

- (A) "a" is for reading the file (B) "a" is for writing the file
 (C) "a" is for modifying the file (D) None of the above
- i. Which of these is correct to define a pointer?
 (A) int_ptr c ; (B) int *ptr ;
 (C) *int_ptr ; (D) *y ;
- j. Mathematical functions are available in which header file in C?
 (A) stdio.h (B) stdlib.h
 (C) math.h (D) io.h

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

- Q.2** a. Explain, what is an algorithm? How can a problem be solved using computers? (4)
- b. Describe the basic model of a computer? (4)
- c. Explain the use of Binary Numbers in Computers? (4)
- d. Convert decimal number 23.6 to binary number, upto 5 digits after decimal point? (4)
- Q.3** a. How Input and Output Data is processed on the computers? (4)
- b. Describe various types of the Input Units? (4)
- c. Why computer programming language is required? List out some of the prominent programming languages? (4)
- d. Define operating system. Explain personal computer operating system. (4)
- Q.4** a. Give a brief about Development and Evolution of Microcomputers? (3)
- b. Describe briefly an Actual Microcomputer and its CPU, and Minimum Microcomputer Configuration. (3)
- c. What is a Network? How Computer Networks can help in communication and data exchange? (4)
- d. What is ARPANET? What is its significance? (3)
- e. What is Internet? (3)
- Q.5** Write short notes, with examples, on:
- (i) Real or Float Constants (4)
- (ii) Variable data and its identification (4)
- (iii) Relational operators (4)
- (iv) Write the output of the following program: (4)
- ```
/* Program demonstrating printing
#include <stdio.h>
main()
```

```

{
int A = 1246, B = - 5436 ;
float C = - 123.1246, D = 1347.13 ;
double E = - 136.1234467809 , F = 136123446.7809 ;
printf("Values are:\n");
printf("\n");
printf("A = %d B = %d \n", A, B);
printf("%f %f\n", C,D);
printf("\n");
printf("13234557510\n");
printf("\n");
printf("E = %e F = %e \n", E, F);
}

```

**Q.6** a. In what ways does a switch statement differ from an if statement? **(3)**

b. Find errors, if any, in the following program segment:

```

if (code > 1);
a = b+c
else
a=0

```

**(3)**

c. Salary structure of a company is given below. Write a program in C to derive salary of a desired category of worker **(10)**

| Worker       | Experience<br>Years | Qualification | Salary |
|--------------|---------------------|---------------|--------|
| Skilled      | More than 5         | ITI           | 11000  |
|              | More than 5         | HSec          | 8000   |
|              | Less than 5         | ITI           | 7000   |
|              | Less than 5         | HSec          | 5000   |
| Semi Skilled | More than 5         | ITI           | 9000   |
|              | More than 5         | HSec          | 6000   |
|              | Less than 5         | ITI           | 5000   |
|              | Less than 5         | HSec          | 4000   |

**Q.7** a. Define an array. Explain the need for array variables. **(4)**

b. Describe the limitations of using getchar and scanf functions for reading strings. **(4)**

c. Write a program to find the greatest number and its position in the following Array;

```
Array[6] = { 2, 5, 3, 8, 6, 4 } ;
```

Print the maximum number and its position. **(8)**

**Q.8** a. The function main( ) is a user defined function. How does it differ from other user defined functions? **(4)**

b. Distinguish between the following:

(i) Actual and formal arguments.

(ii) Global and local variables. **(6)**

c. Write a function 'prime' that returns 1 if its argument is a prime number and returns zero otherwise.

(6)

- Q.9**
- a. What is a pointer? How is it initialized? (4)
  - b. Explain the difference between 'call by reference' and 'call by value'. (5)
  - c. How does an append mode differ from a write mode? (4)
  - d. What is the significance of EOF? (3)