INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad -500 043

COMPUTER SCIENCE AND ENGINEERING

TUTORIAL QUESTION BANK

Course Name	**OBJECT ORIENTED PROGRAMMING THROUGH JAVA**
Course Code	ACS003
Class	B. Tech III Semester
Branch	Computer Science and Engineering
Year	2018 – 2019
Course Faculty	Ms. N Jayanthi, Associate Professor Ms. S Swarajya Laxmi, Associate Professor Mr. Santosh Patil, Assistant Professor Mr. P Ravinder, Associate Professor

COURSE OBJECTIVES:

The course should enable the students to:

I	Understand the basic object oriented programming concepts and apply them in problem solving.
II	Illustrate inheritance concepts for reusing the program.
III	Demonstrate on the multi-tasking is performed by using multiple threads.
IV	Develop data-centric applications using JDBC.
V	Understand the basics of java console and GUI based programming.

COURSE LEARNING OUTCOMES:

Students, who complete the course, will have demonstrated the asking to do the following:

CACS003.01	Use object oriented programming concepts to solve real world problems.
CACS003.02	Explain the concept of class and objects with access control to represent real world entities.
CACS003.03	Demonstrate the behavior of programs involving the basic programming constructs like control structures, constructors, string handling and garbage collection.
CACS003.04	Use overloading methodology on methods and constructors to develop application programs.
CACS003.05	Demonstrate the implementation of inheritance (multilevel, hierarchical and multiple) by using extend and implement keywords.
CACS003.06	Describe the concept of interface and abstract classes to define generic classes.
CACS003.07	Use dynamic and static polymorphism to process objects depending on their class.
CACS003.08	Illustrate different techniques on creating and accessing packages (fully qualified name and import statements).
CACS003.09	Understand the impact of exception handling to avoid abnormal termination of program using checked and unchecked exceptions.
CACS003.10	Demonstrate the user defined exceptions by exception handling keywords (try, catch, throw, throws and finally).
CACS003.11	Use multithreading concepts to develop inter process communication.
CACS003.12	Understand and implement concepts on file streams and operations in java programming for a given application programs.
CACS003.13	Describe the backend connectivity process in java program by using JDBC drivers.
CACS003.14	Develop java application to interact with database by using relevant software component (JDBC Driver).

CACS003.15	Understand the process of graphical user interface design and implementation using AWT or swings.
CACS003.16	Use different layouts (Flow Layout, Boarder Layout, Grid Layout, Card Layout) to position the controls for developing graphical user interface.
CACS003.17	Build the internet-based dynamic applications using the concept of applets.
CACS003.18	Develop applets that interact abundantly with client environment and deploy on the server.
CACS003.19	Knowledge on usage of graphical IDE for design and implementation of real time applications in java.
CACS003.20	Posses the knowledge and skills for employability and to succeed in national and international level competitive exams.

TUTORIAL QUESTION BANK

UNIT – I			
OOPS CONCEPTS AND JAVA PROGRAMMING			
PART – A (Short Answer Questions)			
S. No	**Questions**	**Blooms Taxonomy Level**	**Course Learning Outcomes**
1	State importance of Object Oriented Programming.	Understand	CACS003.01
2	Distinguish between procedural language and OOPs.	Remember	CACS003.01
3	Define Encapsulation.	Understand	CACS003.01
4	Describe Inheritance.	Remember	CACS003.01
5	Define Polymorphism.	Understand	CACS003.01
6	List advantages of Object Oriented Programming.	Remember	CACS003.01
7	List disadvantages of Object Oriented Programming.	Remember	CACS003.01
8	Describe history of java.	Remember	CACS003.01
9	List different data types used in java.	Remember	CACS003.03
10	Define object with example.	Understand	CACS003.01
11	Describe scope and life time of variables.	Remember	CACS003.01
12	List and describe different types of operators.	Remember	CACS003.01
13	Illustrate different access modifiers in java.	Understand	CACS003.02
14	State the need of type casting.	Remember	CACS003.01
15	Define enumerated types.	Understand	CACS003.01
16	Describe class with real time entities as example.	Remember	CACS003.02
17	State the use of this reference.	Remember	CACS003.04
18	Describe the constructor.	Understand	CACS003.04
19	Define recursion.	Understand	CACS003.03
20	State the use of garbage collector.	Remember	CACS003.01
Part - B (Long Answer Questions)			
1	Discuss the various characteristics of object oriented programming concepts.	Understand	CACS003.01
2	Explain briefly about the features (buzzwords) of Java.	Understand	CACS003.01
3	Discuss various Differences between Java and C++.	Understand	CACS003.01
4	Describe java is a pure object oriented programming language	Remember	CACS003.01
5	Distinguish between applications and applets in Java?	Understand	CACS003.01
6	Explain the importance of this keyword with an example.	Understand	CACS003.04
7	Interpret method overloading with an example.	Understand	CACS003.04
8	Discuss about the constructor overloading with an example.	Understand	CACS003.04
9	Explain the concept of arrays with an example.	Understand	CACS003.03
10	Explain briefly about String class and discuss various methods in string class with an example.	Understand	CACS003.02
11	Illustrate about the java inbuilt functions to accept console input and output.	Remember	CACS003.03
12	Discuss about various conditional statements in java with suitable examples	Understand	CACS003.03
13	Explain about different loop structures in java with an example.	Understand	CACS003.03
14	Describe the use of break and continue statements in java program	Understand	CACS003.03
15	Discuss about the operator hierarchy with an example.	Understand	CACS003.03
16	Illustrate the use of the operators in java and explain with an example.	Remember	CACS003.03
17	Describe about static variable with an example.	Understand	CACS003.02

