



COMPUTER APPLICATIONS

(THEORY)

(One and a half hours)

(Full Marks – 50)

(Candidates are allowed **No** additional minutes for reading this paper.)

The paper is divided into two Sections.

In Section A, answer **any 1** question in Part I and **any 1** question from Part II.

Answer **all** questions from Section B.

All working, including rough work, should be done on the same sheet as the rest of the answer.

The intended marks for questions or parts of questions are given in brackets [].

SECTION A

PART I

Answer **any 1** question

Question 1

- (a) What does the following statement mean? [2]
Employee emp = new Employee ()
- (b) What do you mean by calling a function? How many types of it are there? Explain briefly. [3]
- (c) Explain the use of the 'return' keyword. [2]
- (d) What are constructors? Why are they needed? [3]

Question 2

- (a) Write the difference between a global and an instance variable? [2]
- (b) Write a function check which takes two integers arguments x and y and return true if x>y otherwise return false. [2]
- (c) Distinguish between *formal* and *actual* parameters. [2]
- (d) Explain function overloading with an example. [3]
- (e) What is function prototype? [1]

PART II

Answer **any 1** question

Question 3

- (a) Give 2 significant differences between **compareTo()** and **equals()**. [2]
- (b) Write the output stored in variables for the following statements: [4]
- (i) Sting st = "SOURAV GANGULY". substring(3, 10);
- (ii) boolean b = "MUMBAI". equalsIgnoreCase("Mumbai");
- (iii) int n = "Hello". indexOf('e');
- (iv) String s = "MADHYA". charAt(0) + "Pradesh". charAt(0);

This Paper consists of 2 printed pages.

- (c) State the use of **toString()** and **valueOf()** functions. [2]
(d) Justify the statement – “String is a class” [2]

Question 4

- (a) Write the correct and separate Java statements only for each of the following operations: [2]
(i) Replace all occurrences of character ch1 by ch2 in the string **str**.
(ii) Change the case of all characters of a string **str2** to upper case.
- (b) What is the difference between '**=**' and '**equalsIgnoreCase()**' [2]
- (c) Write a program in Java to input a word from the user and print it in the following format: [6]
If Input = TIGER
Output: T I G E R
T I G E
T I G
T I
T

SECTION B

Answer all questions

*The answers in this Section should consist of the **Programs in either Blue J environment or any program environment with Java as the base.***

*Each program should be written using **Variable descriptions/Mnemonic Codes** such that the logic of the program is clearly depicted.*

Flow-Charts and Algorithms are not required.

Question 5 [15]

Write a program in java to input three members and find their GCD (Greatest Common Divisor).
Make use of the function: **int find_GCD(int a, int b)** – function to find the GCD of 'a' and 'b'.

Question 6 [15]

Write a program in java to input a word and **form a new word** by exchanging the first and the last characters of the original word.

Example: Input – TIGER
Output – RIGET