Code: DE53/DC53/DE103/DC103
Subject: COMPUTER FUNDAMENTALS & C PROGAMMING

DipIETE – ET/CS (Current & New Scheme)

Time: 3 Hours   **June 2018**   **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. Algorithm and flow chart help us to:-
        (A) Know the memory capacity
        (B) Identify the base of a number system
        (C) Direct the output to a printer
        (D) Specify the problem completely and clearly

     b. A nibble consists of:-
        (A) One bit   **(B)** Four bits
        (C) Eight bits   **(D)** Sixteen bits

     c. BCD stands for:-
        (A) Binary Coded Decimal   **(B)** Bit Coded Decimal
        (C) Binary Coded Digit   **(D)** Bit Coded Digit

     d. WAN stands for:-
        (A) Wap Area Network   **(B)** Wide Area Network
        (C) Wide Array Net   **(D)** Wireless Area Network

     e. MICR stands for:-
        (A) Magnetic Ink Character Reader
        (B) Magnetic Ink Code Reader
        (C) Magnetic Ink Cases Reader
        (D) None of these

     f. Which of the following special symbol is allowed in a variable name?
        (A) * (asterisk)   **(B)** | (pipeline)
        (C) - (hyphen)   **(D)** _ (underscore)

     g. Which of the following correctly shows the hierarchy of arithmetic operations in C?
        (A) / + * -   **(B)** / + * -
        (C) + - / *   **(D)** / * + -

     h. The keyword used to transfer control from a function back to the calling function is
        (A) switch   **(B)** goto
        (C) go back   **(D)** return

i.   What does the following declaration mean?
     int (*ptr)[10];
     (A) ptr is array of pointers to 10 integers
     (B) ptr is a pointer to an array of 10 integers
     (C) ptr is an array of 10 integers
     (D) ptr is a pointer to array

j.   By default a real number is treated as a
     (A) float   **(B)** double
     (C) long double   **(D)** far double

PART A (Computer Fundamentals)
Answer any TWO questions. Each question carries 16 marks.

Q.2 a. Explain concept of algorithms.   **(4)**

b. Explain characteristics of computer.   **(4)**

c. Convert the following: **(2×4)**
    (i) $(0.62)_{10}$ to binary   (ii) $(532)_8$ to binary
    (iii) $(1101011)_2$ to octal   (iv) $(188)_{10}$ to hexadecimal

Q.3 Explain following:
    (i) Ink-jet printer   **(6)**
    (ii) Language translator   **(6)**
    (iii) Functions of operating system   **(4)**

Q.4 a. Explain the component of microcomputer.   **(8)**

b. Explain following: **(4×2)**
    (i) www   (ii) Data Transmission modes in Computer Networks

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PART B (C Programming)
Answer any THREE questions. Each question carries 16 marks.

Q.5 Explain following: **(4×4)**
    (i) Character set & Data types   (ii) getchar() & putchar() function
    (iii) Conditional operator   (iv) Logical operator

Q.6 a. Explain switch case statement with suitable example.   **(8)**

b. Explain following: **(4×2)**
    (i) while loop & do-while loop   (ii) goto statement

Q.7 a. What is an array? Write a C program to sort the array in an ascending order.   **(8)**

b. Explain following string handling functions: **(2×4)**
    (i) strncpy()   (ii) strcat()
    (iii) strncat()   (iv) strcmp()

Q.8 a. What is function and its type? Why we need function?   **(6)**

b. Explain following: **(5×2)**
    (i) Call by value   (ii) Call by reference

Q.9 a. Explain concept of pointer and benefits of using pointers.   **(8)**

b. Explain following: **(4×2)**
    (i) Types of files   (ii) Reading from and writing information to a file

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