18	Describe static method with an example.	Understand	CACS003.02
19	Interpret type conversion and casting with an example.	Understand	CACS003.03
20	Explain about for each loop with an example	Understand	CACS003.03
	Part - C (Problem Solving and Critical Thinking Questions)		
1	Predict the output of the code? Student john12 = new Student(1001, "John", 12); Student john13 = new Student(1002, "John", 13); System.out.println("comparing John, 12 and John, 13 with compareTo :" + john12.compareTo(john13));	Understand	CACS003.03

2	Interpret the output of the program.
	class Lifetime
	{
	public static void main(String args[])
	{
	int x;
	for (x=0; x<3; x++)
	{
	int y=-1;
	System.out.pirnltn(“ y is :” + y); y=100;
	System.out.println(“ y is now : “ + y);
	}
	}
	}
		Understand	CACS003.03

3	Predict output of the program.
	public class If2
	{
	static boolean b1, b2;
	public static void main(String [] args)
	{
	int x = 0;
	if (!b1)
	{
	if (!b2)
	{
	b1 = true; x++;
	if (5 > 6)
	x++;
	if (!b1)
	x = x + 10;
	}
	else if (b2 = true) x
	= x + 100;
	else if (b1 | b2) x
	= x + 1000;
	}
	}
	System.out.println(x);
	}
	}
		Understand	CACS003.03

4	Explain the following code is valid or not.
	public String getDescription(Object obj)
	{
	return obj.toString;
	}
	public String getDescription(String obj)
	{
	return obj;
	}
	public void getDescription(String obj)
	{
	return obj;
	}
		Understand	CACS003.03

5	Predict the output of following program?
	public class Test
	{
	public int aMethod()
	{
	static int i = 0;
	i++;
	return i;
	}
	public static void main(String args[])
	{
	Test test = new Test();
	test.aMethod();
	int j = test.aMethod();
	System.out.println(j);
	}
	}
		Understand	CACS003.03

6	Identify output of the program?
	
	public class Test
	{
	public static void main(String args[])
	{
	int i =1,j = 0;
	switch(i)
	{
	case 2: j += 6;
	case 4: j += 1;
	default: j += 2;
	case 0: j += 4;
	}
	System.out.println("j = " + j);
	}
	}
		Understand	CACS003.03

7	Analyze the following program output.
	
	Class Test
	{
	public static void main(String args[])
	{
	int x, y; y=20;
	for(x=0; x<10: x++)
	{
	System.out.println("this is x:"+x);
	System.out.println("this is y:" +y);
	y= y-2;
	}
	}
	}
		Understand	CACS003.03

8	Identify output of the program?
	
	class BitShift
	{
	public static void main(String [] args)
	{
	int x = 0x80000000;
	System.out.print(x + " and ");
	x = x >>> 31;
	System.out.println(x);
	}
	}
		Understand	CACS003.03

