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BT-1/D09 **8001**

FUNDAMENTAL OF COMPUTERS & PROGRAMMING IN 'C'

Paper : CSE-101(E)

Time : Three Hours] [Maximum Marks : 100

Note : Attempt *five* questions in all, selecting at least *one* question from each unit.

UNIT–I

1. (a) List the various memory devices used in computers. 10

   (b) What are the basic components of CPU ? Explain the classification of computers. 10

2. (a) Differentiate between UNIX & LINUX operating system. 5

   (b) Convert $(A2B5)_{16}$ hexadecimal number to its equivalent binary, decimal & octal number system. 6

   (c) Convert $(287.35)_{10}$ decimal number to its equivalent binary & octal number system. 4

   (d) What are the role of Input & Output devices used in computer ? 5

UNIT–II

3. (a) Differentiate between the following :
   (i) High Level Language & Assembly Language.
   (ii) Compiler & Interpreter. 5+5=10
   (b) What is an algorithm ? Explain the different symbols used in flow chart. 6
   (c) Draw a flow chart to find the average male height in a class. The class contains only male. 4

4. (a) What is Internet ? How it works ? What are the advantages and disadvantages of internet ? 7
   (b) Explain Linker and Loader. 3
   (c) What are the various protocols used in internet ? Explain the working of e-Mail. 10

UNIT–III

5. (a) What is the role of Datatypes ? Explain various datatypes used in 'C' language. 8
   (b) What is Nesting of loops ? Write a program in C which accept 5-digit number from a user and calculate its sum. 7
   (c) Write a program in C to swap two numbers using Call by value & Call by reference. 5

6. (a) Why we used storage classes in 'C' ? Explain the different storage classes. 8
   (b) Write a program to find factorial of a number using recursion. 5

(c) Find the output of the following correct program. Justify the output & print it. 7

```
# include < stdio.n >
main ( )
    { int, n, r ;
    for (n = 5; n > =1; n - -)
    { switch (n) {
    case 5 :  r = n %5 ;
                break;
    case 3 : r = (n + r) % 10;
                break;
    case 1 : r = (n × n)/2;
                break;
    default : r = n × 8;
                break;
    } printf ("% d", r) ;
    } }
```

UNIT–IV

7. (a) What are Arrays ? How arrays are initialized in 'C' ? 5
   (b) Write a program in C to multiply two matrices. 10
   (c) Differentiate between Union & Structure by giving an example. 5

8. (a) Explain the I/O functions in 'C'. What is the difference between getchar ( ), getche ( ) & getch ( ) ? 10
   (b) Write various file operations used in 'C' language. Write a program in 'C' to check whether the string is palindrome or not. 10
