**01EST102052002 B**

**F**

Pages: 2

Max. Marks: 100                                                    Duration: 3 Hours

## PART A
### *Answer all Questions. Each question carries 3 Marks*     Marks

| | | |
|---|---|---|
| 1 | Differentiate between system software and application software. | (3) |
| 2 | Write an algorithm to find the largest of three numbers | (3) |
| 3 | What is the difference between assignment and equality operators? | (3) |
| 4 | What is a static variable? When should it be used? | (3) |
| 5 | Write a C program to find length of a string without using string handling functions. | (3) |
| 6 | What is an array? Illustrate using an example, how a single dimensional array is initialised. | (3) |
| 7 | Differentiate between structure and union using an example. | (3) |
| 8 | Illustrate the purpose of return statement using an example. | (3) |
| 9 | Differentiate between char name[] and char *name in C. | (3) |
| 10 | Explain the use of fseek() function. | (3) |

## PART B
### *Answer any one Question from each module. Each question carries 14 Marks*

| | | | |
|---|---|---|---|
| 11 | a) | Draw a flowchart to find the factorial of a number. | (6) |
| | b) | With the help of a neat diagram explain the functional units of a computer. | (8) |

**OR**

| | | | |
|---|---|---|---|
| 12 | a) | List five important registers in CPU. Also state the purpose of each register. | (6) |
| | b) | Write algorithm and draw flowchart to perform swapping of two numbers. | (8) |
| 13 | a) | Explain arithmetic, logical and bitwise operators with examples. | (7) |
| | b) | Write a C Program to check if a given number is a strong number or not. A strong number is a number in which the *sum of the factorial of the digits is equal to the number itself.* | (7) |

Eg:- 145=1!+4!+5!=1+24+120=145

**OR**

| | | | |
|---|---|---|---|
| 14 | a) | Write C program to convert the given decimal number into binary number. | (7) |

| | | | |
|---|---|---|---|
| | b) | What do you mean by Formatted Input? Explain in detail the prototype of 'scanf()' function in C including its argument list and return type. | (7) |
| 15 | a) | Explain any 4 string handling functions in C programming. | (7) |
| | b) | Write a C program to perform linear search on an array of numbers | (7) |

**OR**

| | | | |
|---|---|---|---|
| 16 | a) | Write a C program to find second largest element in an array. | (7) |
| | b) | Write a C program to check whether a string is palindrome or not without using string handling functions. | (7) |
| 17 | a) | What are different storage classes in C? Give examples for each. | (7) |
| | b) | Write a C program to: | (7) |

(i) Create a structure with fields: Name, Address, Date of birth.

(ii) Read the above details for five students from user and display the details

**OR**

| | | | |
|---|---|---|---|
| 18 | a) | What is recursion? Write a C program to display Fibonacci series using recursive function. | (7) |
| | b) | Write a C program to sort N numbers using functions. | (7) |
| 19 | a) | Explain any 5 file handling functions in C. | (7) |
| | b) | Write a C program to reverse a string using pointers. | (7) |

**OR**

| | | | |
|---|---|---|---|
| 20 | a) | Differentiate between array of pointers and pointer to an array. | (7) |
| | b) | Write a C program to count number of lines in a text file. | (7) |

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