9	Analyze the program and find out the output.
	
	class Equals
	{
	public static void main(String [] args)
	{
	int x = 100; double
	y = 100.1;
	boolean b = (x = y);
	System.out.println(b);
	}
	}
		Remember	CACS003.03

UNIT – II			
INHERITANCE, INTERFACE AND PACKAGE			
Part – A (Short Answer Questions)			
S. No	**Questions**	**Blooms Taxonomy Level**	**Course Learning Outcomes**
1	Define Inheritance.	Understand	CACS003.05
2	List various types of inheritances in java.	Remember	CACS003.05
3	Define static binding.	Understand	CACS003.07
4	Identify the use of "super" keyword	Understand	CACS003.05
5	Summarize the use of "final" keyword with inheritance.	Understand	CACS003.05

6	List various methods in Object class.	Remember	CACS003.02
7	Describe abstract class.	Remember	CACS003.06
8	Interpret various member access rules in java.	Understand	CACS003.05
9	Define method overriding.	Understand	CACS003.07
10	Explain different Types of Packages	Understand	CACS003.08
11	Define interface	Understand	CACS003.06
12	List the advantages of Package.	Remember	CACS003.08
13	Identify the keyword used for creating the package.	Understand	CACS003.08
14	Define a package?	Understand	CACS003.08
15	State various steps for creating and importing packages.	Remember	CACS003.08
16	Define abstract method.	Understand	CACS003.06
17	Summarize the steps to implement an interface	Understand	CACS003.05
18	List advantages of inheritance.	Remember	CACS003.05
19	Define CLASSPATH.	Understand	CACS003.03
	Part - B (Long Answer Questions)		
1	Exemplify the “this” and “super” keywords usage in java.	Understand	CACS003.05
2	List different types of inheritances in java with example.	Remember	CACS003.05
3	Discuss various methods of Object class.	Understand	CACS003.02
4	Illustrate the Use of “Super” keyword in method overriding with example.	Understand	CACS003.05
5	Discuss the importance of package. Demonstrate with program.	Understand	CACS003.08
6	Compare and Contrast interfaces and Abstract classes.	Understand	CACS003.06
7	Demonstrate dynamic binding with an example.	Understand	CACS003.07
8	List out the some of the standard overloaded methods in java.	Remember	CACS003.07
9	Describe Abstraction in java using abstract class with an example.	Remember	CACS003.07
10	Explain about interface with an example.	Understand	CACS003.06
11	Define multiple inheritances with suitable example.	Understand	CACS003.05
12	Discuss in detail creating and importing package in java.	Understand	CACS003.08
13	Compare and contrast overloading and overriding methods.	Understand	CACS003.07
14	Explain different ways to extending interfaces with an example.	Understand	CACS003.06
15	Differentiate between class and interface.	Understand	CACS003.06
16	Discuss the importance of final keyword in java with a program..	Understand	CACS003.05
17	Explain the benefits of inheritance with an example.	Understand	CACS003.05
18	Describe various member access rules and explain with an example.	Understand	CACS003.02
19	Discuss the role of classpath in packages.	Understand	CACS003.03
	Part – C (Problem Solving and Critical Thinking)		

1	Analyze the program and give output
	
	class Animal
	{
	void eat()
	{
	System.out.println("eating...");
	}
	}
	class Dog extends Animal
	{
	void bark()
	{
	System.out.println("barking...");
	}
	}
		Understand	CACS003.05

	class TestInheritance
	{
	public static void main(String args[])
	{
	Dog d=new Dog();
	d.bark();
	d.eat();
	}
	
	}		

2	Identify the output of the following program.
	interface Sample
	{
	int x=12;
	void show();
	default void display()
	{
	System.out.println("default method of interface");
	}
	Static void print(String str)
	{
	System.out.println("Static method of interface:"+str);
	}
	}
		Understand	CACS003.06

3	Predict output of the program?
	
	class A
	{
	public A()
	{
	System.out.println("NewA");
	}
	}
	class B extends A
	{
	public B()
	{
	super();
	System.out.println("New B");
	}
	}
		Understand	CACS003.05

4	Discuss the output of the following program?
	interface MyInterface
	{
	public void method1();
	public void method2();
	}
		Understand	CACS003.06

	class XYZ implements MyInterface
	{
	public void method1()
	{
	System.out.println("implementation of method1");
	}
	public void method2()
	{
	System.out.println("implementation of method2");
	}
	public static void main(String arg[])
	{
	MyInterface obj = new
	XYZ();
	obj. method1();
	}
	}		

