Computer Engineering Department, S.V.N.I.T. - Surat. End Semester Examination, Dec., 2019

B Tech I (Div G - K) – 1st Semester

Course : CS 109(Fundamentals of Computer & Programming)

Max Marks: 50 Time: 08:30 hrs to 11:30 hrs Date: 4th December, 2019 Instructions: (1) Write your Admission No/Roll No and other required details clearly on your question paper, answer book and supplementary. (2) Assume any necessary data by giving proper justifications. (3) Be precise and clear in answering the questions. (4) Figure to the right indicates full marks of the respective question. [80]Answer the following(show necessary steps): Q.1 (a) $(10111.011)_2 = (?)_8 = (?)_{10}$ (b) $(9AC3.F3A)_{16} = (?)_8 = (?)_{10}$ (c) $(215)_6 + (14X)_6 = (403)_6$ then X=? (d) Find $(-43)_{10}$ + $(68)_{10}$ using 2's complement method. [15] Answer the following(Any FIVE): (a) Compare and contrast between symmetric and asymmetric shared memory multiprocessor. (b) Enlist various types of operating system and explain any one in detail. (c) Enlist various network topologies and explain any one in detail. Id Discuss with diagram: classification of output devices (e) Explain in brief: advantages and disadvantages of machine language (f) Give differences between compiler and interpreter. [02] **Draw the flowchart:** To find the largest number among three numbers. Q3 [10] Answer the following(Any TWO)(With respect to C programming language): (a) Write a program to find and display the number of prime numbers in an array using user defined function. Here an array with 'N' elements is to be entered through keyboard, where N is less than or equal to size(M) of an array. (b) Write a program to accept two strings s1 and s2 and display the first position in s1 where any character of s2 occurs. [For example- if s1:abcdefg, and s2:xyahyd, output:0 (since the character 'a' of s2 is found in 0^{th} position in s1)] (c) Write a program to check and display Armstrong numbers between 100 to 999. [For Aexample if the number is '153', then $1^3+5^3+3^3=153$. Hence 153 is an Armstrong number [09] Answer the following (Any THREE) (With respect to C programming language): (a) Can we compare two structure variables using = = operator? if not, how do you compare two structure variables? (b) Differentiate between call by value and call by reference with example. (e) Differentiate between entry and exit controlled while loops with example. (d) Differentiate between break and continue with example. Find the output for the following (With respect to C programming language): [06] (a) void main() x = 2 > 5? 1! = 2 > 5? 10: 20: 5 printf("Value of x:%d". x) (b) void main() void main() int t1=1, t2=1; int $A[4]=\{3,6,9,12\}, *p=A;$ while(t1<5, t2<10) int x=2; x++;printf("%d\n%d\n%d",*A, *(p++), *(p+x)); t1++; ++t2; printf("%d\n%d", t1,t2);

Computer Engineering Department, S.V.N.I.T. - Surat. Mid Semester Examination, Sept.-Oct., 2019

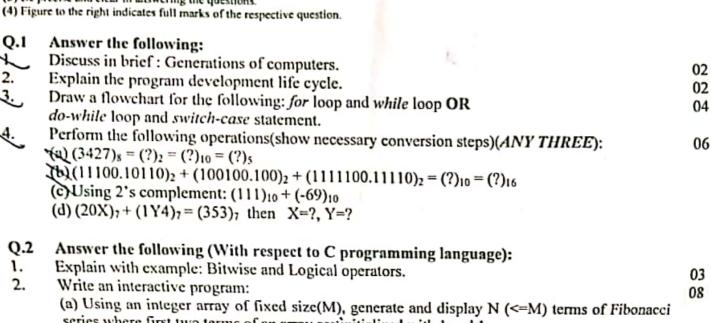
B Tech I (Div G - K) - 1st Semester

Course: CS 109(Fundamentals of Computer & Programming) Date: 4th October, 2019 Time: 09:00 hrs to 10:30 hrs Instructions: (1) Write your Admission No/Roll No and other required details clearly on your question paper, answer book and supplementary.

(2) Assume any necessary data by giving proper justifications.

(3) Be precise and clear in answering the questions.

3.



series where first two terms of an array are initialized with 1 and 1.

(b) To print the following pattern(program using explicit printf to generate pattern will not be given any credit, whereas general solution will only be considered):

```
--- (a) . .
                 オーししょり
  QTQ
'@T@T@
                 for L K=1
@T@T@T@
```

```
Find the possible output/error(if any) for the following code: ( as um
                                     (b)
                                                                ->(c)
       (a)
                                       #include<stdio.h>
        void main()
                                                                   void main ()
                                       void main()
                                                                     int a, b;
          int x:
                                       int z, x=5, y=-10, a=4, b=2;
                                                                     a = b = 4:
         for(x = -1; x \le 10; x++)
                                       z = x + + - - - y \cdot b/a;
                                                                     b = a++
                                       printf("%d", z);
                                                                   printf ("%d %d %d %d %d
           if(x < 5)
                                                                    a++, --b, ++a, b--);
            continue;
           else
                                       (d)
            break:
                                       void main()
                                                                    void main() {
           printf("SVNIT");
                                                                     int a = 100, b = 74;
                                                                     if(a++>100 \&\& b++>200)
                                         printf("%d",
                                                                      printf("High values with
                                       printf("computer science")
         How many times "SVNIT" w
                                                                    a = %db = %d'', a, b);
                                                                      if (a++ < 100 || b++ < 200)
         ill be printed?
                                                                       printf("Low values with
                                                                    a = %db = %d'', a, b);
YEMTT
                                                                            102
```