

END TERM EXAMINATION

SECOND SEMESTER [B.TECH] JULY 2023

Paper Code: ES-102

Subject: Programming in 'C'

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q.No.1 which is compulsory. Select one question from each unit.

- Q1 Answer all the following questions briefly:
- a) What is Token? What are the different types of token available in C. (3)
 - b) Enlist the significance of library functions. (3)
 - c) What are actual parameters and formal parameters? Illustrate with example. (3)
 - d) Describe header file and its usage in 'c' programming. (3)
 - e) Differentiate between put(), putchar() and puts(). (3)

UNIT-I

- Q2
- a) Write an algorithm find angle between hour and minutes hand of a clock at a given time. (7)
 - b) Explain the bit wise AND, OR and NOT operation with suitable example. Mention the role of shift operators. (8)
- Q3
- a) What is type conversion? Explain two types of conversion with examples. (7)
 - b) Define pseudocode. Write a pseudocode to find the area of triangle when we know the lengths of all three of its sides. (8)

UNIT-II

- Q4
- a) Write a C program that takes three coefficients (a, b and c) of a quadratic equation: (ax^2+bx+c) as input and compute all possible roots and print them with appropriate messages. (8)
 - b) What is array? Explain the declaration and initialization of one dimensional and two dimensional arrays with an example. (7)
- Q5
- a) Shivam is working on a project which requires returning multiple values from a function. But a return statement can only return single value from a function. How the function should be implemented so that multiple values can be returned by Shivam. Explain with suitable example. (8)
 - b) Write a C program to eliminate multiple spaces from a sentence and make it single. (7)

UNIT-III

- Q6 a) What is a pointer? Write a C program to find the sum and mean of all elements in an array using pointer. (6)
- b) Write short note on :
- i) Dynamic memory allocation (3)
 - (ii) Enumeration (3)
 - (iii) Self referential structures (3)
- Q7 a) Write a program in C to count the number of words and characters in a file. (7)
- b) Define a structure data type named Time containing 3 members called hr, min and sec. Develop a program that would assign values to the individual members and display the time in the form 16:40:30 and also add structure t1 and t2. (8)

UNIT-IV

- Q8 a) What is meant by standard C libraries? What is the purpose of the stdio.h library in C? (5)
- b) What do you mean by Sorting? Write a program to sort a list of 'n' numbers in descending order using bubble sort. (10)
- Q9 a) Write an algorithm and develop a C program to search an integer from N numbers using binary searching technique. (5)
- b) What are some key features introduced in the C99 extensions? How do C99 extensions improve the functionality of the C programming language? (10)

<https://www.ggsipuonline.com>

Whatsapp @ 9300930012

Send your old paper & get 10/-

अपने पुराने पेपर्स भेजे और 10 रुपये पायें,

Paytm or Google Pay से