5	Interpret output of following program
	class A
	{
	final public int GetResult(int a, int b)
	{
	return 0;
	}
	}
	class B extends A
	{
	public int GetResult(int a, int b) {return 1; }
	}
	
	public class Test
	{
	public static void main(String args[])
	{
	B b = new B();
	System.out.println("x = " + b.GetResult(0, 1));
	}
	}
		Understand	CACS003.05

6	Analyze the output of the program?
	class Super
	{
	public int i = 0;
	public Super(String text)
	{
	i = 1;
	}
	}
	class Sub extends Super
	{
	public Sub(String text)
	{
	i = 2;
	}
	public static void main(String args[])
	{
	Sub sub = new Sub("Hello");
	System.out.println(sub.i);
	}
	}
		Remember	CACS003.03

7	Identify the output of the program?
	interface Count
	{
	short counter = 0;
	void countUp();
	}
	public class TestCount implements Count
	{
	public static void main(String [] args)
	{
	TestCount t = new TestCount();
	t.countUp();
	}
	public void countUp()
	{
	for (int x = 6; x>counter; x--, ++counter)
	{
	System.out.print(" " + counter);
	}
	}
		Understand	CACS003.06

8	Analyze and find out the output of the program?
	public class Test
	{
	public int aMethod()
	{
	static int i = 0;
	i++;
	return i;
	}
	public static void main(String args[])
	{
	Test test = new Test();
	test.aMethod();
	int j = test.aMethod();
	System.out.println(j);
	}
	}
		Understand	CACS003.03

9	Illustrate a java program to create an abstract class named Shape that contains two integers and an empty method named print Area().provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contains only the method print Area () that prints the area of the given shape.	Remember	CACS003.06

10	Predict out the output of the program?
	package mypack
	class Book
	{
	String
	bookname;
	String author;
	Book(String b, Stringc)
	{
	this.bookname = b;
	this.author = c;
	}
		Understand	CACS003.04

	public void show()
	{
	System.out.println(bookname+" "+ author);
	}
	}
	class test
	{
	public static void main(String[] args)
	{
	Book bk = new Book("java","Herbert");
	bk.show();
	}
	}		

UNIT-III			
EXCEPTION HANDLING AND MULTITHREADING			
Part - A (Short Answer Questions)			
S. No	Questions	Blooms Taxonomy Level	Course Learning Outcomes
1	Define Exception.	Understand	CACS003.09
2	Distinguish between exception and error.	Understand	CACS003.09
3	Describe the benefits of exception handling.	Remember	CACS003.09
4	State the classification of exceptions.	Remember	CACS003.09
5	Define checked exceptions.	Understand	CACS003.09
6	State the use of try and catch blocks.	Remember	CACS003.10
7	Define built in exception.	Understand	CACS003.09
8	Define thread in java.	Understand	CACS003.11
9	Compare and contrast between process and thread.	Understand	CACS003.11
10	List the various ways of creating thread.	Remember	CACS003.11
11	Define unchecked exceptions.	Understand	CACS003.09
12	Describe the various states of threads.	Remember	CACS003.11
13	List the different ways to create a thread.	Remember	CACS003.11
14	Differentiate throw and finally.	Understand	CACS003.10
15	Define inter-thread communication.	Understand	CACS003.11
16	Explain about the alive() and join() method	Understand	CACS003.11
17	Interpret the different thread priorities	Understand	CACS003.11
18	Distinguish between throw and throws.	Understand	CACS003.10
19	Define wait() state of the thread	Understand	CACS003.11
20	Describe about “thread class implements Runnable interface”	Remember	CACS003.11
Part – B (Long Answer Questions)			
1	Explain briefly about exception handling mechanism with suitable examples.	Understand	CACS003.09
2	Describe try, catch , and finally keywords with an example	Remember	CACS003.10
3	Illustrate use of throws keyword with a program	Remember	CACS003.10
4	Define a exception called “NotEqualException” that is thrown when a float value is not equal to 3.14. write a program that uses the above user	Understand	CACS003.09
5	Differentiate between checked and unchecked exceptions.	Understand	CACS003.09
6	Exemplify the different type of exception.	Understand	CACS003.09
7	Illustrate built in exceptions with suitable example.	Understand	CACS003.09

