

MARTHOMA RESIDENTIAL SCHOOL
FIRST TERMINAL EXAMINATION August 2017

STD: XI

COMPUTER

80 MARKS
Time: 3 HRS

Answer all questions

Question 1

- a) Define type conversion and explain the 2 types of type conversion. [3]
- b) Discuss the concept of parity checking? [3]
- c) Write the syntax for **while** loop? [1]
- d) Write the syntax for **switch** statement? [1]
- e) What is reference data type. Give an example? [2]
- f) Distinguish between a unary, binary and ternary operator? Give examples for each one of them. [3]

Question 2

- a) Give the output for the following code?

```
void main( )
{
int i = 1;
int j = 3;
int k, l, m;
k = (j- -) + (++i);
i = 1;
j = 3;
l = (++i) + (j--);
j = 3;
m = (j--) + (++j);
System.out.println(" i= "+i);
System.out.println(" j= "+j);
System.out.println(" k= "+k);
System.out.println(" l= "+l);
System.out.println(" m= "+m);
}
```

b) Rewrite the following fragment using switch

```
if (ch=='E')
    eastern++;
if (ch=='W')
    western++;
if (ch=='N')
    northern++;
if (ch=='S')
    southern++;
else
    unknown++;
```

Question 3

- Convert $FACE_{16}$ into decimal
- Convert 10011011101_2 into hexadecimal
- Convert $ABCD_{16}$ into octal
- Convert 101.1101_2 into decimal
- Find 8-bit two's complement form of the integer -49

Question 4

- Add 1110.110_2 and 11010.11_2
- Subtract 101_2 from 110011_2
- Multiply 110.101_2 by 1011.01_2
- Divide 110111_2 by 1011_2
- Subtract 100.01_2 from 111.1_2

[5X2=10 mar

Question 5

Write a Java program to generate Fibonacci series 0 1 1 2 3 5 8 13..... n terms

Question 6

Write a Java program to perform operations of a square

- Area
- Perimeter
- Diagonal
- Exit

as per user's choice. [Diagonal of a square = $\sqrt{2}a$ where a is the side of square]

[15 mark

Question 7

Primorial(P#) is defined to be the product of prime numbers less than or equal to p.

e.g. $3\# = 2 \times 3 = 6$

$$5\# = 2 \times 3 \times 5 = 30$$

$$13\# = 2 \times 3 \times 5 \times 7 \times 11 \times 13 = 30030$$

Write a Java program to input a number and print its primorial i.e. $n\#$ ($n > 1$)

Sample data:

Enter a number : 3

$$3\# = 2 \times 3 = 6$$

Enter a number : 13

$$13\# = 2 \times 3 \times 5 \times 7 \times 11 \times 13 = 30030$$

[15 ma