing Software, Updating a Kernel RPM



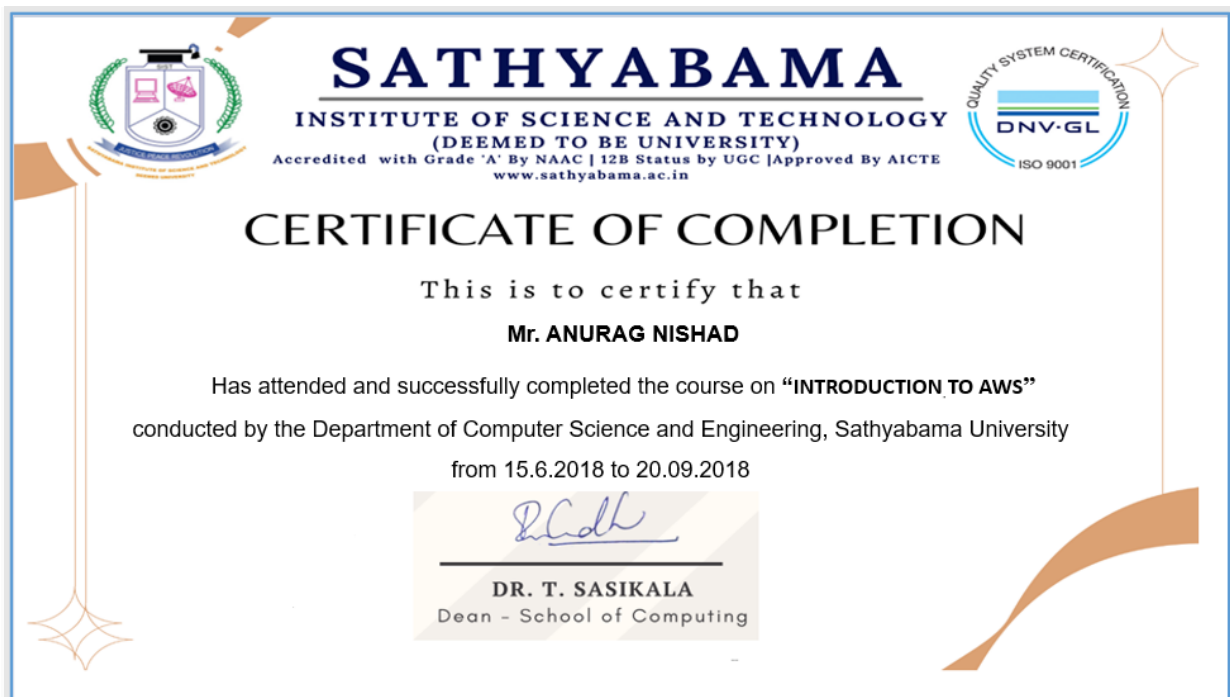
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AWS Platform

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- Introduction to AWS Elastic computing
- Introduction to the AWS products
- Regions and Availability Zones
- Signing up for AWS
- AWS Free usage tier
- Introduction AWS management console





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Course Name	Data Structures using c and C++
Course Code	SVA021
Duration	30 Hours



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
ORGANIZES
VALUE-ADDED PROGRAM
ON
"DATA STRUCTURES USING C AND C++"
FROM JUNE 15, 2018 TO SEP 25, 2018
PROGRAM COORDINATOR
Ms.Refonaa



Data Structure

COURSE OBJECTIVES

- To acquire knowledge of organizing the data in nonlinear fashion.
- To get the idea of balancing the height of trees to optimize the structure and search time.
- To learn the process of establishing the network with various nodes with minimum cost & finding the shortest path.
- To understand the method of designing the table data structure and its applications.

COURSE OUTCOMES

On completion of the course, student will be able to

1. Design and implement the various non-linear data structures and perform the intended operations.
2. Understand the strength of balancing the height of the trees.
3. Analyze the time complexity of various non linear data structures.
4. Apply the algorithms to find the shortest path & to connect the nodes with minimum cost.
5. Design the table and applying the table for many applications.
6. Compare and identify the usage of different data structures



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BASIC TREE CONCEPTS

Trees- Ordinary and Binary trees terminology, Properties of Binary trees, Implementation using Array and Linked list - Binary tree ADT representations, recursive and non-recursive traversals - Binary Search Tree - Insertion and Deletion.

