B.C.A. (Pt.-III)

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B.C.A. (Part-III) EXAMINATION, 2020

(Faculty of Science)

(Three-Year Scheme of 10+2+3 Pattern)

Core Java Programming

Time Allowed : Three Hours   Maximum Marks : 100

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer-book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

Write your roll number on question paper before start writing answers of questions.

Question paper consists of three Parts. All THREE parts are compulsory.

PART - I : *(Very Short answer) consists of 10 questions of 2 marks each. Maximum limit for each question is up to 40 words.*

PART - II : *(Short answer) consists of 5 questions of 4 marks each. Maximum limit for each question is up to 80 words.*

PART - III : *(Long answer) consists of 5 questions of 12 marks each with internal choice.*

PART - I

1. Answer all these questions, each carries equal marks.   2x10=20

    (a) Explain Abstraction using a simple example.

    (b) What is life time of a Variable ?

    (c) Discuss any of the 2 disadvantages of array in Java.

    (d) What is instance of a Class ?

    (e) Discuss any 2 features of Swings in Java.

    (f) Why is the need of Applet in Java ?

    (g) List out any of the 2 importance of Threading in Java.

    (h) What is Runnable interface in Java ?

    (i) Discuss any 2 usages of Socket Programming.

    (j) Explain TCP/IP socket in Java.

PART - II

2. Answer all these questions. Each question carry equal marks.   5x4=20

   (a) Explain some of the important reasons for the popularity of Java language.

   (b) Differentiate the use of JDK and JVM.

   (c) Design a class using Java to illustrate the use of class and object.

   (d) What is the life cycle of Applet in Java, explain.

   (e) Design a Java code to implement the stack's basic operations.

PART - III

3. (a) Discuss the importance of object oriented programming over structural programming. Also   12
explain some of the important features, which makes Java differ from other languages.

<div align="center">OR</div>

   (b) Explain the list of operators used in Java.   6

   (c) Design a code in Java to find out the factorial of a given number.   6

4. (a) Design a program using Java to perform the following operations.

     (i) Count the numbers of vowels available in a string.   6

     (ii) Reverse a string using user-defined function.   6

<div align="center">OR</div>

   (b) Design a program in Java to illustrate the usages of Single and Multiple Inheritance (if possible)   7
by taking any suitable example.

   (c) Design a Java program to explain "Exception Handling".   5

5. Write short notes on the following :

   (a) Java AWT Hierarchy   5

   (b) How to create instance of frame class using AWT   7

<div align="center">OR</div>

   (c) Java Swing component with example   6

   (d) Creation of Frame using Swing   6

6. (a) Explain some of the important drawbacks of Applet and design the code in Java to explain the   12
Applet viewer tool by Applet.

<div align="center">OR</div>

   (b) Differentiate sleep( ), suspend( ) and wait( ).   8

   (c) Explain synchronisation in respect to Multithreading in Java.   4

7. (a) Explain Socket Class and Server Socket Class and their important methods by taking a program   12
as an example.

<div align="center">OR</div>

   (b) Explain execution and reading select query using JDBC in Java.   6

   (c) Explain the types of Result sets in JDBC.   6

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