



# ADAMAS UNIVERSITY

## END SEMESTER EXAMINATION

(Academic Session: 2020 – 21)

<b>Name of the Program:</b>	MCA	<b>Semester:</b>	II
<b>Paper Title:</b>	Object Oriented Programming with Java	<b>Paper Code:</b>	CSE21909
<b>Maximum Marks:</b>	50	<b>Time Duration:</b>	3 Hrs
<b>Total No. of Questions:</b>	17	<b>Total No of Pages:</b>	2
(Any other information for the student may be mentioned here)	<ol style="list-style-type: none"> <li>At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name &amp; Code, Date of Exam.</li> <li>All parts of a Question should be answered consecutively. Each Answer should start from a fresh page.</li> <li>Assumptions made if any, should be stated clearly at the beginning of your answer.</li> </ol>		

### Group A

**Answer All the Questions (5 x 1 = 5)**

1	What is a companion class to string called, whose objects contain strings that can be modified after they are created?	R	CO1
2	What is meant by local variable and instance variable?	R	CO2
3	What is Polymorphism?	R	CO3
4	What are the differences between String, String Builder, and String Buffer?	R	CO4
5	What are the Exception handling keywords in Java?	R	CO5

### Group B

**Answer All the Questions (5 x 2 = 10)**

6 a)	What are the features of Java? Explain in brief.	R	CO1
(OR)			
6 b)	What is JVM?	R	CO1
7 a)	What do you mean by Keyword, Identifier, Literals, Operators and Separators in Java	R	CO1
(OR)			
7 b)	What do you mean by typecasting? Discuss with examples.	R	CO1
8 a)	Define constructor with a suitable example.	R	CO3
(OR)			
8 b)	What is method overloading?	R	CO3
9 a)	Define different types of access specifiers in Java	R	CO2
(OR)			
9 b)	What is Object and Classes? Discuss with example.	R	CO2
10 a)	Why doesn't Java support Multiple Inheritance?	R	CO4
(OR)			
10 b)	When do we define a method or class <b>abstract</b> ?	R	CO4

### Group C

**Answer All the Questions (7 x 5 = 35)**

11 a)	What is typecasting? Why it is required in the program?	R	CO1
(OR)			
11 b)	Develop a program in java to design a calculator with all the five	AP	CO1

	operations: a. Addition b. Subtraction c. Multiplication d. Division e. Modulo		
12 a)	Develop a Java program in java to print the following triangle: 1 01 101 0101 10101	<b>AP</b>	<b>CO2</b>
<b>(OR)</b>			
12 b)	What is Encapsulation? Explain how encapsulation provides modularity and information hiding?	<b>R,U</b>	<b>CO2</b>
13 a)	Develop a program to create a class with two method, one recursive and other iterative. Overload the method. Both the method are capable of computing Fibonacci series but in different ways.	<b>AP</b>	<b>CO3</b>
<b>(OR)</b>			
13 b)	Develop a program in java to demonstrate the following: a. Copy Constructor b. Constructor Overloading	<b>AP</b>	<b>CO3</b>
14 a)	What is multithreading? Explain the advantages of multithread programs.	<b>R,U</b>	<b>CO5</b>
<b>(OR)</b>			
14 b)	Explain with an example, how exceptions are handled in Java	<b>U</b>	<b>CO5</b>
15 a)	What is a Package? Explain different types of Packages.	<b>R,U</b>	<b>CO4</b>
<b>(OR)</b>			
15 b)	Explain with an example: i. Method Overriding ii. Wrapper Class	<b>U</b>	<b>CO4</b>
16 a)	Develop a java program to use the yield ( ), stop ( ) and sleep ( ) methods of a thread.	<b>AP</b>	<b>CO5</b>
<b>(OR)</b>			
16 b)	Develop a java program implement synchronization between methods	<b>AP</b>	<b>CO5</b>
17 a)	Develop an applet that receives three numeric values as input from the user and then displays the largest of the three on the screen.	<b>AP</b>	<b>CO6</b>
<b>(OR)</b>			
17 b)	Discuss different stages in the life cycle of an applet.	<b>C</b>	<b>CO6</b>