



Sri Indu

College of Engineering & Technology

UGC Autonomous Institution

Recognized under 2(f) & 12(B) of UGC Act 1956,

NAAC, Approved by AICTE &

Permanently Affiliated to JNTUH



NAAC

NATIONAL ASSESSMENT AND
ACCREDITATION COUNCIL



HANDOUT

II Year I Semester

DEPARTMENT OF ARTIFICIAL INTELLIGENCE
& DATA SCIENCE

ACADEMIC YEAR 2025-2026



SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

(Permanently Affiliated to JNTUH, Approved by AICTE, New Delhi and Accredited by NBA, NAAC)
Sheriguda Village, Ibrahimpatnam Mandal, Ranga Reddy Dist. – 501 510

DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE

HANDOUT- INDEX

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VISION OF THE INSTITUTE

To be a premier institution in engineering & technology and management for competency, values and social consciousness.

MISSION OF THE INSTITUTE

IM₁: Provide high quality academic programs, training activities and research facilities.

IM₂: Promote continuous industry-institute interaction aimed at promoting employability, entrepreneurship, leadership and research aptitude among stakeholders.

IM₃: Contribute to the economic and technological development of the region, state and nation.

VISION OF THE DEPARTMENT

To be a technologically adaptive center for computing by grooming the students as top notch professionals.

MISSION OF THE DEPARTMENT

The Department has following Missions:

DM₁: To offer quality education in computing.

DM₂: To provide an environment that enables overall development of all the stakeholders.

DM₃: To impart training on emerging technologies like Data Analytics, Artificial Intelligence and Internet of Things.

DM₄: To encourage participation of stakeholders in Research and Development.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO 1: Graduates with strong foundation in mathematical and core concepts, which enable them to participate in research, in the field of Computer Science.

PEO 2: Graduates with application development, problem solving skills by learning the computer programming methods of the industry and related domains.

PEO 3: Graduates with multidisciplinary knowledge by understanding the scope of association of computer science engineering along with other engineering disciplines.

PEO 4: Graduates with communication skills, soft skills, organizing skills which build the professional qualities, understand the social responsibilities and ethical attitude.

Program Outcomes(POs)

PO1	Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design / Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program specific Outcomes(PSOs)

PSO1	Software Development: To apply the knowledge of Software Engineering, Data Communication, Web Technology and Operating Systems for building IOT and Cloud Computing applications.
PSO2	Industrial Skills Ability: Design, develop and test software systems for world-wide network of computers to provide solutions to real world Problems.
PSO3	Project Implementation: Analyze and recommend the appropriate IT Infrastructure required for the implementation of a project.



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COURSE OUTCOMES (CO's)

COURSE NAME: (R22CSE2115) OBJECT ORIENTED PROGRAMMING
THROUGH JAVA

At the end of the course, the student will be able to

Course Outcomes (COs)	
C224.1	Describe the OOPS concepts and primary concepts of java.(Understand)
C224.2	Illustrate the types of inheritance, polymorphism, inner classes and packages(Apply)
C224.3	Justify the solutions to the given problem by applying the multithreading and exception handling mechanism.(Evaluate)
C224.4	Describe various collection framework concepts and file operations (Understand)
C224.5	Design java applications by applying database operations through JDBC drivers(Create)
C224.6	Analyze & Design the concept of Event Handling and Abstract Window Toolkit.(Create)

Outcomes(CO's) with PO's:

CO	PO											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C224.1	2	2	2	2	-	-	-	-	2	-	-	2
C224.2	2	3	3	3	-	-	-	-	2	-	-	2
C224.3	2	3	3	3	-	-	-	-	2	-	-	2
C224.4	2	2	2	-	-	-	-	-	-	-	-	-
C224.5	2	3	3	3	-	-	-	-	2	-	-	2
C224.6	2	3	3	3	-	-	-	-	2	-	-	2
C224	2	2.6	2.6	2.3	-	-	-	-	2	-	-	2

3: High 2: Medium 1: Low

Mapping of Course Outcomes(CO's) with PSO's:

Cos	PSO1	PSO2
C224.1	3	3
C224.2	3	3
C224.3	3	3
C224.4	3	3
C224.5	3	3

[Type text]

C224.6	3	3
	3	3



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CO-PO/PSO MAPPING

C224.1	Describe the OOPS concepts and primary concepts of java.
---------------	--

Mapped POs:PO1,PO2,PO3,PO4,PO9

PO1	The basic knowledge of oop can be applied to solve engineering problems.
PO2	Analyses the problems related to OOP Concepts
PO3	The knowledge of OOP Concepts can be applied to design solutions to complex engineering problems.
PO4	The knowledge of OOP Concepts can be used for research based knowledge and research based methods.
PO9	

C224.2	Illustrate the types of inheritance, polymorphism, inner classes and packages
---------------	---

Mapped POs:PO1,PO2,PO3,PO4,PO9

PO1	The knowledge of inheritance, polymorphism, inner classes can be applied to solve complex engineering problems.
PO2	Analyses the problems related to inheritance, polymorphism, innerclasses.
PO3	The knowledge of inheritance ,polymorphism and inner classes can be applied to design solutions to complex engineering problems.
PO4	
PO9	

C224.3	Justify the solutions to the given problem by applying the multithreading and exception handling mechanism
---------------	--

Mapped POs:PO1,PO2,PO3,PO4,PO9

PO1	This basic knowledge of sorting and searching can be used in solutions to complex engineering problems.
PO2	Analyses problems related to searching and sorting.
PO3	This basic knowledge of sorting and searching can be used in designing solutions to complex engineering problems.

C224.4	Describe various collection framework concepts and file operations
---------------	--

Mapped POs:PO1, PO2, PO3,PO4,PO9

PO1	The knowledge of non linear data structures like trees and graphs can be applied to solve complex engineering problems.
PO2	Analyses problems related to trees and graphs.

PO3	This knowledge can be used to design efficient solutions to complex problems.
-----	---

C224.5	Design java applications by applying database operations through JDBC drivers
---------------	---

Mapped POs: PO1, PO2, PO3,PO4,PO9

PO1	The knowledge of Text pattern matching algorithms to solve complex engineering problems.
PO2	Analyses Text pattern matching algorithm
PO3	This knowledge can be used to design efficient solutions to complex problems.

C224.6	Analyze & Design the concept of Event Handling and Abstract Window Toolkit
---------------	--

Mapped POs: PO1, PO2, PO3,PO4,PO9

PO1	The knowledge of Text pattern matching algorithms to solve complex engineering problems.
PO2	Analyses Text pattern matching algorithm
PO3	This knowledge can be used to design efficient solutions to complex problems.



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D4

ANNEXURE -III

BR-22

Lr.No.SICET/AUTO/DAE/II- B.Tech Academic Calendar/30/2025

B.TECH II-YEAR I-SEM & II-SEM ACADEMIC CALENDAR
(FOR ACADEMIC YEAR : 2025-26)

Academic Calendar for B.Tech – IInd Year Students (2024 - 25 Batch), BR-22 Regulation.

