53 (CS 101) ICPR

2018

INTRODUCTION TO COMPUTER PROGRAMMING

Paper : CS 101 (Back)

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

Answer Question no. 1 and any 5 from the rest.

1.   2×10=20

(a) What is the output of the following code ?

```
# include < stdio.h >
main ( ) {
        printf ("Hello \n World") ;
}
```

(b) What is the output of the following code snippet ?

```
for ( i = 5 ; i < 10 ; i++) {
        printf ("Hello World\n") ;
}
```

(c) Consider the following C-language statement, which declare the two variables. Identify the invalid variable.

```
int n1, 2n ;
```

(d) Write the hierarchy of arithmetic operators +,–, *, / in C-language.

(e) .... (for, while, do-while) loop that executes at least once.

(f) Consider the following C-language statement that initialize the array. What is the value of num [5] ?

```
int num [ ] = { 2, 4, 5, 12, 45, 5 } ;
```

(g) The return type of a function is void. What is the meaning of void ?

(h) Describe about Garbage value of a variable.

(i) Define pointer variable with an example.

(j) Find the output :

```
# include < stdio.h >
main ( ) {
        int a = 5, b, c ;
        b = + + a ;
        c = b + + ;
        printf ("c = % d", c) ;
}
```

2×10

2. *(a)* Write a flow chart to find the maximum of three numbers.

   (b) Write a C-program to find the minimum of three numbers.

   (c) Explain the each component of a for loop (i.e. exp1, exp2, exp3, exp4) in the following :

   ```
   for (exp1 ; exp2 ; exp3) {
        exp4 ;
   }
   ```
   5+5+6

3. *(a)* Write a C-program to swap two integers.

   (b) Write a C-program to find the largest of n numbers.

   (c) Write a C-program to find the length of a given string.

   5+5+6

4. *(a)* Write a C-program to find the LCM of two numbers.

   (b) Write a C-program to convert a binary number to decimal number.

   8+8

5. *(a)* What do you mean by searching ? Write a C-program to search a given number k in a given array.

(b) Write a C-program to reverse a given number.   8+8

6. *(a)* What is Pre-processors ? What is its utility ? Explain with example.

   (b) What is a function call ? What are the advantages and disadvantages of function call ? Write a function to add two integers and returns the sum.

           8+8

7. *(a)* What is the relation between array and pointer ? Explain with example.

   (b) Write a C-program to transpose of a matrix.

           8+8

8. Write short notes on : *(any four)*

                              4×4=16

   (a) Keyword and Variable

   (b) Compiler and Interpreter

   (c) Array and Pointer

   (d) Call by value and call by reference

   (e) High-level language and Low-level language.