

2018

Time 3 hours

Full Marks 100

Candidates are required to give their answers in their own words as far as practicable.

The questions are of equal value.

Answer any five questions, in which question no. 1 is compulsory.

1. Choose the correct answer of the following :

(a) The size of float data type in C++ is :

- (i) 2 bytes ~~(ii) 4 bytes~~
 (iii) 8 bytes (iv) None

(b) The output of the following loop is :

```
for (i=1; i<=5; i++);
```

```
count <<i;    http://www.biharpaper.com
```

- ~~(i) 2~~ (ii) 4
 (iii) 6 (iv) 8

(c) What is the output of the following program ?

```
public class Test First App {
```

```
public static void main (string[] args)
```

```
{
```

```
system.out.println((1==1)^(7==8)?(5:6:4));
```

```
}
```

```
}
```

- (i) 4 (ii) 6
 (iii) 5 (iv) 1

(d) The statement

```
system.out.print((double)7/4);
```

```
prints
```

- ~~(i) 1.75~~ (ii) 1
 (iii) 1.0 (iv) 2.0

(e) What do the statement

```
int i = 5;    http://www.biharpaper.com
```

```
system.out.print (i++ + ++i);
```

```
Print ?
```

- (i) 11 ~~(ii) 12~~
 (iii) 10 (iv) 13

(f) - Which of the following is procedural language :

- ~~(i) Pascal~~ (ii) Small talk
 (iii) C++ (iv) None

(g) Cout stands for :

- (i) Class output ~~(ii) Character output~~
 (iii) Common output (iv) Call output

(h) The value of : $3\% - 2$ is :

- ~~(i)~~ 1 (ii) -1
(iii) 1.5 (iv) -1.5

(i) getch () is .

- ~~(i)~~ Input character function
(ii) Input string function
(iii) Output character function
~~(iv)~~ None

(j) An array is a :

- ~~(i)~~ Derived data type
(ii) Fundamental data type
(iii) Both (i) & (ii)
(iv) None of these <http://www.biharpaper.com>

2. What is matrix multiplication ? Write a C++ program for matrix multiplication.

3. What is recursion in C++ ? How many types of recursion ? Explain each of them.

4. What is inheritance in C++ ? How many types of inheritance ? Explain any two with example.

5. What is constructor ? How many types of constructors are these in C++ ? Explain each of them.

6. (a) Write a C++ program to evaluate xy by using recursion. where x is float and y is integer.

(b) Write a Java program to print the following pyramid.

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

7. What do you mean by data encryption and data decryption ? Explain with example.

8. Write a java program to find the sum and average of n numbers. <http://www.biharpaper.com>

9. What is applet ? Write an applet program to find the sum of two numbers.

10. Write short notes on any three of the following :

- (a) Artificial intelligence
(b) Constructor
(c) Operator overloading
(d) Interface
(e) Method overloading