ADVANCED TREE CONCEPTS

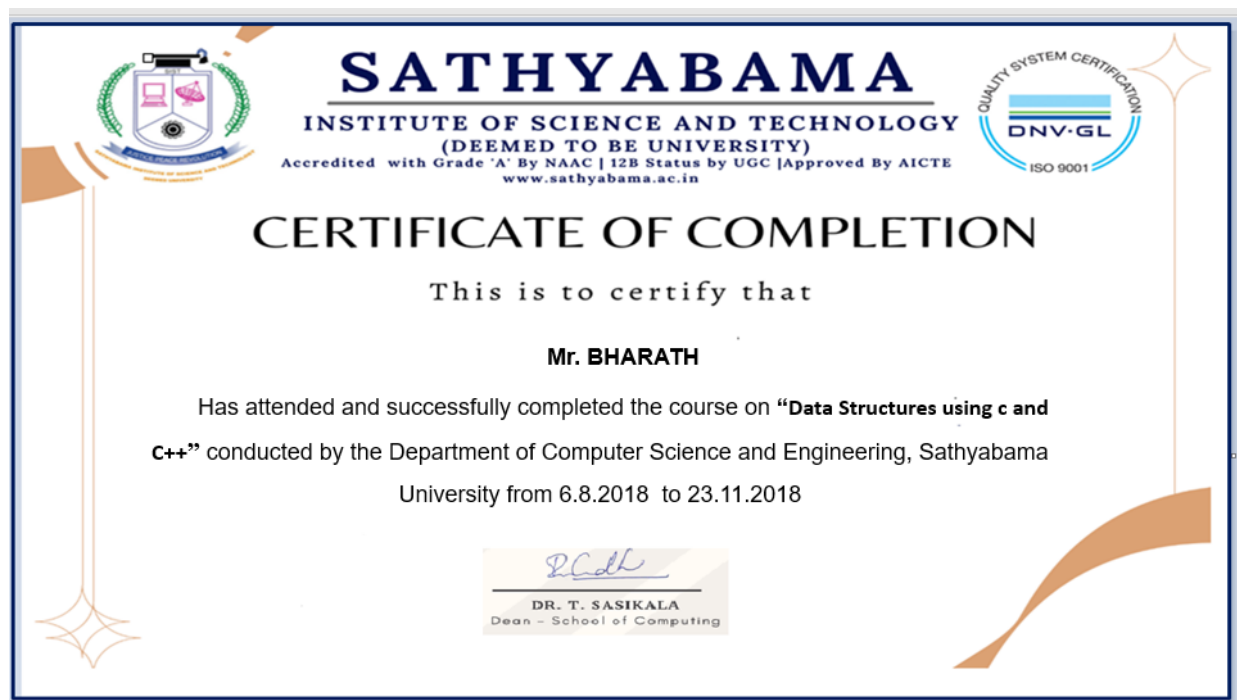
Threaded Binary Trees, AVL Tree, B-tree Insertion and deletion, Splay trees - Heap trees - Heapify Procedure, Tries.

GRAPH CONCEPTS

Terminology, Representation using Array and Linked List - Types of graphs - Graph traversals - BFS and DFS - Applications.

TEXT / REFERENCE BOOKS

1. Ellis Horowitz and Sartaj Sahni "Fundamentals of Data Structures" Galgotia Book Source, Pvt. Ltd., 2004.
2. M. A. Weiss, "Data Structures and Algorithm Analysis in C", Second Edition, Pearson Education, 2005.
3. Jean Paul Tremblay and Paul G. Sorenson, "An Introduction to Data Structures with Applications", Tata McGraw-Hill, Second edition, 2001.





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Course Name	RedHat Certification Training for System Administration
Course Code	SVA022
Duration	30 Hours

RED HAT CAREER CHART

Data Center Architect Path: RH 442 (Performance Tuning) → RH 440 (System Administration Core) → RH 441 (Linux System Administration & Troubleshooting) → RH 448 (Red Hat Security) → RH 411 (Network Security)

Cloud Architect Path: CL 100 (OpenStack Administration II) → CL 200 (OpenStack Administration I) → CL 201 (OpenStack Administration II) → CL 202 (OpenStack Administration I)

DevOps Architect Path: DO 100 (OpenShift Administration II) → DO 200 (OpenShift Administration I) → DO 400 (OpenShift Administration I) → DO 401 (OpenShift Administration II)

Foundation Certifications: RH 124 (Linux Fundamentals I) → RH 134 (Linux Fundamentals II) → RH 294 (Red Hat Enterprise Linux with Ansible) → RHCE

Career Opportunities in Linux

- LINUX Cloud Specialist
- LINUX Security Specialist
- LINUX DevOps Specialist
- LINUX Architect
- IMS Engineer L1 & L2
- LINUX Storage Administrator
- LINUX System Engineer
- LINUX Virtualization Administrator
- Networking Administrator

Red Hat Congratulates Sathyabama RHCSA Certified Students with Centum (300/300)

Red Hat Global Certificate with Goodies Distribution Ceremony for Qualified Students

Red Hat RHCSA Training at Sathyabama provided by Advantage Pro

27 January 2021

Hi,

We are pleased to offer you the position of "Trainee Associate OpenShift Support Engineer" in our organization from 04th February 2021 to 04th August 2021. You will be based at our Pune office reporting to Associate Manager, OpenShift Support.



