

END TERM EXAMINATION

SECOND SEMESTER [B.TECH] JUNE 2024

Paper Code: ES-102

Subject- Programming in 'C'

Time: 3 hours

Max. Marks: 60

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

Q1 Attempt all questions:

[5x4=20]

- a) Difference between while and do-while loop?
- b) Define different types of sorting?
- c) Define pre-processor and its usage in programming?
- d) Explain the basic structure and compilation process of C program?
- e) Difference between structure and union?

UNIT-I

- Q2 a) What is a token? Explain the different types of tokens like keyword, identifiers, constants, strings with examples? [5]
b) Difference between flowchart and algorithm? Write an algorithm and flowchart to find the factorial of a number? [5]

- Q3 a) Define Operator? Explain with example different types of operator arithmetic, logical, bitwise and ternary operator? [6]
b) Find the output of the following program: - [4]

```
Int main()  
{Char str1[20]= "Hello", Str2[20]= "World";  
Printf("%s\n", strcpy(str2, strcat(str1, str2)));  
Printf("s\n", strrev(str1));  
Printf("s\n", strlen(str2));  
return 0;}
```

UNIT-II

- Q4 a) Define Recursion function? Write a C program to find the Fibonacci series using recursion? [5]
b) Define an array? Write the advantages of an array? Write a C program to transpose of a matrix? [5]

- Q5 a) Explain call by value and call by reference with example? [5]
b) Define string? How it can be declared and initialized? Explain any five-string function with example? [5]

UNIT-III

- Q6 a) Explain File Handling? What is the need for file handling? Discuss file access modes for text files: r, a, w, r+, a+, w+? [5]
b) What is the need of a structure? How will you access the members of a structure? Write a program to read and print the details of a person using Structure? [5]
- Q7 a) Define Pointer with an example? How to access a variable through pointer? Write a C program to add two variables using Pointer? [5]
b) Define File Handling and explain its operations? [5]

P.T.O.

UNIT-IV

- Q8 a) What is Binary search? Search item 15 from the following sorted data elements using binary search. 2,5,8,10,15,24,38,59,75,90 [5]
b) What is insertion sort? Write a C program to implement insertion sort? [5]
- Q9 a) What is header file? Explain library functions of the following header files in detail :time.h, ctype.h , setjmp.h, string.h, stdarg.h, unistd.h, Stdio.h ,assert.h ,stdlib.h? [5]
b) Define Selection Sort? Sort the following elements using selection sort: 77,33,44,11,88,22,66,55, [5]

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