I – Semester

S.No.	EVENT	PERIOD	DURATION
1.	Commencement of class work.	01.08.2025 (Monday)	
2.	1 st Spell of Instructions for covering First Two and a half Units.	01.08.2025 – 07.10.2025	9 Weeks
3.	I Mid Term Examinations.	08.10.2025 – 10.10.2025	3 Days
4.	Submission of I Mid Term Examination Marks.	16.10.2025	
5.	2 nd Spell of Instructions for Remaining Two and a half Units.	13.10.2025 – 13.12.2025	9 Weeks
6.	II Mid Term Examinations.	15.12.2025 – 17.12.2025	3 Days
7.	Preparation Holidays and Practical Examinations	18.12.2025 – 27.12.2025	1 Week
8.	Submission of II Mid Term Examination Marks.	23.12.2025	
9.	I Semester End Examinations.	29.12.2025 – 10.01.2026	2 Weeks
Commencement of Class-Work for II B.Tech - II Semester 19.01.2026			

Note: No of Working/instructional days : 92

II – Semester

S.No.	EVENT	PERIOD	DURATION
1.	Commencement of class work.	19.01.2026 (Monday)	
2.	1 st Spell of Instructions for covering First Two and a half Units.	19.01.2026 – 14.03.2026	8 Weeks
3.	I Mid Term Examinations.	16.03.2026 – 18.03.2026	3 Days
4.	Submission of I Mid Term Examination Marks.	24.03.2026	
5.	2 nd Spell of Instructions for Remaining Two and a half Units.	20.03.2026 – 09.05.2026	7 Weeks
6.	Continuation of remaining 2 nd Spell of Instructions	25.05.2026 – 10.06.2026	2 Weeks
7.	II Mid Term Examinations.	11.06.2026 – 13.06.2026	3 Days
8.	Preparation Holidays and Project Evaluation.	15.06.2026 – 20.06.2026	1 Week
9.	Submission of II Mid Term Examination Marks.	18.06.2026	
10.	II Semester End Examinations	22.06.2026 – 04.07.2026	2 Weeks

Note: No of Working/instructional days : 92

ACE

CE

DIRECTOR

PRINCIPAL

Controller of Examination
Sri Indu College of Engineering & Technology
(An Autonomous Institution Under UGC)
Sheriguda (V), Ibrahimpatnam, R.R. Dist-501510

DIRECTOR
Sri Indu College of Engineering & Technology
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PRINCIPAL
Sri Indu College of Engineering & Technology
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Sheriguda (V), Ibrahimpatnam, R.R. Dist-501510

Sign:
Dr. M.V.S.S. Giridhar
Prof. of CEA, JNTUH Nominee

Sign:
Dr. T. Venu Gopal
Prof. of CSE, JNTUH Nominee

Sign:
Dr. D. Ramesh
Prof. of CSE, JNTUH Nominee

(Copy to DAP&E and Copy to all the Dept. Heads)

OBJECT ORIENTED PROGRAMMING THROUGH JAVA

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY**(An Autonomous Institution under UGC, New Delhi)****B.Tech. - II Year – I Semester****L T P C****3 0 0 3****(R22CSE2115) OBJECT ORIENTED PROGRAMMING THROUGH JAVA****Course Objectives**

- To Understand the basic object-oriented programming concepts and apply them in problem solving.
- To Illustrate inheritance concepts for reusing the program.
- To Demonstrate multitasking by using multiple threads and event handling
- To Develop data-centric applications using JDBC.
- To Understand the basics of java console and GUI based programming

Course Outcomes

- Demonstrate the behavior of programs involving the basic programming constructs like control structures, constructors, string handling and garbage collection.
- Demonstrate the implementation of inheritance (multilevel, hierarchical and multiple) by using extend and implement keywords
- Use multithreading concepts to develop inter process communication.
- Understand the process of graphical user interface design and implementation using AWT or swings.
- Develop applets that interact abundantly with the client environment and deploy on the server.

UNIT - I

Object oriented thinking and Java Basics- Need for oop paradigm, summary of oop concepts, coping with complexity, abstraction mechanisms. A way of viewing world – Agents, responsibility, messages, methods, History of Java, Java buzzwords, data types, variables, scope and lifetime of variables, arrays, operators, expressions, control statements, type conversion and casting, simple java program, concepts of classes, objects, constructors, methods, access control, this keyword, garbage collection, overloading methods and constructors, method binding, inheritance, overriding and exceptions, parameter passing, recursion, nested and inner classes, exploring string class.

UNIT - II

Inheritance, Packages and Interfaces – Hierarchical abstractions, Base class object, subclass, subtype, substitutability, forms of inheritance specialization, specification, construction, extension, limitation, combination, benefits of inheritance, costs of inheritance. Member access rules, super uses, using final with inheritance, polymorphism- method overriding, abstract classes, the Object class. Defining, Creating and Accessing a Package, Understanding CLASSPATH, importing packages, differences between classes and interfaces, defining an interface, implementing interface, applying interfaces, variables in interface and extending interfaces. Exploring java.io.

UNIT - III

Exception handling and Multithreading-- Concepts of exception handling, benefits of exception handling, Termination or resumptive models, exception hierarchy, usage of try, catch, throw, throws and finally, built in exceptions, creating own exception subclasses. String handling, Exploring java.util. Differences between multithreading and multitasking, thread life cycle, creating threads, thread priorities, synchronizing threads, inter thread communication, thread groups, daemon threads. Enumerations, autoboxing, annotations, generics.

	SRI INDU COLLEGE OF ENGG & TECH LESSON PLAN (Regulation :R22) DEPARTMENT OF CSE		(Regulation :R22) Prepared on :12/5/2023 Rev1: 12/5/2023 Page: 12 of 7
	Sub.Code & Title	(R22CSE 2115) OBJECT ORIENTED PROGRAMMING	

BR12 – B.TECH –ARTIFICIAL INTELLIGENCE & DATA SCIENCE

UNIT -IV

Event Handling: Events, Event sources, Event classes, Event Listeners, Delegation event model, handling mouse and keyboard events, Adapter classes. The AWT class hierarchy, user interface components- labels, button, canvas, scrollbars, text components, check box, checkbox groups, choices, lists panels – scrollpane, dialogs, menubar, graphics, layout manager – layout manager types – border.grid, flow, card and grid bag.

UNIT -V

Applets – Concepts of Applets, differences between applets and applications, life cycle of an applet, types of applets, creating applets, passing parameters to applets. Swing – Introduction, limitations of AWT, MVC architecture, components, containers, exploring swing- JApplet, JFrame and JComponent, icons and Labels, text fields, buttons – The JButton class, Check boxes, Radio buttons, Combo boxes, Tabbed Panes, Scroll Panes, Trees, and Tables.

TEXT BOOKS:

1. Java the complete reference, 7th edition, Herbert schildt, TMH.
2. Understanding OOP with Java, updated edition, T. Budd, Pearson education.

REFERENCE BOOKS:

1. An Introduction to programming and OO design using Java, J.Nino and P.A. Hosch, John wiley& sons.
2. An Introduction to OOP, third edition, T. Budd, Pearson education.
3. Introduction to Java programming, Y. Daniel Liang, Pearson education.
4. An introduction to Java programming and object-oriented application development, R.A.Johnson-Thomson.
5. Core Java 2, Vol 1, Fundamentals, Cay.S. Horstmann and Gary Cornell, eighth Edition, Pearson Education.
6. Core Java 2, Vol 2, Advanced Features, Cay.S. Horstmann and Gary Cornell, eighth Edition, Pearson Education
7. Object Oriented Programming with Java, R.Buyya, S.T.Selvi, X.Chu, TMH.
8. Java and Object Orientation, an introduction, John Hunt, second edition, Springer.
9. Maurach'sBeginning Java2 JDK 5, SPD.

