SARDAR PATEL UNIVERSITY
M.Sc. (Electronics) II Semester Examination
Saturday, 23th March, 2019 Time : 10.00 am to 01.00 pm
PS02CELE23 – Programming in C/C++
Total Marks – 70

1. Figure to the right indicate maximum marks for the question

Q-1 [08]

A) C Source code is converted to executable form with the help of
i. Editor   ii. Compiler
iii. Assembler   iv. Pre-processor

B) Standard ANSI C recognizes _____ number of keywords?
i. 32   ii. 16
iii. 64   iv. 256

C) The keyword *break* cannot be used with
i. *do-while*   ii. *for*
iii. *switch-case*   iv. *if....else*

D) The only function all C programs must contain is _____ .
i. getch()   ii. printf()
iii. #include   iv. main()

E) By default a function returns a value of type
i. void   ii. char
iii. float   iv. int

F) If ASCII value of 'a' is 97, then what is the value of the H, if
H = ('d' – 'b') / 3;
i. 0   ii. 2
iii. 1   iv. 3

G) The storage class of variable determines the _____ of variable.
i. range   ii. size
iii. location   iv. visibility

H) C programming: Which is not a storage class?
i. auto   ii. static
iii. typedef   iv. global

Q-2 Answer any **seven**, in short. (Two marks each) [14]

1 List the advantages of C programming language.
2 What is the difference between the = and == operator?
3 What is a nested if?
4 Discuss, in brief, about C tokens.
5 Can we use "unsigned int " data type to store the value 32768? Justify your answer.
6 Compare *do....while* with *for*?
7 Describe Array, briefly.
8 Differentiate between *pre* and *post* increment.
9 What is precedence in the use of different operators?

①

(P.T.O.)

Q-3 [a] Discuss, in details, the fundamental data type in C language? [06]

Q-3 [b] Write the general syntax of conditional operator. Explain conditional operator [06] with suitable example.

OR

Q-3 [b] What are various storage classes in C? Discuss their uses and scope. [06]

Q-4 [a] With necessary example discuss the operators' precedence and associativity. [06]

Q-4 [b] Write a C program to check whether entered 3 digit number is palindrome or [06] not. (e.g. number 242 is palindrome while number 123 is not.)

OR

Q-4 [b] Write a C program to calculate the effective values of resistance, when two [06] resistors are connected in series as well as in parallel.

Q-5 [a] What is user defined function? List and explain various categories of user [06] defined function possible on C program.

Q-5 [b] Write a C language program which reads a 43 digit number only, and find the [06] smallest digit in a given 3 digit number. (e.g. n=527 -→ should print 2 is smallest digit)

OR

Q-5 [b] Write a C program to generate the following pattern while reading the value of [06] variable N.

```
1              // 1st line
2  3           // 2nd line
4  5  6        // 3rd line

.  ...........N    // Nth line.
```


Q-6 [a] Discuss how 8051 ports can be controlled using C program with the help of [06] SDCC. Explain the same, with necessary circuit diagram and suitable sample program.

Q-6 [b] Write a C Program to check if given number is present in an array (of 20 [06] elements) or not. If present, program should print the position of the number in the array.

OR

Q-6 [b] Write a C program to calculate the area & perimeter of the circle. The Radius [06] of the circle is given as an input through the keyboard.

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