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COURSE OBJECTIVES

- To understand and make effective use of Linux utilities and shell scripting language to solve problems
- To develop skillsets that are required for systems programming including file system programming, process and signal management and inter process communication
- To develop the basic skills required to write network programs using sockets

INTRODUCTION AND FILE UTILITIES

6 Hrs.

Introduction to Linux - Linux Utilities - File handling utilities, Security by file permissions, Process utilities, Disk utilities, Networking commands, Filters, Text processing utilities and Backup utilities - grep commands - sed commands - System commands in awk

SHELL PROGRAMMING

6 Hrs.

Introduction to Shell programming – Working with Bourne again shell (Bash): Shell commands, Shell variables, Command substitution, Shell responsibilities, Pipes and Redirection, Aliases, Shell environment, Quoting, Test command, Control structures, Arithmetic in shell, Shell script examples, Interrupt processing, Functions, Debugging shell scripts

FILE AND DIRECTORIES

6 Hrs.

Files and Directories: File Concept, File types, File System Structure, Inodes, File Attributes, File types, Standard I/O operations, Kernel support for files, System calls, File descriptors, File and directory management – Directories: creating, removing, and changing directories – Directory API functions

Hand-on session



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Course Name	DATA ACQUISITION USING IOT
Course Code	SVA023
Duration	30 Hours



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VALUE-ADDED PROGRAM
ON

“Data Acquisition in IoT”

FROM 19.02.2019 TO 10.04.2019

PROGRAM COORDINATOR

Ms. ANTO PRAVEENA

Data Acquisition using IoT

1. Brief Introduction of IOT, IOT components, Architecture and Classifications
2. Microcontroller Fundamentals, Introduction to Arduino Microcontroller, Working on Arduino IDE
3. Learning basics of sketch programming, Introduction LED based programming
4. Condition based LED programming using Arduino
5. Working with 16X2 LCD display, Adding LCD Library to IDE
6. Working with 7 segment display, Adding 7 segment display library
7. Demonstrating PIR Motion Sensor, IR sensor, Flame Sensor
8. Demonstrating Gas Sensor, Temperature Sensor
9. Demonstrating Humidity Sensor, DHT11 Sensor
10. Understanding networks LAN/WAN basics, IP Addressing Scheme
11. Introduction to Bluetooth Device (HC-05), 2 switch relays
12. Working with Microcontroller WiFi Device (NodeMCU) -ESP8266
13. Introduction to cloud computing, Sign in- Adafruit IO
14. Using NodeMCU (ESP8266) module sending data to cloud server



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CERTIFICATE OF COMPLETION

This is to certify that

Mr. Y.CHAITANYA

Has attended and successfully completed the course on "DATA ACQUISITION USING IOT"

conducted by the Department of Computer Science and Engineering, Sathyabama

University from 19.2.2019 to 10.04.2019

DR. T. SASIKALA
Dean - School of Computing



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Course Name	PYTHON PROGRAMMING
Course Code	SVA024
Duration	30 Hours



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“PYTHON PROGRAMMING”

FROM 19.02.2019 TO 10.04.2019

PROGRAM COORDINATOR

Ms. ANTO PRAVEENA

Python programming

1. Program structure Environment Setup
2. Loops and Decision Making
3. Functions
4. Python Modules and Packages • Framework vs Packages
5. Folium Introduction • Why are modules used?
6. Creating modules
7. The import Statement
8. The from...import Statement
9. The from...import
10. Statement
11. Python GUI
12. Basic Operations using Tkinter
13. Buttons and Textbox
14. Menu Bar
15. Message Box and Radio Button



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16. Checkbox and Event Creating
17. Creating Application in GUI SQL and Python
18. Overview of SQLite
19. Integrating Python with SQLite
20. Advanced Concept – Overviews
21. Basics of Pandas and Numpy
22. How to use Anaconda
23. How to create dashboard
24. Overview of Django