[Type text]		THROUGH JAVA		
	Academic Year: 2023-2024		Year/Sem: IIEAR	II/I SEM: I SEM
	Faculty Name & Designation		RAMAVATH VINOD KUMAR/K.KRISHNA ,ASSISTANT PROFESSOR	

Unit/ Item No.	Topic (s)	Book Reference	Page (s)		Teaching Methodology	Propose d No. of Periods	Actual Dateof Handled	CO/ RBT
			From	To				
	UNIT - I							
I	Object Oriented Thinking andJava Basics:					14		
1.1	Object Oriented Thinking and Java Basics: Need for OOP Paradigm, Summary of OOP Concepts- Over view of JAVA	T1	2	4	Black board	02		CO 1
1.2	Coping with complexity, abstraction mechanisms	T1	5	9	Black board	01		
1.3	A Way of Viewing World — Agents, Responsibility, Messages,Methods, History of Java	T1	10	13	Black board	01		
1.4	JRE, JVM, JDK	T2	14	14	PowerPoint Presentation	02		
1.5	Java buzzwords	T1	17	34	Black board	01		
1.6	Data Types, Variables	T1	35	45	Power point Presentation	01		
1.7	Scope and Life Time of Variables	T1	45	47	Black board	01		
1.8	Arrays, Operators, Expressions	T1	51	79	Black board	01		
1.9	Control statements, Type conversion and casting	T1	81	106	Black board	01		
1.10	Simple java program, Concepts of Classes, Objects,Constructors	T1	109	122	Black board	01		
1.11	Methods, Access Control, ThisKeyword, Garbage Collection,	T1	129	159	Power point Presentation	01		
1.12	Overloading Methods and Constructors, Method Binding,	T1	125	155	Power point Presentation	01		
1.13	Inheritance, Overriding and Exceptions,	T1	161	185	Power point Presentation	01		
1.14	Parameter Passing, Recursion,Nested and Inner Classes, Exploring String Class.	T1	125	145	Power point Presentation	01		
UNIT - II								
II	Inheritance, Packages and Interfaces					14		CO/ RBT
2.1	Hierarchical abstractions	T1		189	Black board	01		CO2
2.2	Base class object, subclass, subtype, substitutability	T1	190	194	Black board	01		
2.3	forms of inheritance specialization, specification,	T1	196	201	Power point Presentation	01		
2.4	Construction, extension, limitation,	T1	202	212	Power point Presentation	01		
2.5	Combination, benefits of inheritance	T1	202	212	Black board	02		
2.6	Costs of inheritance. Member access rules	T1	301	308	Power point Presentation	02		CO2
2.7	Super uses, using final with inheritance	T1	309	336	Power point Presentation	01		

[Type text]								
2.8	Polymorphism- method overriding, abstract classes,	T1	308	308	Power point Presentation	01		
2.9	The Object class. Defining, Creating and Accessing a Package,.	T1	263	292	Power point Presentation	01		
2.10	Understanding CLASSPATH, importing packages	T1	250	275	Power point Presentation	01		
2.11	Differences between classes and interfaces	T1	301	308	Power point Presentation	01		
2.12	Defining an interface, implementing interface	T1	301	308	Power point Presentation	01		
2.13	Applying interfaces, variables in interface and extending interfaces	T1	301	308	Power point Presentation	02		
2.14	Exploring java.io.	T1	301	308	Power point Presentation	01		
	Review	Signature of the HOD/Coordinator						
UNIT - III								
III	Exception handling and Multithreading					10	Actual Date of Handled	CO/ RBT
3.1	Concepts of exception handling	T1	213	215	Seminar	01		CO3
3.2	Benefits of exception handling	T1	217	219	Power point Presentation	01		
3.3	Termination or resumptive models	T1	220	224	Power point Presentation	01		
3.4	Exception hierarchy, usage of try, catch, throw, throws and finally	T1	225	229	PPT	02		
3.5	Built in exceptions, creating own exception subclasses	T1	229	232	Power point Presentation	01		
3.6	String handling, Exploring java.util	T1	233	236	Power point Presentation	01		CO4
3.7	Differences between multithreading and multitasking,	T1	236	241	Power point Presentation	01		
3.8	Thread life cycle, creating threads, Thread priorities, synchronizing threads	T1	241	245	Power point Presentation	01		
3.9	Inter thread communication, thread groups,	T1	247	250	Power point Presentation	01		
3.10	Daemon threads. Enumerations, autoboxing, annotations, generics	T1	251	259	Power point Presentation	01		
	Review	Signature of the HOD/Coordinator						
UNIT- IV								
IV	Event Handling:					13	Actual Date of Handled	CO/ RBT
4.1	Events, Event sources	T1	297	300	Black board	01		
4.2	Event classes, Event Listeners	T1	297	577	Black board	02		
4.3	Delegation event model	T1	297	577	Black board	01		
4.4	Handling mouse and keyboard events	T1	297	577	Black board	01		
4.5	Adapter classes. The AWT class hierarchy	T1	297	577	PPT	02		
4.6	User interface components- labels, button, Canvas, scrollbars, text	T1	297	577	Black board	01		
4.7	components, check box, checkbox groups, choices	T1	297	577	Power point Presentation	02		
4.8	lists panels – scrollpane, dialogs, menubar, graphics	T1	297	577	Power point Presentation	01		

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4.9	layout manager – layout manager types – border, grid, flow, card and grid bag.	T1	297	577	Power point Presentation	02		CO5	
	Review	Signature of the HOD/Coordinator							
	UNIT- V								
V	Applets-Swing						12	Actual Dateof Handled	CO/ RBT
5.1	Applets – Concepts of Applets	T1	213	215	Black board	01		CO6	
5.2	Differences between applets and applications	T1	217	219	Power point Presentation	01			
5.3	Life cycle of an applet	T1	220	224	Power point Presentation	01			
5.4	Types of applets, creating applets, passing parameters to applets	T1	225	229	Power point Presentation	01			
5.5	Swing – Introduction, limitations of AWT,	T1	229	232	Power point Presentation	02			
5.6	MVC architecture, components, containers	T1	233	236	Power point Presentation	01			
5.7	Exploring swing- JApplet	T1	236	241	Power point Presentation	01			
5.8	JFrame and JComponent, Icons and Labels, text fields	T1	241	245	Power point Presentation	01			
5.9	buttons – The JButton class, Check boxes, Radio buttons,	T1	247	250	Power point Presentation	01			
5.10	Combo boxes, Tabbed Panes, Scroll Panes, Trees, and Tables	T1	251	259	Power point Presentation	02			
	Review	Signature of the HOD/Coordinator							

	SRI INDU COLLEGE OF ENGG & TECH QUESTION BANK (Regulation :R22) DEPARTMENT OF AI&DS		(Regulation :R22) Prepared on :12/5/2026 Rev1: 12/5/2026 Page: 16 of 7
	Sub.Code & Title	(R22CSE 2115) OBJECT ORIENTED PROGRAMMING THROUGH JAVA	
	Academic Year: 2025-2026	Year/Sem: IIEAR	II/I SEM: I SEM
	Faculty Name & Designation	MA SHABANA PARVEEN ,ASSISTANT PROFESSOR	

QUESTION BANK WITH BLOOMS TAXONOMY LEVEL (BTL)

(1.Remembering 2.Understanding 3. Applying 4.Analyzing 5.Evaluating 6.Creating)

UNIT-I: OBJECT ORIENTED THINKING AND JAVA BASICS				
	Multiple Choice Questions		BT Level	Course Outcome
1C-1	Which of the following is not an OOPS concept in Java? [] a) Polymorphism b) Inheritance c) Compilation d) Encapsulation		I	CO1
1C-2	Which environment variable is used to set the java path? [] a) MAVEN Path b) Java PATH c) JAVA d) JAVA_HOME		II	CO1
1C-3	What is the extension of java code files? [] a) .js b) .txt c) .class d) .java		I	CO1
1C-4	 is not the use of “this” keyword in Java? [] a) Referring to the instance variable when a local variable has the same name b) Passing itself to the method of the same class c) Passing itself to another method d) Calling another constructor in constructor chaining		I	CO1
1C-5	What is the extension of compiled java classes? [] a) .txt b) .js c) .class d) .java		III	CO1
1C-6	Which of the following is a Super class of every class in Java? [] a) Array List b) Abstract class c) Object class d) String		I	CO1