8	Explain throwing of user defined exception with example	Understand	CACS003.09
8	Describe the producer consumer problem with an example	Remember	CACS003.09
9	Explain with an example how java performs thread synchronization.	Understand	CACS003.11
10	Differentiate multiprocessing and multithreading with a program.	Understand	CACS003.11
11	Explain briefly about the life cycle of a thread with an example.	Understand	CACS003.11
12	Interpret various methods of thread class.	Understand	CACS003.11
13	Describe a java program using thread priorities.	Remember	CACS003.11
14	Explain Daemon threads with an example.	Understand	CACS003.11
15	Exemplify the behavior of thread using thread class methods.	Understand	CACS003.11
16	Illustrate the process of creating thread by implementing Runnable interface	Remember	CACS003.11
	Part – C (Problem Solving and Critical Thinking Questions)		

1	Analyze the output of program
	
	public class TestMultipleCatchBlock
	{
	public static void main(String args[])
	{
	try{
	int a[]=new int[5];
	a[5]=30/0;
	}
	catch(ArithmeticException e)
	{
	System.out.println("task1 is completed");
	}
	catch(ArrayIndexOutOfBoundsException e)
	{
	System.out.println("task 2 completed");
	}
	catch(Exception e)
	{
	System.out.println("common task completed");
	}
	System.out.println("rest of the code...");
	}
	}
		Understand	CACS003.09

2	Analyze the program and find out the output ?
	public class Test
	{
	public static void aMethod() throws Exception
	{
	try
	{
	throw new Exception();
	}
	finally
	{
	System.out.print("finally ");
	}
	}
	public static void main(String args[])
	{
	try
	{
	aMethod();
	}
		Understand	CACS003.10

	catch (Exception e)
	{
	System.out.print("exception ");
	}
	
	System.out.print("finished");
	}
	}		

3	Identify the output of the following program?
	class s1 implements Runnable
	{
	int x = 0, y = 0;
	int addX()
	{
	x++;
	return x;
	}
	int addY()
	{
	y++;
	return y;
	}
	public void run()
	{
	for(int i = 0; i < 10; i++)
	System.out.println(addX() + " " + addY());
	}
	public static void main(String args[])
	{
	s1 run2 = new s1();
	Threadt1 = new Thread(run1);
	Thread t2 =new Thread(run2);
	t1.start();
	t2.start();
	}
		Understand	CACS003.11

4	Interpret the output of following program?
	class Exceptions
	{
	public static void main(String[] args)
	{
	String languages[] = { "C", "C++", "Java", "Perl", "Python" };
	try {
	for (int c = 1; c <= 5; c++)
	{
	System.out.println(languages[c]);
	}
	}
	catch (Exception e)
	{
	System.out.println(e);
	}
	}
	}
		Understand	CACS003.09

5	Analyze the output of the below program?
	class Allocate
	{
	public static void main(String[] args)
	{
	try
	{
	long data[] = new long[1000000000];
	}
	catch (Exception e)
	{
	System.out.println(e);
	}
	Finally
	{
	System.out.println("finally block will execute always.");
	}
	
	}
	}
		Understand	CACS003.10

6	Identify the output of the program?
	class MyThread extends Thread
	{
	public static void main(String [] args)
	{
	MyThread t = new MyThread();
	Thread x = new Thread(t); x.start();
	}
	public void run()
	{
	for(int i = 0; i < 3; ++i)
	{
	System.out.print(i + "..");
	}
	}
	}
		Understand	CACS003.11

7	Interpret the output of the program?
	public class RTExcept
	{
	public static void throwit ()
	{
	System.out.print("throwit ");
	throw new RuntimeException();
	}
	public static void main(String [] args)
	{
	try
	{
	System.out.print("hello ");
	throwit();
	}
	catch (Exception re)
	{
	System.out.print("caught ");
	}
		Understand	CACS003.10

	finally
	{
	System.out.print("finally ");
	}
	System.out.println("after ");
	}
	}		

8	Analyze the program and find the output
	public class NFE
	{
	public static void main(String [] args)
	{
	String s = "42";
	try
	{
	s = s.concat(".5");
	double d = Double.parseDouble(s);
	s = Double.toString(d);
	int x = (int) Math.ceil(Double.valueOf(s).doubleValue());
	System.out.println(x);
	}
	catch (NumberFormatException e)
	{
	System.out.println("bad number");
	}
	}
	}
		Remember	CACS003.09

