P P SAVANI UNIVERSITY

Second Semester of B. Tech. Examination

May 2022

SEIT1030 Object Oriented Programming with Java

30.05.2022, Monday **Time: 10:30 a.m. To 1:00 p.m.** **Maximum Marks: 60**

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in same answer sheet.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

Q - 1 Answer the Following: (Any 5) **[05]**

(i) Write full form of JDK. State components of JDK.

(ii) When is the object created with new keyword?

(a) At run time
(b) At compile time
(c) Depends on the code
(d) None of the above

(iii) Identify the correct restriction on static methods.

(I) They must only access static data.
(II) They can only call other static methods.
(III) They cannot refer to this or super.

(a) I and II
(b) II and III
(c) Only III
(d) I, II and III

(iv) Define Bytecode and JVM.

(v) What is CLASSPATH?

(vi) When is the finalize () called? What is the purpose of finalization?

Q - 2 (a) List various concepts of Object Oriented Programming Language. Explain the characteristics & features of Java Programming Language. **[05]**

Q - 2 (b) Write and explain the basic structure of Java Programming Language. **[05]**

OR

Q - 2 (a) Describe all the primitive data types supported by Java with appropriate examples. Also specify their storage capacity/range. **[05]**

Q - 2 (b) Does Java support destructor? What is a Constructor? Explain types of Constructors in Java with suitable example? **[05]**

Q - 3 (a) Explain in detail the mechanism of garbage collection performed in Java using System.gc ( ) and finalize ( ) method. **[05]**

Q - 3 (b) Define Polymorphism. Explain how Java achieves compile time polymorphism with suitable example. **[05]**

OR

Q - 3 (a) Write down basic definition of inheritance along with benefits. List and explain various types of inheritance supported by Java with appropriate line of code. **[05]**

Q - 3 (b)	What are the benefits of using packages in Java? Write down the steps in creating a package and using it in Java with suitable example.	**[05]**
Q - 4	Attempt any one:	**[05]**
(i)	Define and describe following keywords along with example: (a) super and (b) abstract class.	
(ii)	Define interface. Which type of inheritance is possible using interface? Explain with suitable example.	

SECTION – II

Q - 1	Answer the Following: (Any 5)	**[05]**
(i)	What is the default value of Array for int data type?	
(ii)	What does the expression float a = 35 / 0 return? [A] 0 [B] Not a Number [C] Infinity [D] Run time exception	
(iii)	True or False - Threads in java share the same memory space and resources.	
(iv)	Which method is called only once during the run time of your applet?	
(v)	Full form of AWT.	
(vi)	Explain equals() function in Java.	
Q - 2 (a)	What is an Array ? Write a java program to display sum of 5 numbers using array.	**[05]**
Q - 2 (b)	What is String in Java ? List any four string functions with example.	**[05]**

OR

Q - 2 (a)	What is Exceptions ? Also explain its types.	**[05]**
Q - 2 (b)	Write a java program to generate Arithmetic Exception.	**[05]**
Q - 3 (a)	Difference between checked and Unchecked exceptions.	**[05]**
Q - 3 (b)	What is the purpose of wait(), notify() and notifyAll() methods ? Explain life cycle of a thread.	**[05]**

OR

Q - 3 (a)	Define byte stream and character stream. Explain constructors and methods of File class in Java.	**[05]**
Q - 3 (b)	Discuss life cycle of applet in brief.	**[05]**
Q - 4	Attempt any one:	**[05]**
(i)	Write a java applet program to display "Welcome to Applet".	
(ii)	Explain input stream and output stream classes of Java.	

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