

City International School

FIRST PRELIMINARY EXAMINATION 2014 – 2015

Date : 21/11/2014

Marks : 100

Std : X

Subject : Computer Applications

Time : 2 hrs

The first fifteen minutes are to spent on reading the paper.

The time mentioned above is the time to write the paper.

This paper consists of 5 pages the paper is divided in two sections.

Answer all questions from section A and any 4 from section B.

Section A is of 40 marks and section B is of 60 Marks.

Marks of questions are given in brackets ().

SECTION – A (40 Marks)

Attempt all questions

- Q. 1**
- a. Explain the concept of Encapsulation? Give an example. (2)
 - b. What does the following mean? (2)
 - i. Flower lily = new Flower ();
 - ii. Employee staff = new Employee ();
 - c. Define the following. (2)
 - i. An object
 - ii. A class
 - d. What are the features of Java? (2)
 - e. Which OOP principle implements function overloading? Explain. (2)
- Q. 2**
- a. Define the terms. i. Byte Code ii. Machine Code (2)
 - b. Define variable with an example. (2)
 - c. What do you understand by Token. Mention types of tokens in Java. (2)
 - d. What do you mean by library classes? Mention any two library classes. (2)
 - e. Name the class that is used for mathematical functions in Java. (2)
Give an example of a Mathematical function.
- Q. 3**
- a. Predict the output for the following. (2)
 - i. `String s = new String ("abc");`
`System.out.println (s.tollppercase());`
 - ii. `String x = "COMPUTER"`
`String y = "APPLICATIONS";`
`String z = x.concat(y);`
`System.out.println(z);`
 - b. State the purpose and return data type of the following Mathematical function. (2)
 - i. `pow (a, b)`
 - ii. `log (a)`

- c. What is the use of keyword import? (2)
- d. Write down the general format of (2)
 - i. for loop
 - ii. do - while
- e. What is the purpose of using break statement? (2)

- Q. 4**
- a. What is an Operator? Mention any two types of operators. (2)
 - b. Define the following. (2)
 - i. Pure functions
 - ii. Impure function
 - c. What will be the output if a = 7? (2)
 - i. 4 * ++ a
 - ii. 4 * a ++
 - d. Explain the concept of Constructor overloading. (2)
 - e. Explain two features of a Constructor. (2)

SECTION – B (60 Marks)

Attempt any four questions from this section.

- Q. 5** Write a class with name employee and basic as its data member. Find the gross Pay of an employee for the following allowances and deduction. Use meaningful variables. (15)
- Dearness Allowance = 25% of Basic Pay
 House Rent Allowance = 15% of Basic Pay
 Provident Fund = 8.33% of Basic Pay
 Net Pay = Basic Pay + Dearness Allowance + House Rent Allowance
 Gross Pay = Net Pay – Provident Fund
- Q. 6** Write a program to accept length and breadth of a rectangle. Calculate and display the area, perimeter or diagonal of the rectangle as per the User's choice. (15)
- Q. 7** Write a menu driven class to accept a number from the user and check whether it is a Pallindrome or a Perfect Number. (8)
- a. Pallindrome Number. (8)
 - b. Perfect Number. (7)
- Q. 8** Write a program in Java to accept 15 different numbers and display the greatest and the smallest of the numbers. (15)
- Q. 9** Write a program in Java to find the sum of the series. (8)
- a. $S = 1 + (1 * 2) + (1 * 2 * 3) + \dots + 10$ terms. (8)
 - b. $S = 1 + \frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{10}$ (7)