Exam. Code: 0905
Sub. Code: 7887

1128

B. Engg.-1st Year (1st Semester)
Information Technology
IT-102: Programming Fundamental

Time allowed: 3 Hours   Max. Marks: 50

Note: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Part-A & B.

x-x-x

Qn 1.

a) What is source code and object code?
b) Explain the difference between *break* and *continue* statement using suitable example.
c) Write and explain any two preprocessor directives in C.
d) What will happen if you assign a value to an element of an array whose subscript exceeds the size of the array: (i) element will be set to 0 (ii) other data may be overwritten (iii) error message from compiler (iv) nothing, it will be assigned desired value. Justify your answer.
e) How are Unions different from Structures?

(5x2=10)

PART –A

Qn 2.   a) Write an algorithm and draw flowchart to find minimum of three numbers.
         b) Compare and contrast: (i) Compiler, Interpreter, Debugger (ii) extern, global, static   (5,5)

Qn 3   a) Write a program to generate the following pattern

          1
          1   2
          1   2   3
          1   2   3   4
          1   2   3
          1   2
          1

b) How is switch case statement different from if-else ladder? A program to read day number of the week and display name of the week day has to be written, given *Day 1* is *Monday*. Write the program with the most suitable programming construct.   (5,5)

Qn 4.   a) Explain the parameter passing mechanism and illustrate the difference between call by reference and call by value.
         b) Write a program to read five random numbers in an array and use a function to find the maximum number from the array.   (5,5)

PART-B

Qn 5.   a) What are preprocessor statements? Also explain the significance of using *typedef* and *macros* with suitable examples.
         b) A car manufacturing company wants to store the following information about all the models launched like: *model_no, model_name, year, price, units_sold*. Write a program to store the information using an array of structures. The program should also compute the total cars sold by the company.   (5,5)

Qn 6   a) How are pointers initialized? Mention the key advantages offered when processing strings using string pointers over arrays. Discuss the output of following:

```
void main()
{
int a[] = {1,2,3,4,5,6,7,8,9};
int *p = a+1;
int *k=a+5;
printf("\n %d", k-p);
}
```

b) What different kinds of file types? Write a program to read data from a file and display on the screen.   (5,5)

Qn 7   a) Illustrate the working of three input and three output formatting commands with suitable examples.   (5,5)
         b) What is error handling? Explain the *stderr* and *exit* functions.

x-x-x