### 2019

#### B.Sc.

# 2nd Semester Examination COMPUTER SCIENCE (Honours)

## Paper - C3T

Full Marks: 40

Time: 2 Hours

The figures in the margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.

## Group - A

1. Answer any five questions:

5×2

- (a) What is polymorphism?
- (b) What is an abstract class?
- (c) What is Java virtual machine?
  - (d) What is package? What is the use of packages in Java?
  - (e) What do you mean by Destructor?

[Turn Over]

- (f) What is an interface?
- (g) What is meta class?
- (h) What is multi-threading?

## Group - B

- 2. Answer any four questions:
  - (a) What is object-oriented programming? Discuss the basic characteristics of object-oriented programming?

 $4 \times 5$ 

- (b) How do you define a class in Java? How do you create its instances and refer to them?
- (c) What are constructors? Write down its various features and different types.
- (d) What are various techniques to handle Exceptions in Java? Explain with example.
- (e) Explain the Applet life cycle in brief with suitable diagram. 5
- (f) Write a Java program to reverse a string read from keyboard.
- (g) How many constructors can a class definition have? Why Java does not support multiple inheritance?

## Group - C

# 3. Answer any one questions:

1×10

- (a) (i) Explain the user defined exception and system defined exception with appropriate example.
  - (ii) How does constructor overloading differ from method overloading? 6+4
- (b) (i) Can a super class object refer a sub class object? Explain in brief.
  - (ii) What is the difference between abstract class and interface?
  - (iii) Write a Java program to display the number and its sum of digits that are divisible by 4 and lie between 100 and 200. 3+2+5