

Enrollment No.....



**Faculty of Science**  
**End Sem (Even) Examination May-2019**  
**CA3CO14 Object Oriented Technology**

Programme: BCA

Branch/Specialisation: Computer  
Application**Duration: 3 Hrs.****Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. Which of the following is a legal identifier in java? 1  
 (a) 2variable (b) #myvar (c) +@\$var (d) \_myvar
- ii. Which declaration of the main() method is valid ? 1  
 (a) public void main( String args [] )  
 (b) public static void main( String[] arr)  
 (c) final public static void main(String[] arr)  
 (d) public void static main( String args [])
- iii. In the given Array declaration, which expression returns the output as 5? 1  
 int [] arr = { 23, 5, 78, 34, 2};  
 (a) arr.length() (b) arr[].length()  
 (c) arr[].length (d) arr.length
- iv. What will be the output of following program 1  

```
class A {
    int x = 10;
    public void assign(int x) {
        x = x;
        System.out.println(this.x);
    }
    public static void main(String[] args) {
        new A().assign(100);
    }
}
```

 (a) 10 (b) 100 (c) 0 (d) Compile-time error

P.T.O.

[2]

v.	What is the base class for all Exception? (a) java.lang.Exception (b) java.lang.Throwable (c) java.lang.RuntimeException (d) java.lang.Error	1
vi.	Which method will contain the body of the thread? (a) run() (b) start() (c) stop() (d) main()	1
vii.	Give the abbreviation of AWT? (a) Applet Window Toolkit (b) Abstract Window Toolkit (c) Absolute Window Toolkit (d) None of these	1
viii.	Package of drawstring() method is (a) java.applet (b) java.io (c) javax.swing (d) java.awt	1
ix.	The following are the advantages of _____ I. It is lightweight. II. It supports pluggable look and feel. III. It follows MVC (Model View Controller) architecture (a) Swing (b) AWT (c) Both (a) and (b) (d) None of these	1
x.	The Following steps are required to perform I. Implement the Listener interface and overrides its methods II. Register the component with the Listener (a) Exception Handling (b) String Handling (c) Event Handling (d) None of these	1
Q.2	i. "Java is called Machine Independent language" Justify this statement with proper explanation.	4
	ii. Write a Java program to print following pattern: 1 2 3 2 3 4 5 4 3 4 5 6 7 6 5 4	6
OR	iii. Write various features of object oriented programming and explain them in brief.	6

[3]

Q.3	i. Describe constructor overloading with example.	4
	ii. How to create string in java. Write a Java program to reverse a string.	6
OR	iii. What is an array? How to create array? Write a java program to sort an array.	6
Q.4	Attempt any two: i. What are the five keywords, which are used for exception handling? Explain each.	5
	ii. What is synchronization in Java? What are the various techniques by which synchronization can be implemented? Explain	5
	iii. Explain concept of multithreading with the help of an example program.	5
Q.5	i. Write a Java Program to create instance of Frame class and show Button component on the Frame.	4
	ii. Explain about any two AWT Layout Managers with example programs.	6
OR	iii. Explain the Java AWT hierarchy with diagram.	6
Q.6	Attempt any two: i. List out the differences between AWT and Swings.	5
	ii. How event listener works? Explain with the help of an example.	5
	iii. What is an adapter class? Explain.	5

\*\*\*\*\*

## Marking Scheme

### CA3CO14 Object Oriented Technology

Q.1	i.	Which of the following is a legal identifier in java? (d) _myvar	1
	ii.	Which declaration of the main() method is valid ? (b) public static void main( String[] arr)	1
	iii.	In the given Array declaration, which expression returns the output as 5? int [] arr = { 23, 5, 78, 34, 2}; (d) arr.length	1
	iv.	What will be the output of following program (a) 10	1
	v.	What is the base class for all Exception? (b) java.lang.Throwable	1
	vi.	Which method will contain the body of the thread? (a) run()	1
	vii.	Give the abbreviation of AWT? (b) Abstract Window Toolkit	1
	viii.	Package of drawstring() method is (d) java.awt	1
	ix.	The following are the advantages of _____ I. It is lightweight. II. It supports pluggable look and feel. III. It follows MVC (Model View Controller) architecture (a) Swing	1
	x.	The Following steps are required to perform I. Implement the Listener interface and overrides its methods II. Register the component with the Listener (c) Event Handling	1
Q.2	i.	"Java is called Machine Independent language" Basic explanation 2 marks Explanation with the concept of byte code 2 marks	4
	ii.	Write a Java program to print following pattern: Proper java syntax 2 marks Logic 2 marks Desired output 2 marks	6
OR	iii.	Features of object oriented programming 1 mark for each feature (1 mark * 6)	6

Q.3	i.	Constructor overloading with example. Proper java syntax 2 marks Logic 2 marks	4
	ii.	String creation 2 marks Java program 4 marks	6
	OR	iii.	6
Q.4	iii.	Array 2 marks Array creation 2 marks Java program to sort an array. 2 marks	6
		Attempt any two:	
	i.	Five keywords, which are used for exception handling 1 mark for each feature (1 mark * 5)	5
	ii.	Synchronization in Java 1 mark Techniques by which synchronization can be implemented 2 marks for each technique (2 marks * 2) 4 marks	5
	iii.	Concept of multithreading Explanation 1 mark Logic 2 marks Desired output 2 marks	5
Q.5	i.	Java Program to create instance of Frame class and show Button component on the Frame. Logic 2 marks Desired Output 2 marks	4
	ii.	Any two AWT Layout Managers 3 marks for each layout (3 marks * 2)	6
	OR	iii.	6
Q.6	iii.	Java AWT hierarchy Diagram. 2 marks Explanation of each component 4 marks	6
		Attempt any two:	
	i.	Differences between AWT and Swings. 1 mark for each difference (1 mark * 5)	5
	ii.	Event listener working 2 marks Example program 3 marks	5
	iii.	Adapter class	5

\*\*\*\*\*