

17212

21718

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any TEN of the following :

20

- (a) Define following terms :
 - (i) Variable
 - (ii) Constant
- (b) Define the term loop.
- (c) State the use of strlen (). Also give its syntax.
- (d) Write any two advantages of using function.
- (e) List two operators used with pointer.
- (f) State any four relational operators.
- (g) Write syntax for scanf() function. Give one example.
- (h) State the use of break statement.
- (i) Define the term character array.
- (j) Write syntax to define function in 'C' program.

- (k) Give output for following program :

```
# include <stdio.h>

void main()
{
    char ch = 'e';
    switch (ch)
    {
        case 'a':
            printf("I am in case a");
        case 'b':
            printf("I am in case b");
        default :
            printf("I am in default case");
    }
}
```

- (l) Write syntax of for loop.

2. Attempt any FOUR of the following :

16

- (a) Describe use of any two bit wise operators with suitable example.
- (b) Write a 'C' program to calculate and display multiplication of 1 to 7 numbers using for loop.
(E.g : $1 * 2 * 3 * \dots * 7 = 5040$)
- (c) Describe following functions with its syntax and example :
- (i) strcmp () (ii) strcat ()
- (d) Write a program to accept a number and display its cube using function.
- (e) Write a 'C' program to print length of accepted string using pointer.
- (f) Describe the use of continue statement with example.

3. Attempt any FOUR of the following :**16**

- (a) Describe with suitable example the concept of formatted output.
- (b) Write a 'C' program to find gross salary of employee. Accept basic salary from user. If basic salary is less than 2000 then calculate HRA = 11% and DA = 80% of basic salary. If basic salary is equal or greater than 2000 then HRA = 600 and calculate DA = 95% of basic salary. Display gross salary.
(gross salary = basic salary + HRA + DA)
- (c) Describe 'No argument with return value' category of function with example.
- (d) Write a 'C' program to find factorial of a number using recursion.
- (e) With suitable example, describe any two operations on pointer.
- (f) Write a 'C' program to accept a string from user and copy it into another string. Display both the strings.

4. Attempt any FOUR of the following :**16**

- (a) Describe conditional operator with syntax and example.
- (b) Describe with example in which case do-while loop is most suitable than while loop.
- (c) Write a 'C' program to calculate and display sum of five elements from array.
- (d) Write a 'C' program to define a structure 'Bank' with members as branchno and bankname. Accept and display data for one bank.
- (e) Differentiate between call by value and call by reference methods. (Any four points)
- (f) Define the terms pointer and pointer expression. Also write two advantages of using pointer.

P.T.O.

5. Attempt any FOUR of the following :**16**

- (a) Write an algorithm and draw a flowchart to add two numbers.
- (b) Describe importance of break statement in switch case statement.
- (c) Write a 'C' program to read two matrices of 3×3 . Calculate and display their addition.
- (d) Write a 'C' program to implement a menu for following :
 - (i) To find whether the number is even or odd.
 - (ii) To find whether the number is positive or negative.
- (e) Describe register and static storage classes with example.
- (f) State the meaning of each statement :

```
int *ptr, no;  
no = 5;  
ptr = & no;  
printf("%d %d", no, *ptr);
```

6. Attempt any FOUR of the following :**16**

- (a) Write a 'C' program to accept radius of circle and calculate area of circle. Display calculated area.
 - (b) Write a 'C' program to print sum of digits in the number.
(e.g. number = 2134, sum = $2 + 1 + 3 + 4 = 10$)
 - (c) Define array. With suitable example, describe how to declare and initialize one dimensional array.
 - (d) Describe how to access and initialize structure members with example.
 - (e) Explain local and global variable with example.
 - (f) Describe use of if-else statement with syntax and example.
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