



ST. JOSEPH'S DEGREE COLLEGE
SUNKESULA ROAD
KURNOOL
VALUE ADDED COURSE
ON
“PROGRAMMING TECHNIQUES”
ACADEMIC YEAR – 2019-20

Faculty Attended:

Mr. A Viswanatha Rao

Mr. KS. Nanda Kishore

Mrs. P. Sai Srujana

Mrs. P. Armila Devi

Mrs. Ch. Neelima



St. Joseph's Degree College
Sunkesula Road, Kurnool-518004, AP

14-06-2019
Kurnool

To
SJQAC Co-ordinator

Respected Madam,

Sub:- Request for permission to conduct Value Added Course for Final Year
BSc - Statistics Students – Reg.

All the final year Statistics students will be participating in the placement drives conducted by various IT companies. Every company expects them to have programming skills atleastin 1 programming language. In the technical round of the interview the students will be checked for their programming skills mainly in C-Language.

Keeping this in mind Department of computer science is planning to conduct a Value added course in Programming in C. As a part of this course the students will given insight on advanced Programming concepts.

I request you to consider our proposal and permit us to conduct the course.

With Regards,

(S Latha Rani)
Head, Computer Science Department.

Copy to:

1. Copy to Principal
2. Copy to SJQAC Coordinator

COURSE OUTLINE

Instructor: A Viswanatha Rao, K S Nanda Kishore, P Sai Srujana, P Armila Devi, Ch Neelima

Class Section: III BSc (MSCS)

Class Time: Every Saturday 12.05 PM to 1.45 PM

Duration: 30 hours

E-Mail : sjccomputers@gmail.com

Starting Day: June 22th 2019

End Day: November 1st 2019

College website: www.sjcknl.edu.co.in

Course Description:

This hands-on Programming Techniques using C language course provides a comprehensive introduction to the ANSI C language. Students are introduced to all major language elements including fundamental data types, flow control, and standard function libraries. The course explains the use of branching and looping statements, emphasis is given to the processing of command line arguments and environment variables so students will be able to write flexible, user-friendly programs.

Course Objectives:

To develop programming and problem-solving skills of students using C-language.

Student Learning Outcome:

Upon completion of this course, the student will be able to apply technical knowledge and perform specific technical skills, including:

- Clearly formulate a program's requirements
- Develop an algorithm for solving a problem
- Write a C program
- Build sets of test data in order to evaluate computer programs.
- Debug a program.
- Understand the process of compiling, linking, and running a program

SYLLABUS

Programming Techniques Syllabus

Unit I: Arrays and Strings

Array –One dimensional arrays –Declaration of 1D arrays –Initialization of 1D arrays – Accessing element of 1D arrays –Reading and displaying elements –Two dimensional arrays – Declaration of 2D arrays –Initialization of 2D arrays –Accessing element of 2D arrays –Reading and displaying elements –Programming Examples.

Strings –strings versus character arrays –Initializing strings –Reading string –Displaying string –The %s format specifier –The gets() and puts() functions –string handling functions –string pointers –Two-dimensional character arrays or array of string –array of pointers to strings – Programming Examples

Unit II: Pointers and Functions

Pointer –Def of Pointer –Declaration of Pointer Variables –Assigning Address to Pointer Variables –De-referencing Pointer Variables –Pointer to Pointer –Pointer Arithmetic –Pointer comparisons –De-reference and increment pointer –pointer to const data –const pointer –const pointer to const data –Void pointer or Generic Pointer –Null pointer –wild pointer – Programming Examples

Function –What is function? –Why function? –Advantages of using functions –Function Prototype –Defining a function –Calling a function –Return statement –Types of functions – Recursion –Nested functions –main() function –Library Function –Local and global variables – Programming Examples –FAQ's Storage class –Types of storage class –Scoping rules –Dealing with all storage classes –Programming Examples

Unit III: Structures and Unions

Structure –Why is structure used? –What is structure? –Advantages of structures –Defining a Structure –Declaration of Structure Variables –Initialization of Structure Variables –Accessing Structure Members –Storage of Structures in Memory –Size of Structures –Reading and Displaying Structure Variables –Assignment of Structure Variables –Pointers to structures – Array of structures –Arrays within structures –Nested structures –Self-referential structures – memory link(linked list) –Bit fields –Programming Examples.

Union and Enumeration and typedef –What are unions? –Structures versus unions –Working with unions –Initializing unions –Advantages of unions –enum keyword –typedef keyword – Programming Examples.

Unit IV: File Handling.

File Handling –Using files in C –Buffer and streams –Working with text files and Binary Files – File operations using std. library and system calls –File management I/O functions –Random Access Files –Programming Examples

Unit V: Command Line Arguments.

Command line arguments –what is command prompt? –why command line? –What are command line arguments? –Programs using command line

SYLLABUS – PRACTICAL

SUGGESTED HANDS ON EXERCISES

1. Program to find Largest and Smallest Element in an Array
2. C Program for Matrix Multiplication.
3. C Program to calculate the Frequency of characters in a string.
4. C Program to Reverse a String using Pointer
5. C Program to find GCD of two Numbers using Recursion
6. C Program to copy content of one File into another File
7. Write a program in C to find the square of any number using the function.
8. Write a program to display student details using Structures.
9. Write a program to calculate compound interest using Command line arguments.
10. Write a c program to perform ATM Operations.

SCHEME OF VALUATION AND PATTERN OF QUESTION PAPER

ONLINE EXAMINATION

Time: 1Hrs

Max. Marks: 100

Min. Marks to pass :40

S.No	Type of the Questions	No. of Questions	Marks per Question	Total Marks
1	Multiple Choice Questions	50	2	100

Attendance sheets of B.Sc Students

Google Link:

[View Attendance](#)

Target Participants:

- Students of B.Sc
- Total No. of Participants :235

Results of Value Added Course-Programming Techniques**Date : 01/11/2019**

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Overall average				4.57

PHOTOS

