

(C) # undef**(D) # define**

f. The output of the following is

```
x = 'a';
printf("%d", x);
```

(A) 'a'**(B) a****(C) 97****(D) None of the above**

g. Consider the following statement

```
int j, k, p;
float q, r, a;
a = j/k;
p=q/r;
```

If q=7.2, r=20, j=3, k=2

The value of a and p is

(A) a=1.5, p=3.6**(B) a=2, p=3****(C) a=1.5, p=4****(D) a=1, p=3**

h. Choose the function that returns remainder of x/y -

(A) remainder()**(B) mod()****(C) modulus()****(D) rem()**

i. What is the output of following program:-

```
int q, *p, n;
q = 176;
p = &q;
n = *p;
printf("%d", n);
```

If the address of q is 2801
and p is 2600**(A) 2801****(B) 176****(D) 2600****(D) None of the above**

j. Consider the following statements-

```
x = 5;
y = x > 3 ? 10 : 20;
```

The value of y is

(A) 10**(B) 20****(C) 5****(D) 3**

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

- Q.2** a. Explain various steps for analysing an algorithm. (6)
- b. What are Translators? Explain its various types. (3)
- c. Design an algorithm to generate all the primes in the first n positive integers. (7)
- Q.3** a. Explain various classes of datatypes of C (4)
- b. What are escape sequences characters? List any six of them. (4)
- c. Write a C program to calculate the average of a set of N numbers. (8)
- Q.4** a. Compare the use of switch statement with the use of nested if-else statement. (6)
- b. What do you mean by underflow and overflow of data. (2)
- c. Write a C program to multiply two matrices (maximum size of the two matrices is 20 x 20 each). (8)
- Q.5** a. Explain, in brief the purpose of the following string handling functions:
(i) strcat (ii) strcmp (iii) strcpy
Use suitable examples (6)
- b. Write a C program to read a line of text containing a series of words from the terminal. (7)
- c. Explain the need for user-defined functions. (3)
- Q.6** a. Differentiate between structure and union, use suitable examples. (4)
- b. What are the various parameter passing mechanisms? Explain them briefly. (4)
- c. Define a structure in C, which stores subject-wise marks of a student. Using a student array, write a C program to calculate the total marks in each subject for all the students. (8)
- Q.7** a. Distinguish between break and goto statement. (4)
- b. Explain the following directives:
#elif #pragma #error (6)
- c. Using recursion, write a C program to reverse a given number. (6)

- Q.8** a. Write a C function to delete a given item from a single linked list. Check for duplicate elements. **(8)**
- b. Consider the following:
P₁ is an integer pointer
P₂ is a long integer pointer
P₃ is a character type pointer
The initial value of P₁ is 2800, P₂ is 1411 and P₃ is 1201.
What is the new value of P₁ after P₁=P₁+1, P₂ after P₂=P₂+1 and P₃ after P₃=P₃+1; **(4)**
- c. Differentiate between White Box and Black Box Testing. **(4)**
- Q.9** a. Write a C program using pointers to compute the sum of all elements stored in an array. **(8)**
- b. Write a C program to create a file contains a series of integer numbers and then reads all numbers of this file and write all odd numbers to other file called odd and write all even numbers to a file called even. **(8)**