Sri Indu Institute of Engineering & Technology

Recognized Under 2(f) of UGC Act 1956
Approved by AICTE, New Delhi
Affiliated to JNTUH, Hyderabad.

COURSE FILE

ON

JAVA PROGRAMMING

Course Code – CS405PC

II B.Tech II-SEMESTER

A.Y.: 2022-2023

Prepared by

Mrs. B.S.SWAPNA SHANTHI
Assistant Professor

B. Rahul Kanth
Computer Science & Engg. Dept.
SRI INDU INSTITUTE OF ENGG & TECH.
Sheriguda(V), Ibrahimpatnam(M), R.R.Dist-501 510.

PRINCIPAL
Sri Indu Institute of Engineering & Tech.
Sheriguda(Vill), Ibrahimpatnam
R.R. Dist. Telangana-501 510.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Academic Year	2022-2023
Course Title	JAVA PROGRAMMING
Course Code	CS405PC
Program	B.Tech
Year & Semester	II year II-semester
Branch & Section	CSE
Regulation	R18
Course Faculty	Mrs. B.S.SWAPNA SHANTHI, Assistant Professor

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

INSTITUTE VISION AND MISSION

Vision:

To become a premier institute of academic excellence by providing the world class education that transforms individuals into high intellectuals, by evolving them as empathetic and responsible citizens through continuous improvement.

Mission:

IM1: To offer outcome-based education and enhancement of technical and practical skills.

IM2: To continuous assess of teaching-learning process through institute-industry collaboration..

IM3: To be a centre of excellence for innovative and emerging fields in technology development with state-of-art facilities to faculty and students fraternity.

IM4: To create an enterprising environment to ensure culture, ethics and social responsibility among the stakeholders

B. Rama Kanth
Computer Science & Engg. Dept.
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DEPARTMENT VISION AND MISSION

Vision:

To become a prominent knowledge hub for learners, strive for educational excellence with innovative and industrial techniques so as to meet the global needs.

Mission:

DM1 : To provide ambience that enhances innovations, problem solving skills, leadership qualities, decision making, team-spirit and ethical responsibilities.

DM2 : To impart quality education with professional and personal ethics, so as to meet the challenging technological needs of the industry and society.

DM3 : To provide academic infrastructure and develop linkage with the world class organizations to strengthen industry-academia relationships for learners.

DM4 : To provide and strengthen new concepts of research in the thrust area of Computer Science and Engineering to reach the needs of Government and Society.

B. Rahul Kanth
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES

PEO1: To develop trained graduates with strong academic and technical skills of modern computer science and engineering.

PEO2: To promote trained graduates with leadership qualities and the ability to solve real time problems using current techniques and tools in interdisciplinary environment.

PEO3: To motivate the graduates towards lifelong learning through continuing education and professional development.

PROGRAM SPECIFIC OUTCOMES

PSO1 : **Professional Skills:** To implement computer programs of varying complexity in the areas related to Web Design, Cloud Computing, Network Security and Artificial Intelligence.

PSO2: **Problem-Solving Skills**: To develop quality products using open ended programming environment.

B. Rahul Kamal
Computer Science & Engg. Dept.
SRI INDU INSTITUTE OF ENGG & TECH.
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PROGRAMME 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 analyse 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 synthesisof 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 modelling 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 andnorms of the engineering practice.

PO9: **Individual and team work:** Function effectively as an individual, and as a member orleader 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 andreceive 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 engagein independent and life-long learning in the broadest context of technological change.

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech. in COMPUTER SCIENCE AND ENGINEERING
COURSE STRUCTURE & SYLLABUS (R18)

Applicable From 2018-19 Admitted Batch

II YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	CS301ES	Analog and Digital Electronics	3	0	0	3
2	CS302PC	Data Structures	3	1	0	4
3	MA303BS	Computer Oriented Statistical Methods	3	1	0	4
4	CS304PC	Computer Organization and Architecture	3	0	0	3
5	CS305PC	Object Oriented Programming using C++	2	0	0	2
6	CS306ES	Analog and Digital Electronics Lab	0	0	2	1
7	CS307PC	Data Structures Lab	0	0	3	1.5
8	CS308PC	IT Workshop Lab	0	0	3	1.5
9	CS309PC	C++ Programming Lab	0	0	2	1
10	*MC309	Gender Sensitization Lab	0	0	2	0
		Total Credits	**15**	**1**	**12**	**21**

S. No.	Course Code	Course Title	L	T	P	Credits
1	CS401PC	Discrete Mathematics	3	0	0	3
2	SM402MS	Business Economics & Financial Analysis	3	0	0	3
3	CS403PC	Operating Systems	3	0	0	3
4	CS404PC	Database Management Systems	3	1	0	4
5	CS405PC	Java Programming	3	1	0	4
6	CS406PC	Operating Systems Lab	0	0	3	1.5
7	CS407PC	Database Management Systems Lab	0	0	3	1.5
8	CS408PC	Java Programming Lab	0	0	2	1
9	*MC409	Constitution of India	3	0	0	0
		Total Credits	**18**	**2**	**8**	**21**

