B.Tech.
(SEM. I) THEORY EXAMINATION 2017-18
Computer Programming

Time : 3 Hours   *Total Marks : 100*

SECTION-A

1. Attempt all questions of the following: **(10×2=20)**
a) What is meant by storage classes of a variable?
b) Why we use do-while loop in c?
c) Define the concept of top down development and stepwise refinement process.
d) What is meaning of continue and break keyword in c?
e) What is recursion?
f) Explain the difference between function declaration and definition of a function
g) Design a flow chart and algorithm to find the greatest number among three numbers.
h) Explain call by value with suitable example.
i)
```
main( )
{
int a = 300, b, c ;
if ( a >= 400 )
b = 300 ;
c = 200 ;
printf ( "\n%d %d", b, c ) ;
}
```
What will be the output of the above program? Show step by step calculation?
j) What do you mean by Macro?

SECTION-B

2. Attempt any **Three** of the following: **(10×3=30)**

a) Explain differences between a flow chart and algorithm with an example.

b) What is a pointer? Write a C program to swap the values of two variables making the use of pointers.
c) Distinguish between actual arguments and formal arguments with the help of example.
d) Write a program in C to print the number of days using switch statement.
e) Write a program to print all the diagonal elements of the Matrix.

SECTION-C

3. Attempt any **One** of the following : **(10×1=10)**
a) What are the different file opening modes in C. Suppose a file contains student's records with each record containing name and age of a student.
b) Write a C program to read these records and display them in sorted order by name.
4. Write short on any **One** of the following : **(10×1=10)**
a) Dynamic Memory allocation in C
b) Command Line arguments
5. Attempt any **One** of the following : **(10×1=10)**
a) Write macro definition with arguments for calculation of simple interest and amount.
b) Write a C program to add first seven terms of the following series using for loop.
$$1/1! +2/2! +3/3! +--------$$
6. Attempt any **One** of the following : **(10×1=10)**
a) What is recursion? Write a program to print the Fibonacci series using recursion.
b) Write a program to rearrange a list of names in ascending order.
7. Attempt any **One** of the following : **(10×1=10)**
a) Write a program to check the number is palindrome of not.
b) Write a program to check a number is prime number or not.