

22226

11819

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Illustrate your answers with neat sketches wherever necessary.
  - (3) Figures to the right indicate full marks.
  - (4) Assume suitable data, if necessary.
  - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
  - (6) Preferably, write the answers in sequential order.

**Marks**

1. Attempt any FIVE of the following :

10

- (a) Define Algorithm.
- (b) Give the significance of `<math.h>` and `<stdio.h>` header files.
- (c) Give syntax of if-else ladder.
- (d) Define Array.
- (e) Write syntax and use of `pow()` function of `<math.h>` header file.
- (f) Define pointer. Write syntax for pointer declaration.
- (g) Draw and label symbols used in flow chart.

**2. Attempt any THREE of the following :****12**

- (a) Write an algorithm to determine whether a given number is divisible by 5 or not.
- (b) Explain do – while loop with example.
- (c) Explain one dimension and two dimension arrays.
- (d) Write the output of following c program

```
#include<stdio.h>

int main ( )
{
    char *ptr;

    char str[]="MAHARASHTRA STATE BOARD OF TECHNICAL
    EDUCATION";

    ptr=str;

    ptr=ptr+11;

    printf("%s",++ptr);

    return 0;
}
```

**3. Attempt any THREE of the following :****12**

- (a) Explain increment and decrement operator.
- (b) Explain User defined function with example.
- (c) Explain conditional operator with example.
- (d) Explain strlen() and strcpy() function with example.

- 4. Attempt any THREE of the following :** **12**
- (a) Write algorithm and draw flow-chart to print even numbers from 1 to 100.
  - (b) Write a program to accept marks of four subjects as input from user. Calculate and display total and percentage marks of student.
  - (c) Write a program to accept the value of year as input from the keyboard & print whether it is a leap year or not.
  - (d) Write a program to accept a string as input from user and determine its length. [Don't use built in library function strlen()]
  - (e) Write a program to swap two numbers using call by value.
- 5. Attempt any TWO of the following :** **12**
- (a) Write a program using switch statement to check whether entered character is VOWEL or CONSONANT.
  - (b) Write a program for addition of two  $3 \times 3$  matrices.
  - (c) Write a program to Print values of variables and their addresses.
- 6. Attempt any TWO of the following :** **12**
- (a) Write a program to declare structure employee having data member name, age, street and city. Accept data for two employees and display it.
  - (b) If the value of a number (N) is entered through keyboard. Write a program using recursion to calculate and display factorial of number (N).
  - (c) Write a program to accept two numbers from user and perform addition, subtraction, multiplication and division operations using pointer.
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