9	Identify the output of the program?
	class MyThread extends Thread
	{
	MyThread()
	{
	System.out.print(" MyThread");
	}
	public void run()
	{
	System.out.print(" bar");
	}
	public void run(String s)
	{
	System.out.println(" baz");
	}
	}
	public class TestThreads
	{
	public static void main (String [] args)
	{
	Thread t = new MyThread()
	{
	public void run()
	{
	System.out.println(" foo");
	}
	}
	t.start();
	}
	}
		Understand	CACS003.11

10	Analyze the output of the program?
	class implements Runnable
	{
	int x, y;
	public void run()
	{
	for(int i = 0; i < 1000; i++)
	synchronized(this)
	{
	x = 12;
	y = 12;
	}
	System.out.print(x + " " + y + " ");
	}
	public static void main(String args[])
	{
	s run = new s();
	Thread t1=new
	Thread(run); Thread
	t2=new Thread(run);
	t1.start();
	t2.start();
	}
	}
		Remember	CACS003.11

UNIT-IV			
FILES AND CONNECTING TO DATABASE			
Part – A (Short Answer Questions)			
S. No	Questions	Blooms Taxonomy Level	Course Learning Outcomes
1	Describe file handling operations in java.	Remember	CACS003.12
2	Define byte stream?	Understand	CACS003.12
3	Describe Driver class in database connectivity in java.	Remember	CACS003.13
4	Define Connection interface.	Understand	CACS003.13
5	Describe the method used to write a file.	Remember	CACS003.12
6	Define ExecuteQuery() method.	Understand	CACS003.13
7	Describe the use of method ExecuteUpdate() in database connectivity.	Remember	CACS003.13
8	Define the package for JDBC.	Remember	CACS003.13
9	List out the steps in database connection.	Remember	CACS003.13
10	Describe file management process in java.	Remember	CACS003.12
11	State the use of thick driver in database connection.	Remember	CACS003.13
12	Describe thin driver of JDBC?	Remember	CACS003.13
13	List various types of JDBC Drivers.	Remember	CACS003.13
14	Define the use of Stream class.	Understand	CACS003.12
15	Describe the binary input file and output file?	Remember	CACS003.12
16	Define character stream?	Understand	CACS003.12
Part – B (Long Answer Questions)			
1	Explain about query result processing in JDBC.	Understand	CACS003.13
2	Describe the process of getting and accessing metadata for a resultset.	Remember	CACS003.13
3	Explain how a file can be managed using file class.	Understand	CACS003.12
4	Demonstrate with a program for updating data in database.	Understand	CACS003.14
5	Explain the steps involved in database programming using JDBC with an example.	Understand	CACS003.13
6	Describe Driver Manager, SQL query and Order by clause of JDBC.	Remember	CACS003.13
7	Exemplify steps involved in database programming using JDBC drivers.	Understand	CACS003.13
8	Explain JDBC-ODBC driver.	Understand	CACS003.13
9	Demonstrate a JDBC program to display the result of any query on a student table in a JTable component?	Understand	CACS003.13

10	Explain the program to update the salary Rs.6000/- for an employee name like “ramu” using prepared statement.	Understand	CACS003.14
11	Illustrate about query result processing in JDBC.	Remember	CACS003.13
12	Summarize text input, output file operations.	Understand	CACS003.12
13	Explain binary input/output file operations with examples.	Understand	CACS003.12
14	Illustrate a JDBC application for querying the database and processing the results.	Remember	CACS003.14
15	Paraphrase File management using File class.	Understand	CACS003.12
16	Distinguish between a)InputStream and Reader classes b)OutputStream and Writer Classes	Understand	CACS003.12
17	Explain different types of JDBC drivers with diagrams.	Understand	CACS003.13
	Part – C (Problem Solving and Critical Thinking Questions)		

1	Identify be the output of the program?
	import java.io.*;
	
	class filesinputoutput
	{
	public static void main(String args[])
	{
	InputStream obj = new FileInputStream("inputoutput.java");
	System.out.print(obj.available());
	}
	}
		Understand	CACS003.12

2	Analyze the following program and find the output.
	public class Test
	{
	public static void main(String[] args)
	{
	System.out.println(Math.min(Double.MIN_VALUE, 0.0d));
	
