Question Paper

Exam Date & Time: 30-Apr-2019 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

INTERNATIONAL CENTRE FOR APPLIED SCIECES IV SEMESTER B.Sc. (APPLIED SCIENCES) IN ENGINEERING END SEMESTER THEORY EXAMINATION-APRIL/MAY 2019

Java Programming [CS 124]

Marks: 100

Duration: 180 mins.

Answer any Five full questions Missing data may be suitably assumed

example program.

- ¹⁾ Java is robust and architectural neutral. Justify the statement with enough ⁽⁶⁾ reasons.
 - A)
 - ^{B)} Explain the difference between logical AND and short circuit AND operators ⁽⁶⁾ with appropriate examples.
- C) (8) Why do you make a method static instead of non-static? Give an example where it would be useful. Implement a static method median() which takes 1D array of type double as parameter and returns the median of the array. Also write main() to test the method. Note: The median of a set of numbers is the middle-most number in the sorted array if the array is of odd length, if the array is of even length, then median is the average of the middle two numbers in the sorted array. 2) (10)What are packages? Mention any three benefits of packages. Write a table showing the class members' visibility. A) B) (10)What do you mean by dynamic method dispatch? Explain the concept of dynamic method dispatch with the help of a java program. 3) (5) What are Exceptions? What are checked and unchecked exception? Give two examples for each. A) B) (10)Write a program to demonstrate multiple threads. Each thread should display numbers from 1 to 10 in an interleaved fashion. Use proper exception handling mechanism. C) (5) Differentiate between join() and sleep() methods. 4) What is the need for synchronization? With an example program explain (8) synchronized method. A) B) (8) What are Bounded and Unbounded wildcards? Explain with the help of an

	C)	With examples mention any 2 restrictions that we need to keep in mind while using generics.	(4)
5)	A)	Write a Java program to define a class called Book with the private data members title, author and numOfPages. Define zero argument constructor and a parameterized constructor and a display member function. Write a separate class called BookDemo to define main method which should create an array of n Book objects. The main () also reads an author name from keyboard and displays all the books' Title and Author name which matches with the author name read.	(10)
	B)	Explain the use of 'this' keyword in java with an example.	(5)
	C)	Mention the order of invocation of constructors in multilevel hierarchy.	(5)
6)	A)	With suitable examples distinguish between method overloading and method overriding.	(8)
) В)	With examples explain any two uses of super keyword.	(6)
	C)	What are anonymous inner classes? Write one advantage. Also give an example for the same.	(6)
7)		What is an abstract class? Why do we need abstract classes?	(8)
	A) B)	How is an interface different from a class?	(5)
	C)	What are constructors? Define a class to illustrate overloading of constructors.	(7)
8)	A)	How are objects passed as parameters to methods in Java? Explain with the help of an example.	(5)
	В)	Explain the significance of seek () method of RandomAccessFile with an example and prototype. Write a function to copy contents of one file to the other using byte stream classes. The function should take 2 file names (source file and destination file) as parameters. Also write a main() to test the function.	(8)
	C)	What is Delegation Event Model? Explain Event, Source and Listener concepts with respect to Delegation event model.	(7)

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