

Reg. No. :

Question Paper Code : 21027

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Seventh Semester

Agricultural Engineering

OCS 752 — INTRODUCTION TO C PROGRAMMING

(Common to Biomedical Engineering/Civil Engineering/Electrical and Electronics Engineering/Electronics and Communication Engineering/Electronics and Instrumentation Engineering/Electronics and Telecommunication Engineering/Instrumentation and Control Engineering/Medical Electronics/ Bio Technology/Fashion Technology/Food Technology/Handloom and Textile Technology/Pharmaceutical Technology/Textile Chemistry/Textile Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention two pre-processor directives in C.
2. List four basic data types used in C.
3. What are the different types of operations possible to perform with Arrays?
4. How bubble sorting is applied on a set of values?
5. What is indexing in Strings?
6. Define Pointer with a suitable example.
7. What are the different methods to send an Input while using a function?
8. List two built-in String functions with appropriate definition.
9. Mention the process of initializing a structure.
10. Define Nested Structure with an example.

PART B -- (5 × 13 = 65 marks)

11. (a) Detail compilation process in C with neat diagram with sample program. (13)

Or

- (b) Write a C program to get the number range as input and print all odd numbers within that range followed by even numbers. Also calculate the sum and average for both odd and even numbers separately. (13)

12. (a) Detail the process to declare, initialize and access elements of a Two dimensional array with suitable example. (13)

Or

- (b) Write a C program with below specifications and appropriate output message for each action. (13)

- (i) Get the number of rows and columns of a matrix from user
- (ii) Get the values for the matrix from the user
- (iii) Check whether the given matrix is diagonal or not.
- (iv) Print the values in matrix format based on the number of rows & columns obtained from the user.

13. (a) Write a C program to implement below functions without using built-in string functions. (13)

- (i) Length
- (ii) Reverse
- (iii) Substring
- (iv) Concatenate

Or

- (b) What is a Pointer? Explain its usage and various operations performed using Pointer. Discuss the differences between a pointer and a variable. (13)

14. (a) Explain the importance of Function in C Program. Elaborate on the various types of functions with suitable examples. (13)

Or

- (b) Write a C Program to simulate Banking transactions using Function. User should be able to create an account in the run time and then do debit & credit operation. For every transaction the account balance should be displayed in the output appropriately. (13)

15. (a) Detail about Nested Structure in C. Explain the process of declaration, initialization and accessing elements of a nested structure. (13)

Or

- (b) Write a C Program using below user requirements. (13)
- (i) Design a College management system with actors as Departments, Staffs and Students.
 - (ii) Define structure containing at least 3 attributes for each actor.
 - (iii) Write a function to get the values from user for the actors.
 - (iv) Invoke a function to print the values grouped by Department.

PART C -- (1 × 15 = 15 marks)

16. (a) (i) Explain at least four keywords in C along with their purpose. (15)
- (ii) Mention the arithmetic operators allowed in C Program along with their precedence using suitable examples.
 - (iii) What is a Switch statement? Write a C program using Switch statement.

Or

- (b) Create a C program to formulate an array for storing the names of students. Get the required inputs from the user for 5 students and store in the array. Print all the elements of the Student array. Write a function to reorder the elements of the array in alphabetical order. Print the array details after reordering. (15)