1C-7	Which one of the following is not an access modifier? [] a) Protected b) Void c) Public d) Private	IV	CO1
1C-8	What is the numerical range of a char data type in Java? [] a) 0 to 256 b) -128 to 127 c) 0 to 65535 d) 0 to 32767	I	CO1
1C-9	What is the return type of Constructors? [] a) int b) float c) void d) none of the mentioned	II	CO1
1C-10	Which of the following is a method having same name as that of its class? [] a) finalize b) delete c) class d) constructor	I	CO1
1C-11	Which of the following is a garbage collection technique? [] a) Cleanup model b) Mark and sweep model c) Space management model d) Sweep model	I	CO1
1C-12	Garbage Collection can be controlled by a program? [] a) True b) False	III	CO1
1C-13	Which of these is an incorrect array declaration? [] a) int arr[] = new int[5] b) int [] arr = new int[5] c) int arr[] = new int[5]	I	CO1

	d) int arr[] = int [5] new		
1C-14	of the following loops will execute the body of loop even when condition controlling the loop is initially false? [] a) do-while b) while c) for d) none of the mentioned	V	CO1
1C-15	of the following is a valid declaration of an object of class Box? [] a) Box obj = new Box(); b) Box obj = new Box; c) obj = new Box(); d) new Box obj;	VI	CO1

Fill in the blanks

1F-1	The output of the Java compiler is known as -----	I	CO1
1F-2	----- refers to the standard input.	II	CO1
1F-3	The mechanism of binding data with the code that manipulates it is known as -----	I	CO1
1F-4	URL stands for -----.	I	CO1
1F-5	The output of the Java compiler is executed by the -----.	I,II	CO1
1F-6	----- is the java compiler.	I	CO1
1F-7	----- means data hiding.	I	CO1
1F-8	The ability to take more than one forms is called -----	III	CO1
1F-9	Every object has a _____ and _____.	I	CO1
1F-10	The six relational operator symbols are _____.	I	CO1
1F-11	= symbol is _____operator.	V	CO1
1F-12	Java offers three selection statements: _____	I	CO1

1F-13	Java defines four types of integers: _____	II	CO1
1F-14	In Java a group of statements may be enclosed in braces to form a _____.	I	CO1
1F-15	When two different objects interpret a single message differently and respond differently, it is known as _____	IV	CO1

Match the following

1M-1	Match the following. a) Java 1) is a tool for debugging java program b) Javah 2) is a tool for creating C-like header files c) Javap 3) runs java byte code d) jdb 4) prints java code representation	I	CO1
1M -2	Match the following. a) Array 1) Acquiring properties from base class b) Inheritance 2) More than one form c) Polymorphism 3) Non-primitive data type d) Encapsulation 4) Wrapping up of data	II	CO1
1M -3	Match the following. a) Public 1) Accessing the data members inside the class b) Private 2) within the same package or subclasses in different packages. c) Default 3) Accessing the data members & member functions outside the class d) Protected 4) when we don't use any keyword explicitly.	III	CO1
1M -4	Match the following. a) 1Megabyte 1) 1024 gigabyte b) 1Gigabyte 2) 1024 kilobyte c) 1Terabyte 3) 1024 terabyte d) 1Petabyte 4) 1024 megabyte	II	CO1
1M -5	Match the following. a) Class 1) Instance of an class b) Object 2) Combination of data members and member functions c) Abstract class 3) Java Virtual Machine d) JVM 4) Abstract keyword	I	CO1

5 - MARKS QUESTIONS

1D-1.	Explain about Features of Java.	II	CO1
1D-2.	Explain about OOPs concepts.	II	CO1
1D-3.	Explain about Operators in java.	II	CO1

1D-4.	Explain Scope and Life time of variables.	II	CO1
1D-5.	Compare Procedural and Object oriented programming paradigm.	IV	CO1
1D-6.	Does Java Support Multiple Inheritance?-Justify your answer.	V	CO1
1D-7.	Write short notes on “new” ,“this” ,“super” ,”static”, ”final” keywords in Java?	I	CO1
1D-8	Explain about Constructors in Java and types of constructors with an example.	II	CO1
1D-9	Compare the similarities between Method overloading and Method Overriding	V	CO1
1D-10	Define Array and types of arrays in Java?	I	CO1
1D-11	Explain about JVM Architecture.	II	CO1
1D-12	Write a java program to find the Factorial of a given number by using Recursion	I	CO1
1D-13	Develop a java program to find the Matrix Multiplication.	VI	CO1
1D-14	Develop a java program to Swap two numbers.	V	CO1
1D-15	Develop a java program on single inheritance.	VI	CO1



**SRI INDU COLLEGE OF ENGG &
 TECH QUESTION BANK
 (Regulation :R22)
 DEPARTMENT OF AI&DS**

(Regulation :R22)

Prepared on :12/5/2026
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	Sub.Code & Title	(R22CSE 2115) OBJECT ORIENTED PROGRAMMING THROUGH JAVA	
	Academic Year: 2025-2026	Year/Sem: II YEAR	II/I SEM: I SEM
	Faculty Name & Designation	MA SHABANA PARVEEN ,ASSISTANT PROFESSOR	

QUESTION BANK WITH BLOOMS TAXONOMY LEVEL (BTL)

(1.Remembering 2.Understanding 3. Applying 4.Analyzing 5.Evaluating 6.Creating)

UNIT-II: INHERITANCE,PACKAGES,INTERFACES			
	Multiple Choice Questions	BT Level	Course Outcome
2C-1	Which of this keyword must be used to inherit a class? [] a) super b) this c) extent d) extends	I	CO2
2C-2	A class member declared protected becomes a member of subclass of which type? [] a) public member b) private member c) protected member d) static member	II	CO2
2C-3	Which of these keywords is used to define packages in Java? [] a) pkg b) Pkg c) package d) Package	I	CO2
2C-5	 of this access specifies can be used for a class so that its members can be accessed by a different class in the same package? [] a) Public b) Protected c) No Modifier d) All of the mentioned	III	CO2
2C-6	Which of the following package stores all the standard java classes? [] a) lang b) java c) util d) java.packages	I	CO2

2C-7	of these can be used to fully abstract a class from its implementation? [] a) Objects b) Packages c) Interfaces d) None of the Mentioned	IV	CO2
2C-8	Which of these access specifiers can be used for an interface? [] a) Public b) Protected c) private d) All of the mentioned	I	CO2
2C-9	Which of these is not abstract? [] a) Thread b) Abstract List c) List d) None of the Mentioned	II	CO2
2C-10	Which of these packages contains abstract keyword? [] a) java.lang b) java.util c) java.io d) java.system	I	CO2
2C-11	Which type of inheritance results in the diamond problem? [] a) Single level b) Hybrid c) Hierarchical d) Multilevel	VI	CO2
2C-12	Which system property stores installation directory of JRE? [] a) user.home b) java.class.path c) java.home d) user.dir	I	CO2
2C-13	What is the process of defining a method in a subclass having same name & type signature as a method in its superclass? [] a) Method overloading b) Method overriding c) Method hiding d) None of the mentioned	III	CO2

2C-14	Which of these keywords can be used to prevent Method overriding? [] a) static b) constant c) protected d) final	II	CO2
2C-15	Which of these is supported by method overriding in Java? [] a) Abstraction b) Encapsulation c) Polymorphism d) None of the mentioned	I	CO2

