Roll No. ☐☐☐☐☐☐☐☐

TCS–201

B. Tech. (Second Semester)
Mid Semester EXAMINATION, 2015
(All Branches)
PROGRAMMING IN 'C'

Time : Two Hours]   [*Maximum Marks : 60*

Note : (i) This question paper contains three questions with alternative choice.

(ii) All questions are compulsory.

(iii) Each question carries four Parts (a), (b), (c) and (d). Attempt either Parts (a) and (b) or Parts (c) and (d) of each question.

(iv) Each Part carries **ten** marks. Total marks assigned to each question are **twenty**.

1. (a) What do you mean by function in 'C' ? Explain functions call in C language. Define actual and formal arguments.   10

(b) Explain outputs of the following codes   5, 5

(i) #include <stdio.h>

    int main()

    { printf("B.Tech");

      main ();

      return 0;

    }

(ii)   #include <stdio.h>

   int i;

   int fun ();

   int main ()

   {

      while (i)

      {

         fun ();

         main ();

      }

      printf("Hi");

      return 1;

   }

   int fun ()

   {

      printf ("Hello")'

      return 1;

   }

Or

(c) Explain the following storage classes in C language with examples. $2\frac{1}{2}$ each

   (i)   Automatic storage class

   (ii)   Static storage class

   (iii) Register storage class

   (iv)   Extern storage class

(d) Write a menu driven program to convert a given decimal number into the following equivalents (using an array) :   5, 5

   (i)   Binary number

   (ii)   Octal number

2. (a) Explain any *three* library and explain any *one* user define function with examples.   5, 5

   (b) Write a C function is prime (num) that accepts an integer argument and returns 1 if the argument is prime, a 0 otherwise. Write a C program that invokes this function to generate prime numbers between the given ranges.   3, 7

Or

   (c) What is recursion ? Explain stack representation of any recursive function with example.   3, 7

   (d) Write a C program to calculate sum of digit a number using recursion.   10

3. (a) Explain various function declarations with example.   10

   (b) Write a C program to find out frequency of a given numbers from an array.   10

Or

   (c) Explain subscript, declaration and initialization of 1-D and 2-D arrays with examples. Also explain a random access

property of an array and give the formula used in it.   8, 2

(d) Write a C program to accept N integer number and store them in an array AR. The odd elements in the AR are copied into OAR and other elements are copied into EAR. Display the contents of OAR and EAR. 10

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