Dr. Babasaheb Ambedkar Technological University, Lonere - 402103

End Semester Examination

Class: B. Tech (Computer/ IT/E&TC/Electrical) **Semester: I**

Subject: Basic Computer Programming

Subject Code: CP105

Time: 3 Hours **05 MAY 2017**

Date: **Maximum Marks: 60**

Instructions:

1. **All questions are compulsory and each question carry 10 marks each.**
2. **Figures to right indicate full marks.**
3. **Illustrate your answers with neat sketches, diagrams etc. whenever necessary.**
4. **Necessary data is given in respective question. If such data is not given, it means that knowledge of that data is part of examination.**

Q1: **A.** Enlist some application areas which uses the programming paradigm in practical field. Explain any two of them. (02) (03)

B. Explain program, algorithm and data structure with suitable examples. Differentiate between algorithm and flowchart. (05)

Q2: **A.** What is Arithmetic instruction? Explain all three modes of C arithmetic statement. (03)

B. A character is entered by user through keyboard, write a program to calculate and print the ASCII value of that entered character. (03)

C. Attempt any **ONE** from following. (04)

a) What is type casting? Explain it with suitable example.

b) Differentiate between:

i. Preincrementation and Postincrementation operator in C.

ii. = and == operator in C.

Q3: **A.** **i.** Write a note on conditional operator in C. (02)

ii. If a user enters a number through keyboard, write a program to find and print reverse of number and check whether number is palindrome number. (04)

B. Write output of following program.

i)

```
main( )
{
  int i, j ;
  for ( i = 1 ; i <= 2 ; i++ )
  {
    for ( j = 1 ; j <= 2 ; j++ )
      {
       if ( i == j )
       continue ;
       printf ( "\n%d\t%d\n", i, j ) ;
      }
  }
}
```

(02)

ii)
```
main( )
{
 int i, j ;
 for ( i = 1 ; i <= 2 ; i++ )
 {
  for ( j = 1 ; j <= 2 ; j++ )
  {
     if ( i == j )
     break ;
     printf ( "\n%d \t%d\n", i, j ) ;
  }
 }
}
```
(02)

Q4: Attempt any **TWO** of the following.

A. What is Recursion? Explain with the help of an example program. (05)

B. Explain advantages of using functions in programming. (02)
Write a program to find square of an entered number using function. (03)

B. Write a program to find sum of all numbers divisible by 5 from 1 to 50 and draw a flowchart for the same. (05)

Q5: Attempt any **TWO** of the following.

A. How Array elements are stored in memory? (02)
Describe different ways in which an array is initialized. Which is the most generalized way of initialization? (03)

C. Write a program to perform addition and subtraction of two 2×2 matrices if matrix elements are entered by user. (05)

D. An array has n elements where n is specified by user, write a method to search an element in that array using linear search as a C program. Draw a flowchart for the same. (05)

Q6: Attempt any **TWO** of the following.

A. What is Structure? Explain with an example. (02)
Describe how structure elements are accessed and stored. (03)

B. Write a program to enter and print data of three books which contains its name, price and number of pages using structure. (05)

C. How decisions are made in C using Switch statement? (02)
If a user enters two numbers as an input, write a program to perform Arithmetic operations on two entered numbers using switch statement. (03)

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