Fill in the blanks			
2F-1	A _____ variable is a variable that is shared by all objects of a class.	I	CO2
2F-2	Every object in Java has a _____ method that can be used to return a String representation of it.	I	CO2
2F-3	The term _____ refers to the fact that a variable can hold objects of different types.	IV	CO2
2F-4	In an _____, by default, all methods are abstract.	I	CO2
2F-5	Every class is part of some _____.	I,II	CO2
2F-6	While creating a package, you should choose a name for the package and include a _____ statement	I	CO2
2F-7	The import statements must appear after the _____ statement and before the _____ declaration.	I	CO2
2F-8	A class ____ an interface, while a class ____ an abstract class.	III	CO2
2F-9	An Interface cannot contain a _____ methods.	I	CO2
2F-10	All variables and methods in an Interface are _____ Modifiers.	II	CO2
2F-11	The _____ keyword is used to extend an interface, and the child interface inherits the methods of the parent interface.	I	CO2
2F-12	The _____ keyword is used to refer to the parent class of a subclass.	V	CO2
2F-13	CLASSPATH is an environment variable which is used by Application Class Loader to locate and load the .class files.	I	CO2

2F-14	An _____ leads to less development and maintenance costs.	III	CO2
2F-15	All variables like local, instance, and static variables can be _____ variables.	I	CO2
Match the following			
2M-1	Match the following 1) Inheritance a) Used to specify the behavior of class 2) Interface b) Importing classes or interfaces 3) Package c) importing entire package 4) Import pkg.* d) Default package 5) java.lang e) Acquiring the properties from Parent to child	II	CO2
2M-2	Match the following 1) java.applet a) provides for system input & output 2) java.awt b) creating and modifying image 3) java.awt.image c) Contains collection frameworks 4) java.io d) Provides graphical user interface 5) java.util e) To create the applet and classes	III	CO2
2M-3	Match the following 1) CLASSPATH a) provides for system input & output 2) public static final b) creating and modifying image 3) public abstract c) An environment variable 4) Multilevel inheritance d) more than one base classes 5) Multiple inheritance e) more than one parent classes	II	CO2
2M-4	Match the following 1) Default method a) extension method 2) Static method b) it can't be overridden by sub class 3) Final method c) a method that belongs to a class method. 4) Super keyword d) current object in a method 5) This keyword e) it refers to super class objects.	IV	CO2
2M-5	Match the following 1) Single inheritance a) not supportable in java 2) Multiple inheritance b) one base class , one derived class 3) Hierarchical inheritance c) one base class, intermediate class, derived class 4) Multilevel inheritance d) single inheritance, hierarchical inheritance 5) Hybrid inheritance e) one base class, multiple derived classes.	I	CO2
5 - MARKS QUESTIONS			
2D-1.	Define Inheritance and its types with an example.	I	CO2
2D-2.	Differentiate between Packages and Interfaces in java.	V	CO2
2D-3.	Explain in detail about Hierarchical abstractions with example program	II	CO2
2D-4.	Discuss about Base class object , sub class, sub type and substitutability in java	II	CO2
2D-5.	Explain about Forms of Inheritance in detail.	II	CO2

2D-6.	Explain Specification and Construction in Inheritance	II	CO2
2D-7.	Discuss about Extension, limitation, combination and benefits of Inheritance	II	CO2
2D-8	Define packages, and importing the packages with an example.	I	CO2
2D-9	Discuss about Costs of Inheritance, and rules for Member access.	II	CO2
2D-10	Explain about uses of Super class and “Final” keyword with an example	I,II	CO2
2D-11	Explain about Polymorphism and types of Polymorphism.	II	CO2
2D-12	Differentiate between Method overriding and Abstract classes.	V	CO2
2D-13	How to import a package and implementation of packages along with the CLASSPATH.	IV	CO2
2D-14	Define an interfaces, implementing the interfaces, applying the interfaces in java.	I	CO2
2D-15	Discuss about variables in Interface and Extending Interfaces using java.io.	II	CO2

	SRI INDU COLLEGE OF ENGG & TECH QUESTION BANK (Regulation :R22) DEPARTMENT OF AI&DS		(Regulation :R22) Prepared on :12/5/2026 Rev1: 12/5/2026 Page: 26 of 7
	Sub.Code & Title	(R22CSE 2115) OBJECT ORIENTED PROGRAMMING THROUGH JAVA	
	Academic Year: 2025-2026	Year/Sem: II YEAR	II/I SEM: I SEM
	Faculty Name & Designation	MA SHABANA PARVEEN ,ASSISTANT PROFESSOR	

QUESTION BANK WITH BLOOMS TAXONOMY LEVEL (BTL)

(1.Remembering 2.Understanding 3. Applying 4.Analyzing 5.Evaluating 6.Creating)

UNIT-III: EXCEPTION HANDLING AND MULTITHREADING			
	Multiple Choice Questions	BT Level	Course Outcome
3C-1	What is the main purpose of exception handling in Java? [] a. To encourage unchecked exceptions b. To avoid writing any error-handling code c. To handle runtime errors gracefully d. To crash the program when an error occurs	I	CO3
3C-2	Which of the following is not a part of exception handling in Java? [] a. try b. catch c. throw d. static	I	CO3
3C-3	In the context of exception handling, what is a "checked exception"? [] a. An exception that is checked at compile-time b. An exception that is checked at runtime c. An exception that is never checked d. An exception that doesn't need to be caught	III	CO3
3C-4	Which keyword is used to explicitly throw an exception in Java? [] a. throws b. throw c. try d. catch	I	CO3
3C-5	Which block in Java's exception handling is used to execute code regardless of whether an exception occurs or not? [] a. try b. catch c. finally d. throw	IV	CO3

3C-6	What is the top-level class in the Java exception hierarchy? [] a. Error b. Exception c. Throwable d. Runtime Exception	I	CO3
3C-7	What is the primary benefit of multithreading in Java? [] a. It simplifies complex algorithms b. It makes your program run faster on a single-core processor c. It allows you to execute multiple threads simultaneously d. It eliminates the need for exception handling	I	CO3
3C-8	What is the term for the state in the thread life cycle where a thread is waiting for a specific condition to be met? [] a. Runnable b. Blocked c. Waiting d. Terminated	II	CO4
3C-9	How can you create a thread in Java by implementing multithreading? [] a. By extending the Thread class b. By implementing the Runnable interface c. By using the Executor Service class d. By calling the start () method.	II	CO4
3C-10	What is the range of thread priorities in Java? [] a. 1 to 5 b. 0 to 10 c. -1 to 1 d. Any positive integer	I	CO4
3C-11	What is synchronization in Java used for? [] a. It makes threads run faster b. It ensures that only one thread can access a shared resource at a time c. It is a type of exception d. It is used for printing output to the console	III	CO4
3C-12	Which Java feature is used for inter-thread communication? [] a. break and continue b. wait, notify, and notify All c. Exception chaining d. Auto-casting	I	CO4
3C-13	What is the purpose of a Daemon thread in Java? [] a. To handle exceptions b. To execute a specific task once c. To run in the background and provide services to other threads d. To perform high-priority operations	IV	CO4
3C-14	What are Java enumerations primarily used for? [] a. Representing a group of named constant values b. Creating threads c. Handling exceptions d. Defining new data types	I	CO4