	}
	}
		Remember	CACS003.12

3	Recognize the output of the program.
	import java.io.*;
	public class filesinputoutput
	{
	public static void main(String[] args)
	{
	String obj = "abc";
	byte b[] = obj.getBytes();
	ByteArrayInputStream obj1 = new ByteArrayInputStream(b);
	for (int i = 0; i < 2; ++ i)
	{
	int c;
	while((c = obj1.read()) != -1)
	{
	if(i == 0)
	{
	System.out.print(Character.toUpperCase((char)c));
	obj2.write(1);
	}
	}
	System.out.print(obj2);
	}
	}
	}
		Understand	CACS003.12

4	Identify the output of the program.
	import java.io.*;
	class Chararrayinput
	{
	public static void main(String[] args)
	{
	String obj = "abcdef";
	int length = obj.length();
	char c[] = new char[length];
	obj.getChars(0, length, c, 0);
	CharArrayReader input1 = new CharArrayReader(c);
	CharArrayReader input2 = new CharArrayReader(c, 0,3);
	int i;
	try
	{
	while((i = input2.read()) != -1)
	{
	System.out.print((char)i);
	}
	}
	catch (IOException e)
	{
	e.printStackTrace();
	}
	}
	}
		Understand	CACS003.12

5	Analyze the following code and define the meaning.
	import java.util.*;
	String URL = "jdbc:oracle:thin:@amrood:1521:EMP";
	Properties info = new Properties( );
	info.put("user", "username");
	info.put("password", "password");
	Connection conn = DriverManager.getConnection(URL, info);
		Remember	CACS003.13

6	Describe about the following code.
	static final String USER = "username";
	static final String PASS = "password";
	System.out.println("Connecting to database...");
	conn = DriverManager.getConnection(DB_URL,USER,PASS);
	System.out.println("Creating statement...");
	stmt = conn.createStatement();
	String sql;
	sql = "SELECT id, first, last, age FROM Employees";
	ResultSet rs = stmt.executeQuery(sql);
		Understand	CACS003.13

7	Identify the output of following program
	import java.util.Scanner;
	class Division
	{
	public static void main(String[] args)
	{
	int a, b, result;
	Scanner input = new Scanner(System.in);
	System.out.println("Input twointegers");
	a =input.nextInt();
	b = input.nextInt();
	result = a / b;
	System.out.println("Result = " + result);
	}
	}
		Understand	CACS003.12

UNIT-V			
GUI PROGRAMMING AND APPLETS			
Part - A (Short Answer Questions)			
1	Define AWT class hierarchy.	Understand	CACS003.15
2	List various events for handling mouse events.	remember	CACS003.15
3	Describe the hierarchy of swing	remember	CACS003.15
4	State the Event Listeners	remember	CACS003.15
5	List out swing components.	remember	CACS003.16
6	Describe Jbutton, JLabel, JTextField and JtextArea.	remember	CACS003.16
7	Define layout management.	Understand	CACS003.15
8	Illustrate layout manager types in AWT.	remember	CACS003.15
9	Describe Events and Event sources.	remember	CACS003.16
10	State the importance of JFrame in AWT.	remember	CACS003.15
11	Compare and contrast Event sources and Listeners.	Understand	CACS003.16
12	Define Delegation event model.	Understand	CACS003.15
13	List out various events used for handling a button click.	remember	CACS003.15
14	Define adapter class?	Understand	CACS003.15
15	Distinguish between applet and application?	remember	CACS003.16
16	Illustrate the life cycle of an Applet.	remember	CACS003.15
17	Describe applet security issues?	remember	CACS003.15
Part - B (Long Answer Questions)			
1	Paraphrase Events, Event sources and Event classes.	Understand	CACS003.15
2	Explain in detail about hierarchy for AWT.	Understand	CACS003.15
3	Exemplify handling a button clicks in AWT.	Understand	CACS003.15
4	Explain in detail about Layout management.	Understand	CACS003.16
5	Illustrate mouse handling events with an example.	remember	CACS003.15
6	Describe parameters passing to an applet with a program.	remember	CACS003.15
7	Explain the differences between applets and applications	Understand	CACS003.15
8	Compare and contrast Swing and AWT in java.	Understand	CACS003.15
9	Explain in detail about Event sources and Listeners	Understand	CACS003.15
10	Define an applet that receives an integer in one text field andcomputes its factorial value and returns it in another text field, when the button named “compute” is clicked	Understand	CACS003.16
11	Explain briefly about Adapter classes.	Understand	CACS003.15
12	Exemplify the importance of Delegation Event Model on Event Handling	Understand	CACS003.17
13	Explain various swing components in detail	Understand	CACS003.15
Part – C (Problem Solving and Critical Thinking Questions)			

