ROLL NO. _____

Code: DE53/DC53 Subject: COMPUTER FUNDAMENTALS & C PROG.

DipIETE – ET/CS

Time: 3 Hours **JUNE 2013** **Max. Marks: 100**

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.

- **Question 1 is compulsory and carries 20 marks. Answer to Q. 1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after 45 minutes of the commencement of the examination.**
- **Out of the remaining EIGHT Questions answer any FIVE Questions, selecting TWO questions from part A and THREE questions from part B. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1 Choose the correct or the best alternative in the following: (2×10)

a. CD-ROM stands for

(A) Compactable Drive Read Only Memory
(B) Compact Data Read Only Memory
(C) Compact Disk Refer Only Memory
(D) Compact Disk Read Only Memory

b. ALU stands for

(A) Arithmetic Logic Unit **(B)** Array Logic Unit
(C) Application Logic Unit **(D)** None of these

c. Which of the following is the first generation of computer?

(A) EDSAC **(B)** IBM-1401
(C) CDC-1604 **(D)** ICL-2900

d. Second Generation computers were developed during

(A) 1949-1955 **(B)** 1956- 1965
(C) 1966-1970 **(D)** 1970-1990

e. Access time is

(A) seek time + latency time **(B)** seek time
(C) seek time – latency time **(D)** latency time

f. What will be output if you compile and execute the following C code?

```
#include<stdio.h>
int main(){
printf("%d",sizeof(5.2));
```

```
return 0;
}
```

(A) 2 **(B)** 4
(C) 8 **(D)** 10

g. The Keyword endl

(A) Ends the execution of program where it is written
(B) Ends the output in cout statement
(C) Ends the line in program. There can be no statements after endl
(D) Ends current line and starts a new line in cout statement.

h. What will be the output of the following statements ?
int i = 1,j; j=i--- -2; printf("%d",j);

(A) Error **(B)** 2
(C) 3 **(D)** -3

i. Array passed as an argument to a function is interpreted as

(A) Address of the array
(B) Values of the first elements of the array
(C) Address of the first element of the array
(D) Number of element of the array

j. The size of a structure can be determined by
(i) size of variable name
(ii) size of (struct tag)

(A) Only (i) **(B)** Only (ii)
(C) Both (i) and (ii) **(D)** none of these

PART A
Answer any TWO questions. Each question carries 16 marks.

Q.2 a. Why CPU is called brain of the computer? Draw the block diagram of a computer. **(6)**

b. Differentiate between a flow chart, algorithm and a program. **(4)**

c. Convert $(217)_{10}$ to Binary number. **(2)**

d. Write a brief note on Error Detecting codes. **(4)**

Q.3 a. Explain the functioning of inkjet printer. **(6)**

b. Discuss the various output units of a computer. **(6)**

c. What is an assembler? How it works? **(4)**

Q.4 a. Explain the need for computer communication networks. **(4)**

b. Give the differences between LAN and WAN. **(4)**

c. How microcomputer is different from mini and mainframe computers? **(4)**

d. How does world wide web work? What is IP address? **(4)**

PART B
Answer any THREE questions. Each question carries 16 marks.

Q.5 a. What are elements of a user-defined function? Write a program in C to find the factorial of a number using function. **(8)**

b. Differentiate between Call by value & Call by reference by giving suitable example. **(8)**

Q.6 a. Write a program to reverse the entire sequence using array. **(8)**

b. Write a program to calculate the number of vowels in a given string. **(8)**

Q.7 a. Write a program to print the following outputs using for loops **(8)**

(i)
```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

(ii)
```
* * * *
  * * *
    * *
      *
```

b. Using a suitable example, explain the use of switch statement instead of multiple if-else statements. **(8)**

Q.8 a. Define the following: **(8)**

(i) getch() (ii) getchar()
(iii) getche() (iv) fflush()

b. Discuss different types of operator used in C language along with examples. **(8)**

Q.9 a. What is the difference between array_name and & array_name? **(4)**

b. Give the difference between the followings: **(8)**
(i) getw() and putw()
(ii) fprintf and fscanf()

c. Distinguish between (*m)[5] and *m[5]. **(4)**