3C-15	What is Auto boxing in Java? [] a. A way to pack objects into a box b. Automatic conversion between primitive data types and their corresponding wrapper classes c. A feature for optimizing thread synchronization d. A way to improve exception handling	VI	CO4
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Fill in the blanks			
3F-1	Exception handling is a mechanism used to handle ____ errors or exceptional situations in Java.	II	CO3
3F-2	The primary benefit of exception handling is to handle runtime errors _____.	II	CO3
3F-3	The keyword used to explicitly throw an exception in Java is _____.	I	CO3
3F-4	The block in Java's exception handling that is used to execute code regardless of whether an exception occurs or not is the _____ block.	II	CO3
3F-5	The top-level class in the Java exception hierarchy is _____.	II	CO3
3F-6	Multithreading in Java allows you to execute _____ threads simultaneously.	I	CO3
3F-7	In the thread life cycle, a thread waiting for a specific condition to be met is in the _____ state.	II	CO3
3F-8	To create a thread in Java using multithreading, you can implement the _____ interface.	II	CO4
3F-9	Thread priorities in Java typically range from _____ to _____.	III	CO4
3F-10	Synchronization in Java is used to ensure that only _____ thread can access a shared resource at a time.	IV	CO4
3F-11	_____ and _____ are methods used for inter-thread communication in Java.	III	CO4
3F-12	A daemon thread in Java is primarily used to run in the background and provide services to other _____.	I	CO4
3F-13	Enumerations in Java are primarily used for representing a group of named _____ values.	III	CO4
3F-14	Auto boxing in Java is the automatic conversion between _____ data types and their corresponding ____ classes.	VI	CO4
3F-15	The _____ package in Java contains various utility classes and data structures, including collections, date and time classes.	V	CO4
Match the following			
3M-1	Match the following 1) Class 2) Exceptions 3) Errors a) Checked and unchecked exceptions b) Compile time exceptions c) Exceptions and errors	II	CO3

	4) Object 5) Checked exceptions	d) JVM crashes and Assertion errors e) Collection of data members and member functions		
3M -2	Match the following 1) try block 2) catch block 3) finally block 4) throw block 5) throws block	a) Must be executed b) It contains exception thrown out of method c) throw an exception try to catch d) Can raise exceptions e) Receive and handle exceptions	III	CO3
3M -3	Match the following 1) Start () 2) Sleep() 3) run() 4) join() 5) isAlive()	a) wait for a thread to terminate b) start thread by calling its run method c) Determine if a thread is still running d) Suspend a thread for a period of time e) Entry point for the thread	II	CO4
3M -4	Match the following 1) New state 2) Ready state 3) Running state 4) Waiting state 5) Halted state	a) memory is allocated for the thread. b) thread is about to entering into the main memory c) thread has completed its execution d) thread is under the control of the CPU. e) thread is waiting for the remaining CPU burst time.	VI	CO4
3M -5	Match the following 1) charAt () 2) getChars() 3) getBytes() 4) toCharArray() 5) regionMatches()	a) to extract more than one character at a time from a string. b) to extract a single character from a string. c) it returns an array of characters for the entire string. d) to store the characters in an array of bytes. e) it compares a specific region inside a string with another specific region in another string	III	CO4

5 - MARKS QUESTIONS

3D-1.	Explain the concept of Exception handling in Java. What are the main benefits of using exception handling in Java programming?	II	CO3
3D-2.	Describe the two models of exception handling: Termination or Resumptive. Provide examples of situations where each model is appropriate.	II	CO3
3D-3.	Discuss the Java exception hierarchy. What is the significance of the Throwable class, and how does it relate to Error and Exception?	II	CO3
3D-4.	How can you create your own custom exception subclass in Java? Provide an example of when and why you might create a custom exception.	VI	CO3
3D-5.	Explain the purpose of the try, catch, and finally blocks in Java's exception handling. Provide a code example to illustrate their usage.	II	CO3
3D-6.	What is multithreading in Java, and how does it differ from multitasking? Provide examples of scenarios where you would use multithreading.	I	CO4
3D-7.	Describe the life cycle of a thread in Java. What are the different states a thread can be in, and what transitions occur between these states?	II	CO4

3D-8	Discuss the concept of thread priorities in Java. What do thread priorities influence, and how can they be set and used in a program?	II	CO4
3D-9	How can you create threads in Java? Compare and contrast extending the Thread class and implementing the Runnable interface.	V	CO4
3D-10	Explain the purpose of thread synchronization in Java. Provide examples of scenarios where synchronization is necessary and how it is achieved.	II	CO4
3D-11	Differentiate between Multithreading and Multitasking.	V	CO4
3D-12	Explain about String Handling in java.	II	CO4
3D-13	Explain about Thread groups in Multithreading.	II	CO4
3D-14	Explain about Annotations and Generics in Java.	II	CO4
3D-15	Explain about Inter-thread communication.	II	CO4



SRI INDU COLLEGE OF ENGG & TECH QUESTION BANK (Regulation :R22) DEPARTMENT OF AI&DS			(Regulation :R22) Prepared on :12/5/2026 Rev1: 12/5/2026 Page: 31 of 7
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Academic Year: 2025-2026		Year/Sem: II YEAR	II/I SEM: I SEM
Faculty Name & Designation		MA SHABANA PARVEEN ,ASSISTANT PROFESSOR	

QUESTION BANK WITH BLOOMS TAXONOMY LEVEL (BTL)

(1.Remembering 2.Understanding 3. Applying 4.Analyzing 5.Evaluating 6.Creating)

UNIT-IV: EVENT HANDLING			
	Multiple Choice Questions	BT Level	Course Outcome
4C-1	What is an event in Java? [] a) A graphical element on the screen b) A type of exception c) An occurrence or action d) A user interface component	II	CO5
4C-2	Which of the following is not an event source in Java? [] a) Button b) Mouse c) Text Field d) Window	I	CO5
4C-3	Which class represents a mouse event in Java? [] a) Keyboard Event b) Action Event c) Mouse Event d) Event Source	III	CO5
4C-4	Which of the following is an example of an event listener interface? [] a) Event Adapter b) Action Listener c) Event Source d) Event Generator	I	CO5
4C-5	In Java event handling, what is the delegation event model? [] a) It's a model that delegates event handling to the operating system. b) It's a model where event sources delegate event handling to registered listeners. c) It's a model that delegates event handling to the user interface thread. d) It's a model used for database event handling.	I	CO5

4C-6	Which event type is used for mouse clicks? [] a) Action Event b) Key Event c) Mouse Event d) Window Event	IV	CO5
4C-7	Which class is used for implementing event listeners more conveniently by providing empty methods for all listener methods? [] a) Event Listener Adapter b) Event Adapter c) Adapter Class d) Action Listener	I	CO5
4C-8	In the AWT class hierarchy, what is the base class for all GUI components? [] a) Component b) Container c) Window d) Frame	V	CO5
4C-9	Which AWT layout manager is typically used for arranging components in a grid? [] a) Flow Layout b) Border Layout c) Grid Layout d) Card Layout	I	CO5
4C-10	Which AWT component is used to display a single-line text message or label? [] a) Button b) Label c) Text Field d) Canvas	VI	CO5
4C-11	Which AWT component is used for selecting options from a drop-down list? [] a) Choice b) List c) Scrollbar d) Panel	I	CO5
4C-12	What is the purpose of a Check box Group in AWT? [] a) It is used to group checkboxes in a panel. b) It is used to create a group of radio buttons. c) It is used for selecting options from a drop-down list. d) It is used to create buttons.	II	CO5
4C-13	Which layout manager is useful for arranging components in a top-to-bottom or left-to-right order, depending on the container's orientation? [] a) Border Layout b) Grid Layout c) Flow Layout d) Grid Bag Layout	I	CO5
4C-14	Which AWT component is used to add scrollbars to a container when the contents exceed the visible area? [] a. Panel b. Scroll Pane c. Frame d. Canvas	III	CO5

