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[22-HKPD1SN-23A]

DCA/PGDCA/MScIT 1st Semester (New) Exam. 2022 (W)

(Computer Programming Using C)

[PGCA/SCIT S1-03]

Full Marks : 50

Time : 2 hours

The figures in the right-hand margin indicate marks.

1. Answer any *four* of the following questions : $2 \times 4 = 8$

   (a) Specify the role of precedence among operators used in C programming language.

   (b) Explain the importance of SWITCH-CASE statement. What is the use of default statement in a switch statement ?

   (c) Write different format specifiers used in C language.

   (d) Write the output of the following for-loop statement :

```
int i;
for (i = 1; i < 5; i++);
  printf ("%d", i);
```

   (e) Specify the rules of naming an identifier in C.

2. Answer any *two* questions of the followings : $4 \times 2 = 8$

   (a) Discuss the term array and its merits and demerits.

(*b*) Write a C program to count the number of vowels in a string.

(*c*) Write a C program to calculate the area of a circle using macro.

3. Answer any *three* questions from the following : $6 \times 3 = 18$

(*a*) How is a pointer initialized ? What is dynamic memory allocation ? Differentiate between calloc() and malloc() function with their syntax.

(*b*) Give the difference between call-by-value and call-by-reference giving a suitable example.

(*c*) Give the basic difference between do-while and while loop. What is a recursive function ? Give one example writing a simple program. 2+4 = 6

(*d*) Distinguish between append mode and write mode in handling file in C. Mention the use of conditional operator and size of operator in C programming language. 3+3 = 6

4. Answer any *two* questions from the followings : $8 \times 2 = 16$

(*a*) Define the concept of structure and union. Explain how a structure is different from an array. Write a structure to represent a bank account.

(*b*) How do you initialize a two-dimensional array in C programming ? Write a C program to add two matrices and display the resultant matrix. 2+6 = 8

(*c*) Explain any four string handling functions with their appropriate syntax. Which function is used to read a string ?