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Roll No. :

322315(22)

B. E. (Third Semester) Examination, April-May 2021

(Old Scheme)

(CSE, IT Branch)

PROBLEM SOLVING & LOGIC BUILDING using 'C'

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory. Attempt any two parts from (b), (c) and (d).

Unit-I

1. (a) What is a Pseudo Code? 2
- (b) Describe the basic data types. How could we extend the range of values they represent? 7

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- (c) Illustrate a program for adding two numbers with the help of algorithm and flowchart. 7
- (d) Explain the different types of operator used in c with suitable example. 7

Unit-II

2. (a) What is the output of the following program : 2

```
void main()  
{  
    int i=10,a;  
    a = i++ / ++i;  
    printf(“%d ... %d”, a, i);  
}
```

- (b) Write a C program to print the first 'N' Fibonacci numbers. 7
- (c) Explain entry-controlled loop and exit-controlled loop with an example. 7
- (d) Write a program to generate all possible combinations of 1, 2 and 3, without repetition using for loop. 7

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Unit-III

3. (a) What is the output of the following program 2

```
void main( )  
{  
    int a[5];  
    a[-2] = 10;  
    a[2] = 1;  
    printf(“%d”, -2[a]);  
}
```

- (b) What is difference between pass by value and pass by reference? Write the C coding for swapping of two numbers using pass by reference. 7
- (c) Explain the purpose of a function prototype. And specify the difference between users define and built in function. 7
- (d) What are the string handlings functions available in C? Write user defined functions for string copy. 7

Unit-IV

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4. (a) What is the output of the following program 2

```
void main( )  
{  
    int a[5];  
    3[a] = 10;  
    printf("%d", *(a+3));  
}
```

- (b) What is dynamic memory allocation? Explain various C functions that are used for the same with the example. 7
- (c) What is Pointer? Explain how pointers are declared and initialized. State its advantages. 7
- (d) Discuss the difference between the array of pointer and pointer to the array with suitable example. 7

Unit-V

5. (a) What is enumeration in c? 2
- (b) Explain structures and unions in C language with an example. 7

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- (c) What is a File? Explain with an example the file handling functions. 7
- (d) Write a C program to accept student personal and academic details and store in it a file. Print students' mark sheet. 7