4C-15	Which AWT component is used to display a pop-up menu in a graphical user interface? [] a. Label b. Dialog c. Menu Bar d. Choice	II	CO5
-------	---	----	-----

Fill in the blanks

4F-1	An_____is an occurrence or action in Java that can be triggered by various sources.	II	CO 5
4F-2	Event sources are objects or components that generate_____.	I	CO 5
4F-3	In Java,_____classes are used to represent different types of events, such as ActionEvent, Mouse Event, Key Event, etc.	I	CO5
4F-4	Event listeners are interfaces or classes that handle specific_____.	III	CO 5
4F-5	The_____Event Model is a model where event sources delegate event handling to registered event listeners.	I,II	CO 5
4F-6	Mouse events include actions like mouse clicks, mouse_____, and mouse dragging.	I	CO 5
4F-7	Adapter classes provide a convenient way to implement event listeners by offering empty methods for all the methods in an_____.	I	CO 5
4F-8	In the AWT class hierarchy, the base class for all GUI components is_____.	IV	CO 5
4F-9	The_____layout manager is used for arranging components in a grid.	I	CO 5
4F-10	A single-line text message or label is typically represented in AWT by the _____.	I	CO 5
4F-11	The AWT component used for selecting options from a drop-down list is called_____.	II	CO 5
4F-12	A_____is used in AWT to group checkboxes, allowing only one option to be selected at a time.	I	CO 5
4F-13	The_____layout manager is useful for arranging components in a top-to-bottom or left-to-right order, depending on the container's orientation.	I	CO 5
4F-14	AWT's_____component is used to add scrollbars to a container when the content exceeds the visible area.	V	CO 5
4F-15	To display a pop-up menu in a graphical user interface using AWT, you would typically use a_____.	II	CO 5

Match the following			
4M-1	Match the following 1) Button 2) Check box 3) Text components 4) List 5) Menu item	a) Generates item events b) Generates action events by clicking c) When an item is double clicked d) when the item selected or deselected e) when user enters a character	I CO 5
4M -2	Match the following 1) Event 2) Listener 3) Source 4) Event Object 5) Adjustment Event	a) Describes a state change b) Is an object that generates an event c) Notified when an event occurs d) Is generated by a scroll bar e) Is super class of all events	II CO 5
4M -3	Match the following 1) Item Listeners 2) Event Listeners 3) Delegation Event Model 4) Windows Listeners 5) Focus Listeners	a) Deactivated, activated, open or quit. b) recognize when the state of an Item changes. c) component gains or losses keyboard focus d) a source generates an Event and send it to one or more Listeners e) java. awt. event.	III CO5
4M -4	Match the following 1) Mouse Motion listener 2) Mouse Wheel Listener 3) Text Listener 4) Window Focus Listener 5) Window Listener	a) it gains or losses input focus b) it is activated or deactivated. c) mouse dragged, mouse moved d) mouse wheel is moved e) change occurs in a text area.	II CO5
4M -5	Match the following 1) Component Adapter 2) Focus Adapter 3) Key Adapter 4) Mouse Adapter 5) Container Adapter	a) mouse listener b) container listener c) component Listener d) key Listener e) focus Listener	IV CO5
5 - MARKS QUESTIONS			
4D-1.	Explain the concept of event handling in Java. Describe how events are generated, processed, and handled in a Java application	II	CO5
4D-2.	Discuss the key components of the Java event handling model, including event sources, event classes, and event listeners. Provide examples of each component.	II	CO5
4D-3.	How does the Delegation Event Model work in Java? Explain how event delegation simplifies event handling in GUI applications.	III	CO5
4D-4.	Describe the types of mouse events in Java, such as mouse clicks, mouse movement, and mouse dragging. Provide examples of how these events can be handled in a Java program.	II	CO5
4D-5.	Explain the role of adapter classes in Java event handling. How do adapter classes simplify the implementation of event listeners?	IV	CO5



**SRI INDU COLLEGE OF ENGG &
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Department of AI&DS**

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4D-6.	Discuss the AWT class hierarchy for creating graphical user interfaces in Java. Explain the relationships between key classes like Component, Container, Window, and Frame.	V	CO5
4D-7.	What are layout managers in AWT, and why are they important in GUI design? Describe the common AWT layout managers and their use cases.	I	CO5
4D-8	Provide a detailed explanation of the Border Layout , layout manager in AWT. How does it divide a container into regions, and what is its typical use in GUI design?	II	CO5
4D-9	Describe the Flow Layout, layout manager in AWT. How does it arrange components within a container, and when is it most suitable for use?	II	CO5
4D-10	Explain the purpose of the Scroll Pane component in AWT. How does it help in managing scrollable content within a GUI application, and provide an example of its usage?	I,II	CO5
4D-11	Explain about Dialog Boxes in Event handling	II	CO5
4D-12	Write a java program on AWT buttons in Event handling	I	CO5
4D-13	Write a java program on Graphics in Event handling	I	CO5
4D-14	Write a java program on Combo box, Scroll bars, Lists in Item Listeners	II	CO5
4D-15	Write a java program on Menus and Menu bars in Event handling.	II	CO5

	Sub.Code & Title	(R22CSE 2115) OBJECT ORIENTED PROGRAMMING THROUGH JAVA		
	Academic Year: 2025-2026	Year/ Sem: II YEAR	II/I SEM: I SEM	
	Faculty Name & Designation	MA SHABANA PARVEEN ,ASSISTANT PROFESSOR		

QUESTION BANK WITH BLOOMS TAXONOMY LEVEL (BTL)

1.Remembering 2.Understanding 3. Applying 4.Analyzing 5.Evaluating 6.Creating)

UNIT-V: APPLETS				
	Multiple Choice Questions	BT Level	Course Outcome	
5C-1	What is the primary purpose of Java applets? [] a) Running standalone applications b) Creating web-based user interfaces c) Running server-side scripts d) Developing mobile applications	I	CO6	
5C-2	Which method is not a part of the applet's lifecycle? [] a) init() b) start() c) run() d) stop()	II	CO6	
5C-3	Which type of applet can be embedded in a web page? [] a) Standalone applet b) Mobile applet c) Embedded applet d) Local applet	I	CO6	
5C-4	In Java applets, what method is used to retrieve parameters passed from an HTML page? [] a) getParameter() b) fetchParameter() c) readParameter() d) getHTMLParameter()	III	CO6	
5C-5	What is the primary motivation behind the creation of Swing as a GUI framework in Java? [] a) To replace the AWT framework b) To provide a platform-independent and modern GUI framework c) To work only with native platform components d) To simplify the server-side development	IV	CO6	
5C-6	Which architectural pattern is followed by Swing for GUI development? [] a) Model-View-Controller (MVC) b) Model-View-View Model (MVVM) c) Model-Controller-View (MCV) d) Model-Presenter-View (MPV)	I	CO6	

5C-7	Which Swing class represents a top-level window that can be used in a desktop application? [] a) JPanel b) JFrame c) JApplet d) Jwindow	I	CO6
5C-8	Which Swing class is commonly used to display text and images in a GUI? [] a) JLabel b) JTextPane c) JTextComponent d) JTextArea	I	CO6
5C-9	Which Swing component is used for user input of single-line text? [] a) JField b) JTextField c) JTextPane d) JTextArea	IV	CO6
5C-10	Which Swing component is suitable for creating push buttons in a GUI? [] a) JButton b) JToggle c) JCheckBox d) JradioButton	I	CO6
5C-11	What is the Swing component used for selecting multiple options from a list? [] a) JToggle b) JCheckBox c) JRadioButton d) Jlist	I	CO6
5C-12	Which Swing component is used to display hierarchical data in a tree-like structure? [] a) JTree b) JTable c) JList d) Jpane	III	CO6
5C-13	Which Swing component is used for displaying tabular data in a grid? [] a) JTable b) JGrid c) JList d) Jpane	I	CO6
5C-14	What Swing component is suitable for creating a container with multiple tabs to organize content? [] a) JTabbedPane b) JMenuBar JScrollPane c) JtabBar	II	CO6

