# GUJARAT TECHNOLOGICAL UNIVERSITY

## BE - SEMESTER–I &II (NEW) EXAMINATION – SUMMER-2019

**Subject Code: 2110003**          **Date: 10/06/2019**

**Subject Name: Computer Programming and Utilization**

**Time: 10:30 AM TO 01:00 PM**          **Total Marks: 70**

**Instructions:**
1. Question No.1 is compulsory. Attempt any four out of remaining six questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

| | | Mark |
|---|---|---|

**Q.1**

**(a)**    **Objective Question (MCQ)**       **07**

**1.** Which is output device?
- (a) Barcode Reader
- (b) LCD
- (c) Scanner
- (d) Keypad

**2.** C-Language is _____.
- (a) Machine Dependent
- (b) Partially Machine Dependent
- (c) Machine Independent
- (d) None of above.

**3.** Which one of following is volatile memory?
- (a) SRAM
- (b) EPROM
- (c) Flash
- (d) Hard disk

**4.** How many times following loop will be rotated?
```
int a = 10,  b = 1;
while(a>b)
{  a--;  b++; }
```
- (a) 5
- (b) 10
- (c) 4
- (d) 1

**5.** Which of the following is correct C statement to print variable a?
- (a) printf("a");
- (b) printf("%d", a);
- (c) printf("%d");
- (d) printf("%a");

**6.** Which one of following loop rotates infinite time?
- (a) for( ; ; )
- (b) do { …. } While(1<10);
- (c) while (100)
- (d) only a and c
- (e) all of a, b, c

**7.** Switch case statement cannot be applicable on _____ data type.
- (a) int
- (b) char
- (c) enumerated
- (d) float

**(b)**    **Objective Question (MCQ)**       **07**

**1.** Which one is invalid variable name?
- (a) int_a
- (b) temp1
- (c) case_c
- (d) 1temp

**2.** Which one of following statement doesn't increment variable a?
- (a) a++
- (b) a += 1
- (c) ++a
- (d) a = +1

**3.** For following code, what should be value of X and Y?

```
M = 9;  N = 10;
X = M && N;
Y = M & N;
```

    (a) X = 1, Y = 8          (c) X = 1, Y = 1

    (b) X = 8, Y = 8          (d) None of above

**4.** What is output of following program ?

```
void main( )
{
    int z = 10;
    float z  = 10;
    printf("%d",z);
}
```

    (a) 10.00          (c) 10

    (b) Compile time error          (d) Run time error

**5.** The Function _____ obtains block of memory run time.
    (a) malloc()          (c) calloc()
    (b) Both malloc() and calloc()          (d) free()

**6.** Which of the following is true about FILE *fp
    (a) FILE is keyword in C for representing files and fp is variable of FILE type.
    (b) FILE is a structure and fp is pointer to structure of FILE type.
    (c) FILE is stream
    (d) FILE is buffered stream

**7.** Array and Structure can contain elements of _____ and _____ data type respectively.
    (a) same, different          (c) same, same
    (b) different, Same          (d) different , different

**Q.2** **(a)** Define (1) Higher Level Language (2) Lower Level Language (3) Machine Level Language    **03**

     **(b)** Sketch flowchart to convert seconds into hour, minute and second. (Hint : 3700 seconds => 1 hr , 1 minute , 40 second)    **04**

     **(c)** Describe assignment, sizeof( ) and ternary operator with example.    **07**

**Q.3** **(a)** Write C program to find area and perimeter of rectangle.    **03**
     **(b)** Describe Enumurated data type with example.    **04**
     **(c)** Write C program to get 20 data from user. Find sum, average, maximum and minimum number.    **07**

**Q.4** **(a)** Write a program to add first n numbers. Get value of n from user.    **03**
     **(b)** Describe switch case statement with example.    **04**
     **(c)** Write a C program to display given pattern    **07**
```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

**Q.5** **(a)** Describe dynamic memory allocation. Give advantages and disadvantages of it. **03**

**(b)** Describe break and continue statement with suitable example. **04**

**(c)** Write a C program to do following task. **07**
      (1) Take string from user and print in upper-case
      (2) Find string length without using strlen() function.

**Q.6** **(a)** Give merits and demerits of Union over structure. **03**

**(b)** Design structure with following elements : **04**
Name of employ, basic, da, ta , deduction , net_salary
Give the variety of way to access individual elements of structure..

**(c)** Describe types of function based on arguments and return type. **07**

**Q.7** **(a)** Describe following file handling functions. **03**
      (1) fopen()
      (2) fseek()
      (3) fgetc()

**(b)** Write C program to copy content of file "D:\home\avs.txt" into new text file "ftel.txt" in E drive . **04**

**(c)** Define Pointer. How to initialize integer pointer ? Describe pointer to array with example. **07**

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