(i) Printed Pages: 3 Roll No. .....

(ii) Questions : 9 Sub. Code : 0 3 9 0

Exam. Code : 0 0 0 4

B.A./B.Sc. (General) 4th Semester

1048

COMPUTER APPLICATIONS

Paper—CA08—Java Programming

Time Allowed : Three Hours] **[Maximum Marks : 30**

Note :— Attempt **five** questions in all, including Q-1 in Section A, which is compulsory, and taking **one** each from Section—B, Section—C, Section—D and Section—E.

SECTION—A

(Compulsory Question)

1. (a) What is Java ByteCode ?

   (b) Why must every Java application have a *main* method that is *static* ?

   (c) What is the special keyword used by an object to refer to itself ?

   (d) How do you check if two strings named str1 and str2 are equal ?

   (e) What is the difference between an interface and an abstract class ?

   (f) What is the use of Graphics class ? 6×1=6

SECTION—B

2. (a) What are the salient features of Java ? Why is Java important to the Internet ?

   (b) Java has five control statements : if, while, do....while, for, and switch. However, it really only needs two of these. What does this mean ? Why is it true ? 3,3

3. (a) What is inheritance ? Explain how you can inherit a class into another class in Java with the help of a program.

   (b) "If a class is defined to be final, it cannot be extended." Comment. 3,3

SECTION—C

4. (a) What is a String class ? Explain any three constructors of string class.

   (b) How is an array stored in memory in Java ? Explain with examples. 3,3

5. What is a package in Java, and how are packages used ? Give an example of one of the standard packages that are part of Java. 6

SECTION—D

6. What is multithreading ? What is synchronization with respect to multithreading and why is it important ? Why is multithreading more efficient ? Explain with at least two example cases. What class and interface does Java provide to support Multithreading ? 6

7. Define "exception". What might cause an exception in Java ? What are checked exceptions ? Write a Java program to show how multiple exceptions are handled. Also explain the need of finally block in exception handling. 6

SECTION—E

8. Explain the applet life-cycle. In particular explain the roles of the init, start, stop, paint and destroy methods. 6

9. How is Java applet different from Java application ? Write a Java applet that prints "Good" at the current cursor position whenever the left mouse button is clicked. 6