

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2021****Subject Code:3140705****Date:11/09/2021****Subject Name:Object Oriented Programming -I****Time:02:30 PM TO 05:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Define object oriented concepts.	03
	(b) What is the difference between the StringBuffer and StringBuilder classes?	04
	(c) Define constructor. How objects are constructed? Explain constructor overloading with an example.	07
Q.2	(a) Explain about arrays, Type of arrays and arrays methods.	03
	(b) Explain about Encapsulation, Abstraction.	04
	(c) State the design hints for class and inheritance. Also discuss the working and meaning of the “static” modifier with suitable examples.	07
OR		
	(c) Explain in detail how inheritance and polymorphism are supported in java with necessary examples.	07
Q.3	(a) Explain about different types of string methods.	03
	(b) Write short notes on access specifiers and modifiers in java.	04
	(c) What is an Exception? Explain the exception hierarchy. Explain how to throw, catch and handle Exceptions.	07
OR		
Q.3	(a) Explain about Final class, Fields, Methods.	03
	(b) What is a Package? What are the benefits of using packages? Write down the steps in creating a package and using it in a java program with an example.	04
	(c) Explain the concept of inner classes and explain the types of inner classes with an example program.	07
Q.4	(a) What is Dynamic binding? Show with an example how dynamic binding works.	03
	(b) Write short notes about I/O stream classes.	04
	(c) Explain the thread state, thread properties and thread synchronization.	07
OR		
Q.4	(a) Explain the concept of finalization.	03
	(b) What is reflection and how does it help to manipulate java code.	04
	(c) Write a java program to implement the multiple inheritance concepts for calculating area of circle and square.	07
Q.5	(a) Explain about callback	03
	(b) Explain the interface with an example program.	04
	(c) What is Generic programming and why is it needed? Explain with example. List the limitations and restrictions of generic programming	07

OR

- Q.5**
- (a) Explain about Proxy class, Interface and Methods. **03**
 - (b) Explain about adapter classes and mouse events with an example. **04**
 - (c) With a neat diagram explain the Model view controller design pattern and list out the advantages and disadvantages of using it in designing an application. **07**

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