

20/12/11 (E)

Roll No.

Total Pages : 4

240105

December, 2019

M.Sc. Mathematics- I SEMESTER

Programming in C (Theory) (MATH17-105)

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART - A

1. (a) Write details on header files **stdio.h** and **conio.h**. (1.5)
- (b) Write any *three* advantages of C language. (1.5)
- (c) Write a program for finding largest out of three numbers. (1.5)
- (d) Explain void data types and Type-defs. (1.5)
- (e) What is dynamic initialization? (1.5)

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- (f) What is a variable and what is mean by value of a variable? (1.5)
- (g) What is the difference between '=' and '=='? (1.5)
- (h) What are the limitations of Switch case statement? (1.5)
- (i) What is the use of **strcpy()** and **strdup()** functions? (1.5)
- (j) What are the uses of **malloc()** and **free()** functions? (1.5)

PART - B

- 2. (a) Explain structure of a C program by elaborating different sections of a C program. (8)
- (b) Explain different types of Constants in C and Keywords in C. (7)
- 3. (a) Write a program to convert temperature from Fahrenheit degree into centigrade degree. (8)
- (b) Explain floating point representation and different types of integers in C. (7)

4. (a) Write a program to print following pattern :

```
      *
     * * *
    * * * * *
     * * *
      *
```

(8)

- (b) Write a program to check whether year input by user is leap year or not. (7)

5. (a) Write short note on the **break** statement and **goto** statement with example. (8)

- (b) Write a program to calculate

(i) addition

(ii) subtraction

(iii) multiplication

(iv) division

(v) largest out of two numbers

using **switch** statement. (7)

6. (a) Explain relational operators and write a program to use various relational operators and display their return values. (8)

(b) What are arrays? Explain insertion and deletion of an array. (7)

7. (a) Which are the possible arithmetic operations with pointers? Explain. (8)

(b) Write a program to know whether the entered character string is palindrome or not. (7)