1	Identify the output of the program
	import java.awt.*;
	import java.applet.*;
	
	public class GridLayoutDemo extends Applet
	{
	static final int n=5;
	public void init()
	{
	setLayout(newGridLayout(n,n));
	setFont (new Font (“SamsSerof”, Font.BOLD, 24));
	for (int j=0l j<n; j++)
	{
	int k= I * n + j;
	if(k>00)
	Add(new button (“” + k0);
	}
	}
	}
		Understand	CACS003.15

2	Identify the output of fallowing code
	Public void actionPerformed(ActionEvent e)
	{
	if(e.getSource()== b1)
	{
	int x= Integer.parseInt(t1.getText());
	int y= Integer.parseInt(t2.getText()) ;
	int sum= X+Y;
	t3.setText(“ ”+sum);
	}
	}
		Understand	CACS003.16

3	Recognize error in the program
	import java.awt.*; import
	java.swing.*;
	public class JLabeldemo implements JApplet
	{
	ImageIcon i= new ImageIcon(“ india.gif ”);
	JLabel ji=new JLabel(“ INDIA” , I , JLabel.CENTER);
	add(ji);
	}
		Understand	CACS003.16

4	Explain the output of the following program?
	import java.applet.*;
	import java.awt.*;
	public class Main extends Applet
	{
	public void paint(Graphics g)
	{
	g.drawString("Welcome in Java Applet.",40,20);
	}
	}
	<HTML>
	<HEAD>
	</HEAD>
	<BODY>
	
	<APPLET CODE="Main.class" WIDTH="800" HEIGHT="500">
	</APPLET>
	
	</BODY>
	</HTML>
		Understand	CACS003.15

5	Predict output in following code?
	public void actionPerformed(ActionEvent ae)
	{
	try{
	num = Integer.parseInt(input.getText()); sum =
	sum+num;
	input.setText("");
	output.setText(Integer.toString(sum));
	lbl.setForeground(Color.blue);
	lbl.setText("Output of the second Text Box : "+ output.getText());
	}
	catch(NumberFormatException e)
	{
	lbl.setForeground(Color.red);
	lbl.setText("Invalid Entry!");
	}
	}
		Understand	CACS003.15

6	Analyze the program output.
	import java.awt.*;
	class Frame1 extends Frame
	{
	Frame1()
	{
	setTitle("demo");
	setSize(200,200);
	setVisible(true);
	setLayout(newFlowLayout());
	Label l1= new Label("java");
	Label l2= new Label("j2ee");
	add(l1);
	add(l2);
	}
	}
	Class Labeldemo
	{
	Public static void main(String args();
	{
	Frame1 f= new Frame();
	}
	}
		Remember	CACS003.16

7	Identify the program output
	import java.awt.*;
	import java.applet.*;
	public class satusdemo extends Applet
	{
	Public void init()
	{
	setBackground(Color.red);
	}
	Public void paint(Graphics g)
	{
	g.drawString("this is in the applet window" 10,20)"
	showStatus("this is the status window message");
	}
	}
		Understand	CACS003.15

8	Identify the program output
	Public void mouseClicked(MouseEvent me)
	{
	Mousex-=0;
	Mousey=10;
	Msg= "mouse clicked"
	Repaint();
	}
	Public void mouseEntered(MouseEvent me)
	{
	Mousex-=0;
	Mousey=10;
	Msg= "mouse entered"
	Repaint();
	}
		Understand	CACS003.15

9	Analyze the output of the program
	import java.applet.Applet;
	import java.awt.*;
	public class Sms extends Applet
	{
	public void init()
	{
	}
	public void paint(Graphics g)
	{
	g.setColor(Color.blue);
	Font font = new Font("verdana", Font.BOLD, 15);
	g.setFont(font);
	g.drawString("Welcome To Aeronautical Eng College", 50, 50);
	}
	}
		Remember	CACS003.16

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