5C-15	Which Swing component is used to provide scrolling functionality for displaying content that doesn't fit in the visible area? [] a) JScrollPane b) JScrollPane c) JScrollBar d) JScrollContainer	II	CO6
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Fill in the blanks			
5F-1	Java ____ are small programs that can be embedded in web pages to create interactive content.	II	CO6
5F-2	The primary purpose of Java applets is for ____ user interfaces.	I	CO6
5F-3	Applets have a lifecycle that includes methods like init(), start(), stop(), and ____.	I	CO6
5F-4	Embedded applets can be included in ____ web pages.	III	CO6
5F-5	In Java applets, you can retrieve parameters passed from an HTML page using the ____ method.	I,II	CO6
5F-6	Swing was introduced to overcome the limitations of the ____ framework	I	CO6
5F-7	Swing follows the ____ architectural pattern for GUI development	I	CO6
5F-8	A top-level window used in desktop applications is represented by the ____ class in Swing	II	CO6
5F-9	To display text and images in a Swing GUI, you can use the ____ class.	I	CO6
5F-10	For user input of single-line text in Swing, the ____ component is commonly used.	IV	CO6
5F-11	____ are used to create push buttons in a Swing GUI.	I	CO6
5F-12	____ is used to display hierarchical data in a tree-like structure	II	CO6
5F-13	To display tabular data in a grid, you can use the ____ component.	II	CO6
5F-14	A container with multiple tabs to organize content is created using the ____ component.	V	CO6
5F-15	To provide scrolling functionality for content that doesn't fit in the visible area, Swing uses the ____ component	I	CO6
Match the following			
5M-1	) Match the following 1) JComponent a) Light weight 2) JFrame b) Abstract Button super class	II	CO6

	3)AWT 4)Swing 5)JButton	c) Heavy weight d) AWT Frame class e) Container and one of the base classes of swing		
5M -2	Match the following in AWT control fundamentals 1) Labels 2) Push buttons 3) Check boxes 4) Choice lists 5) Scroll bars	a) methods are setText(),getText(). b) methods are setLabel(),getLabel() c) methods are setValue(),getValue() d) methods are setState(),getState() e)methods are getSelectedItem()or getSelectedIndex()	I	CO6
5M -3	Match the following in AWT classes 1) AWTEvent 2) AWTEventMulticaster 3) Canvas 4) Choice 5) Color	a) manages colors in a portable b) a blank, symantics-free window c) creates a pop-up list d) encapsulates AWT events e)dispatches events to multiple Listeners	III	CO6
5M -4	Match the following in AWT classes 1) Menu 2) Menubar 3) MenuComponent 4) MenuItem 5) MenuShortcut	a) creates a menu item b) encapsulates a keyboard shortcut for a menu item. c) creates a pulldown menu d) creates a menu bar. e) an abstract class implemented by various menu classes	II	CO6
5M -5	Match the following in Life cycle of an Applet 1) init () 2) Start() 3) Stop () 4) Destroy() 5) To run an Applet	a) it destroys the Applet program b) initialization of an Applet c) execution of an Applet code. d) it minimizes the Applet code e) by HTML file, Applet viewer tool	VI	CO6

5 - MARKS QUESTIONS

5D-1.	Differentiate between Java applets and Java applications.	V	CO6
5D-2.	What are some of the common lifecycle methods of a Java applet?	I	CO6
5D-3.	How to create an Applet in Applet Viewer and passing Parameters into an Applet.	VI	CO6
5D-4.	Why was Swing introduced, and what problem does it address compared to AWT?	II	CO6
5D-5.	What does the Model-View-Controller (MVC) architecture aim to achieve in GUI development?	VI	CO6
5D-6.	Define AWT and limitations of AWT.	I	CO6
5D-7.	Which Swing component is commonly used to display text and images in a GUI?	I	CO6

5D-8	How do you create a button in a Swing GUI?	II	CO6
5D-9	Name one Swing component used for selecting multiple options from a list.	V	CO6
5D-10	Write a java program on Jbutton class and Check boxes.	I,II	CO6
5D-11	Write a java program on Combo boxes and Tabbed panes.	II	CO6
5D-12	Write a java program on Scroll pane and Text fields in Applets	I	CO6
5D-13	Write a java program on JComponents, icons and Labels in Applets	III	CO6
5D-14	Explain about Trees and Tables in Applets with an example.	III	CO6
5D-15	Explain about AWT classes.	IV	CO6

MID-1 MODEL PAPER

BR-22

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

D4

(An Autonomous Institution Under 2(f) and 12(B) of UGC Act 1956, New Delhi)

II B.Tech - I Semester - I Mid Term Examinations (Model paper)

(R22CSE2115) OBJECT ORIENTED PROGRAMMING THROUGH JAVA

Duration: 90Mins

Max Marks: 25M

Section – A

Answer All the questions

5Qx1M = 5M

- | | |
|-------------------------------------|--------|
| 1. Define class and object in Java? | CO1,L1 |
| 2. Define Package? | CO1,L1 |
| 3. Define Byte Streams. | CO2,L2 |
| 4. List out JDBC drivers. | CO2,L1 |
| 4. Define an Exception. | CO2,L1 |

Section – B

Answer any FOUR questions

4Qx5M = 20M

- | | |
|--|--------|
| 6. Explain about the features of Java? | CO1,L4 |
| 7. Write a java program to print hello world message? | CO1,L2 |
| 8. Compare Abstract class and Interface with example. | CO2,L2 |
| 9. Explain in detail about input character stream classes with examples. | CO2,L2 |
| 10. Explain thread –based multitasking and process-based multitasking | CO2,L1 |
| 11. Draw a life cycle model of a thread. | CO2,L1 |

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

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Recognized under 2(f) and 12(B) of UGC Act 1956

II B.Tech - I Semester –End Examinations Model paper

Subject Name: **(R22CSE2115) OBJECT ORIENTED
PROGRAMMING THROUGH JAVA**

Time: 3 Hours

Max Marks: 70

Part - A Answer all the questions

(5Q X 4M = 20 Marks)

		Marks	Course outcome.	BT Level
1	Write a java program to print hello world message?	(4)	CO1	2
2	Write about driver manager class for database connectivity?	(4)	CO3	1
3	Differentiate Checked and Unchecked Exception	(4)	CO4	1
4	What is the need of JDBC type3 and type4 drivers?.	(4)	CO5	1
5	Mention the use of Action listener in event handling.	(4)	CO6	4

Part – B

Answer five questions choosing at least one from each unit

(5Q X 10M = 50 Marks)

UNIT-I 6. Compare procedural and Object oriented programming paradigm (OR) 7. Compare Abstract class and Interface with example.	(10)	CO1 CO2	2 6
UNIT – II 8. Explain in detail about input character stream classes with examples OR 9. Explain in detail about input byte stream classes with examples	(10)	CO3 CO3	2 6
UNIT - III 10. Explain the following. sleep() b) yield() c) notify() d) notifyAll() (OR) 11. Create a program to illustrate how to implement ‘Runnable’ interface in thread..	(10)	CO4 CO4	2 5

