



MAKEUP EXAMINATIONS – FEBRUARY 2018

Course & Branch : B.E. : Common to all branches

Semester : I/II

Subject : Fundamentals of Computing

Max. Marks : 100

Subject Code : CS101/201

Duration : 3 Hrs

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT – I

1.
 - a) Define a token. How are they classified? Explain with an example. CO1 (08)
 - b) Differentiate between variable and a constant. Discuss the rules to be followed while framing a valid variable. CO1 (08)
 - c) Assume that variable a has an initial value 8 and that of b is 64. What would be the output if following printf statements are executed. CO1 (04)
 - i) printf("%d", a<<4);
 - ii) printf("%d", b>>2);
2.
 - a) Discuss the different types of operators available in C with an example. CO1 (10)
 - b) Consider the following code segment. Predict the output of the following output statements in sequence. CO1 (03)

```
Void main()
{
float a=9,b=12,c=3,x,y,z;
x= a-b / 3+c * 2 - 1
y=a-b / (3+c) * 2 - 1
z= a-b / (3+c * 2) - 1
printf("%f\n",x);
printf("%f\n",y);
printf("%f\n",z);
}
```
 - c) What do you mean by a data type ? Discuss the various data types supported in C language along with its memory capacity in bytes. CO1 (07)

UNIT - II

3.
 - a) Differentiate between WHILE and DO WHILE statements with an example. CO2 (05)
 - b) Write a C Program to print the following pattern using any control structure. CO2 (05)

```
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
```
 - c) Explain the syntax of a switch statement. Write a C program to compute the roots of quadratic equation for non-zero co-efficient using switch statement only. CO2 (10)

4. a) Write a C program to compute the GCD and LCM of two numbers using Euclid's algorithm. CO2 (06)
b) Explain the IF... ELSE ladder with an example. What are its drawbacks? CO2 (06)
c) Write a C Program to generate the prime numbers in the given range M and N. Also display the count of the prime numbers. CO2 (08)

UNIT – III

5. a) Define an array. How single dimensional arrays are declared, accessed and stored from the memory? Explain with an example. CO3 (06)
b) Write a C program to compute the mean, variance and standard deviation of N numbers in an array. CO3 (08)
c) Write a C program to check whether the given square matrix is symmetric or not. CO3 (06)
6. a) Define a string. Explain any four string handling functions with an example. CO3 (05)
b) Write a C program to check whether the given string is palindrome or not without using any built in functions. CO3 (08)
c) Write a C program to sort N names in ascending order using bubble sort algorithm. CO3 (07)

UNIT– IV

7. a) Define a function. What are its advantages. Discuss the different elements of a function with an example. CO4 (06)
b) Differentiate between actual parameters and formal parameters with an example. CO4 (04)
c) Write C functions to implement the following. CO4 (10)
i) To accept a matrix of given order.
ii) To display the matrix of given order.
iii) To perform the multiplication of two matrices.
The main program will read the order of Matrix a (M X N) and B(PX Q). If the are compatible then these functions will be invoked. Suitable error messages should be displayed if multiplication is not possible.
8. a) Discuss the need of a structure. How structures are declared and accessed? Explain with an example. CO4 (06)
b) Discuss the storage classes in C with an example. CO4 (08)
c) Write a C program to declare a structure called complex with real and imaginary as its members. Using this structure accept two complex numbers and perform addition and multiplication of two complex numbers. CO4 (06)

UNIT – V

9. a) Define a pointer. List its advantages. CO5 (06)
b) Write a program to find the length of a string using pointers. CO5 (06)
c) Write a program to find the sum of elements in an array using pointers. CO5 (08)
10. a) Define a file. What are the different modes in which a file can be operated? Explain with an example. CO5 (06)
b) Explain the following with respect to file handling in C CO5 (08)
i) fopen ii) fclose iii) fscanf iv) fprintf.
c) Write a C program to display the contents of a file. CO5 (06)
