

Total No. of Questions : 7]

SEAT No. :

PA-3399

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[5919]-11

M.Sc. (Computer Science)

CSUT - 111 : PARADIGM OF PROGRAMMING LANGUAGE

(2019 Pattern) (Semester - I)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Question 1 is compulsory.
- 2) Solve any Five questions from 2 to 7.
- 3) Questions 2 to 7 carry equal marks.

Q1) Solve any 5 of the following:

[5×2=10]

- a) Write a difference between call by value and call by reference.
- b) What is formal parameter? Give example.
- c) What is dynamic memory allocation?
- d) Which function is used to join two strings. Give Syntax.
- e) Give difference between structure & union.
- f) Explain malloc() and calloc() functions with example.

Q2) Attempt the following:

- a) i) Explain Iteration and recursion with example. [5]
- ii) Define union and free union. [2]
- b) Briefly explain functional programming with example. [5]

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Q3) Attempt the following:

- a) i) Explain different types of operators available in C. [5]
- ii) Define Semaphore. [2]
- b) Give Syntax and use of following functions: [5]
 - i) getchar()
 - ii) putchar()
 - iii) puts()
 - iv) printf()
 - v) scanf()

Q4) Attempt the following:

- a) i) Briefly explain data encapsulation and data abstraction. With example. [5]
- ii) Define polymorphism with example. [2]
- b) What is output of following code? Justify. [5]

```
int main()  
{  
    int a = 5, b = 10, c = 7;  
    predict (a, &b, c);  
    print f(“%d - %d - %d”, a, b, c);  
}  
Void predict (int p, int *q, int r)  
{  
    p = 50;  
    *q = *q * 10;  
    r = 77;  
}
```

Q5) Attempt the following:

- a) i) What is dangling pointer. Explain with example. [5]
- ii) Explain two solutions to dangling pointers. [2]
- b) Explain following functions with example: [5]
 - i) fclose()
 - ii) fopen()
 - iii) fgets()
 - iv) fputs()
 - v) fclose all()

Q6) Attempt the following:

- a) i) Find out the output of following code. Justify. [5]

```
main()  
{  
    int a = 10, b = 20;  
    {  
        int c = 30;  
        printf ("%d %d %d", a, b, c);  
    }  
    printf ("%d %d %d", a, b, c);  
}
```

- ii) Give difference between Enum and Union. [2]

- b) What will be output of following code. Justify. [5]

```
main()  
{  
    auto int i = 10;  
    {  
        auto int i = 20;  
        printf ("%d \n", i);  
    }  
    printf ("%d \n", i);  
}
```

Q7) Attempt the following (Any Two):

- a) What is enumeration type? Give design issues for enumeration type. [6]
b) Briefly explain declarative paradigm and imperative paradigm. State difference between both. [6]
c) What is Semaphore? Explain briefly with example. [6]

