

# Question Paper

Exam Date & Time: 25-Apr-2018 (09:30 AM - 12:30 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

### INTERNATIONAL CENTRE FOR APPLIED SCIENCES II SEMESTER B.S. (ENGG.) END - SEMESTER THEORY EXAMINATIONS APRIL - 2018

**DATE: 25 APRIL 2018**

**TIME: 9:30 AM TO 12:30 PM**

**Java Programming [CS 124]**

**Marks: 100**

**Duration: 180 mins.**

#### **Answer 5 out of 8 questions.**

- 1) What do you mean by automatic type conversion and type casting? Explain each with two examples. (4)
  - A)
  - B) Illustrate the uses of labelled break with suitable program examples. (8)
  - C) What are static methods? Explain with an example. Also mention the restrictions of methods declared as static. (8)
- 2) How do you use this keyword to resolve name-space collisions? (4)
  - A)
  - B) What are constructors? How can the constructors be overloaded? Discuss. (8)
  - C) Demonstrate the differences between public and private access controls with an example. (8)
- 3) Implement a multi-level inheritance in Java. When are constructors at various levels executed in a multi-level inheritance? (8)
  - A)
  - B) What do you mean by dynamic method dispatch? How do you accomplish dynamic method dispatch? Explain with an example program. (7)
  - C) How do you prevent a method from being overridden? Describe with an example. (5)
- 4) What is a package? How do you define and find packages? Discuss. (6)
  - A)
  - B) What are interfaces? How do you create and implement interfaces? Explain with an example. (8)
  - C) Show an example of overloaded varargs methods that is (6)

ambiguous.

- 5) Show the use of `StringIndexOutOfBoundsException` exception with an example code. (8)
- A)
- B) With an example, show how to throw a user defined exception. (8)
- C) Demonstrate the use of nested try statements. (4)
- 6) Discuss thread priorities in Java. (6)
- A)
- B) Explain Inter-thread communication using `notify()` and `wait()`, with Producer Consumer program (8)
- C) Write a note on the Delegation Event Model. (6)
- 7) Write a static generic method called `printArray()` to receive a 1D array and to display it. Write main method to test the function with Integer and Character types. Use for each loop. (7)
- A)
- B) Write a program to copy contents of `src.txt` to `dest.txt` using character stream classes. Use finally keyword appropriately. (7)
- C) Write a note on `RandomAccessFile`, its constructors and `seek()` method. (6)
- 8) Demonstrate the use of wildcard arguments in Generics with an example program. (8)
- A)
- B) What are swings? How are they better than AWT? (6)
- C) Write an applet java program to do the following: (6)
- a) Display the message "Welcome to applet programming" in the applet window
- b) Set foreground and background with some colors
- c) Display the message "This is status window" in the status window of the applet.

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