MARWADI UNIVERSITY

Faculty of Computer Applications

B.C.A. / B.C.A. (H)   **SEM: 4**   **SUMMER-2019**

_____

Subject: - Core Java - 05BC0404   **Date:-15-04-2019**

Total Marks:-100   **Time: - 03:00 hours**

Instructions:
   1. **All Questions are Compulsory.**
   2. **Make suitable assumptions wherever necessary.**
   3. **Figures to the right indicate full marks.**

Question: 1.

(a)   **Multiple Choice Questions**   [10]
   (1)   Java was developed by
           (A)   Ken Thompson   (B)   James Gosling
           (C)   Dennis Ritchie   (D)   Bjarne Stroustrup
   (2)   Which is the base class of Exception class
           (A)   Exception Class   (B)   Throwable Class
           (C)   Error Class   (D)   none of the above
   (3)   Which of the following is not a java keyword ?
           (A)   static   (B)   try
           (C)   Null   (D)   enum
   (4)   Which is the base class of all classes in java?
           (A)   Object   (B)   String
           (C)   Lang   (D)   none of the above
   (5)   Which class is thread-safe i.e. multiple threads cannot access it simultaneously,
           So it is safe and will result in an order?
           (A)   StringBuffer   (B)   StringBuilder
           (C)   Both A & B   (D)   None of the above
   (6)   Which class members can be accessed from the classes in the same package as
            well as classes in other packages that are subclasses of the declaring class?
           (A)   private   (B)   public
           (C)   default   (D)   protected
   (7)   Under which package is the string class encapsulated?
           (A)   java.io   (B)   java.lang
           (C)   java.util   (D)   none of the above
   (8)   A class is declared inside a class but outside a method is known as
           (A)   Anonymous Inner Class (B)   Local Inner Class
           (C)   Member Inner Class   (D)   Static Nested Class
   (9)   Which method in thread class causes the currently executing thread object to
           temporarily pause and allow other threads to execute?
           (A)   yield()   (B)   wait()
           (C)   isAlive()   (D)   none of the above
   (10)   The class at the top of the AWT hierarchy is
           (A)   Window   (B)   Container
           (C)   Frame   (D)   Component

(b)   **Write down answers in one sentence for following questions :**   [10]
   (1)   What is the use of constructor in java?

(2) What is ArrayList in java?
(3) Which keyword is used to prevent method overriding and inheritance
     in java?
(4) Which keyword is used when you want to inherit one interface in another
     interface?
(5) What is enum in java?
(6) What is the use of Generics in java?
(7) What is the significance of matcher class for regular expression in java?
(8) Does java supports constructor overriding?
(9) What is the use of Pattern.compile(String r) in java?
(10) What is Multithreading in java?

Question: 2.

(a) Explain Event Delegation Model in brief by giving a suitable example.   [08]

(b) Explain various data-types available in java in detail.   [08]

OR

(b)   Explain features of java in detail   [08]

Question: 3.

(a) Explain abstract class and super keyword by giving a suitable example.   [08]

(b) Describe Access Specifiers in brief.   [04]

(c) Differentiate between class and interface.   [04]

OR

(a) What is inheritance? List out different types of inheritance? Explain any two
     by giving a suitable example   [08]

(b) Explain in brief about Garbage Collector and finalize method in java   [04]

(c) Differentiate between String & StringBuffer   [04]

Question: 4.

(a) Explain Exception Handling in java by giving a suitable example.   [08]

(b) Discuss Thread Synchronization in brief.   [04]

(c) Differentiate between comparable & comparator interface.   [04]

OR

(a) What is Package? Explain Package in java by giving a suitable example   [08]

(b) Describe initializer block and class initializer block in java   [04]

(c) Differentiate between throw & throws.   [04]

Question: 5.

    (a)   Explain Applet Life-Cycle by giving a suitable example.   [08]

    (b)   Explain Adapter class in brief.   [04]

    (c)   Differentiate between Panel & Frame   [04]

OR

    (a)   What is Layout Manager? List out different types of AWT Layouts? Explain BorderLayout in java by giving a suitable example.   [08]

    (b)   Explain swing in brief.   [04]

    (c)   Differentiate between Character Stream & Byte Stream in java   [04]

Question: 6.

    (a)   Describe abstract class called Shape which has three subclasses say Triangle, Rectangle, and Circle. Define one method area () in the abstract class and override this area () in these three subclasses to calculate for specific object i.e. area () of Triangle subclass should calculate area of triangle etc. Same for Rectangle and Circle   [08]

    (b)   Explain Wrapper Class in brief.   [04]

    (c)   Write a Java Program to count and display frequency of letters and digits from the String given by user as command-line argument.   [04]

OR

    (a) Write a java program to implement an interface called Exam with a method Pass (int mark) that returns a boolean. Write another interface called Classify with a method Division (int average) which returns a String. Write a class called Result which implements both Exam and Classify. The Pass method should return true if the mark is greater than or equal to 50 else false. The Division method must return "First" when the parameter average is 60 or more, "Second" when average is 50 or more but below 60, "No division" when average is less than 50.   [08]

    (b)   Discuss static keyword in brief.   [04]

    (c) Create a class Vehicle with data member vehicle_type. Inherit the class in a class called car with data member model_type, company name etc. display the information of the vehicle by defining the display function in both super and sub class   [04]

---Best of Luck---