*MC – Satisfactory/Unsatisfactory

CS405PC: JAVA PROGRAMMING

B.TECH II Year II Sem. **L T P C**
3 1 0 4

Course Objectives:

- To introduce the object-oriented programming concepts.
- To understand object-oriented programming concepts, and apply them in solving problems.
- To introduce the principles of inheritance and polymorphism; and demonstrate how they relate to the design of abstract classes
- To introduce the implementation of packages and interfaces
- To introduce the concepts of exception handling and multithreading.
- To introduce the design of Graphical User Interface using applets and swing controls.

Course Outcomes:

- Able to solve real world problems using OOP techniques.
- Able to understand the use of abstract classes.
- Able to solve problems using java collection framework and I/o classes.
- Able to develop multithreaded applications with synchronization.
- Able to develop applets for web applications.
- Able to design GUI based applications

UNIT - I

Object-Oriented Thinking- A way of viewing world – Agents and Communities, messages and methods, Responsibilities, Classes and Instances, Class Hierarchies- Inheritance, Method binding, Overriding and Exceptions, Summary of Object-Oriented concepts. Java buzzwords, An Overview of Java, Data types, Variables and Arrays, operators, expressions, control statements, Introducing classes, Methods and Classes, String handling.

Inheritance– Inheritance concept, Inheritance basics, Member access, Constructors, Creating Multilevel hierarchy, super uses, using final with inheritance, Polymorphism-ad hoc polymorphism, pure polymorphism, method overriding, abstract classes, Object class, forms of inheritance-specialization, specification, construction, extension, limitation, combination, benefits of inheritance, costs of inheritance.

UNIT - II

Packages- Defining a Package, CLASSPATH, Access protection, importing packages.

Interfaces- defining an interface, implementing interfaces, Nested interfaces, applying interfaces, variables in interfaces and extending interfaces.

Stream based I/O (java.io) – The Stream classes-Byte streams and Character streams, Reading console Input and Writing Console Output, File class, Reading and writing Files, Random access file operations, The Console class, Serialization, Enumerations, auto boxing, generics.

UNIT - III

Exception handling - Fundamentals of exception handling, Exception types, Termination or resumptive models, Uncaught exceptions, using try and catch, multiple catch clauses, nested try statements, throw, throws and finally, built- in exceptions, creating own exception sub classes.

Multithreading- Differences between thread-based multitasking and process-based multitasking, Java thread model, creating threads, thread priorities, synchronizing threads, inter thread communication.

UNIT-IV

The Collections Framework (java.util)- Collections overview, Collection Interfaces, The Collection classes- Array List, Linked List, Hash Set, Tree Set, Priority Queue, Array Deque. Accessing a Collection via an Iterator, Using an Iterator, The For-Each alternative, Map Interfaces and Classes, Comparators, Collection algorithms, Arrays, The Legacy Classes and Interfaces- Dictionary, Hashtable, Properties, Stack, Vector

More Utility classes, String Tokenizer, Bit Set, Date, Calendar, Random, Formatter, Scanner

UNIT - V

GUI Programming with Swing – Introduction, limitations of AWT, MVC architecture, components, containers. Understanding Layout Managers, Flow Layout, Border Layout, Grid Layout, Card Layout, Grid Bag Layout.

Event Handling- The Delegation event model- Events, Event sources, Event Listeners, Event classes, Handling mouse and keyboard events, Adapter classes, Inner classes, Anonymous Inner classes.

A Simple Swing Application, Applets – Applets and HTML, Security Issues, Applets and Applications, passing parameters to applets. Creating a Swing Applet, Painting in Swing, A Paint example, Exploring Swing Controls- JLabel and Image Icon, JText Field, **The Swing Buttons**- JButton, JToggle Button, JCheck Box, JRadio Button, JTabbed Pane, JScroll Pane, JList, JCombo Box, Swing Menus, Dialogs.

TEXT BOOKS:

1. Java The complete reference, 9th edition, Herbert Schildt, McGraw Hill Education (India) Pvt. Ltd.
2. Understanding Object-Oriented Programming with Java, updated edition, T. Budd, Pearson Education.

REFERENCE BOOKS:

1. An Introduction to programming and OO design using Java, J. Nino and F.A. Hosch, John Wiley & REFERENCE BOOK:
2. Programming Languages, A.B. Tucker, R.E. Noonan, TMH.
3. Programming Languages, K. C. Louden and K A Lambert., 3rd edition, CengageLearning.
4. Programming Language Concepts, C Ghezzi and M Jazayeri, Wiley India.
5. Programming Languages 2nd Edition Ravi Sethi Pearson.
6. Introduction to Programming Languages Arvind Kumar Bansal CRC Press.
7. sons
8. Introduction to Java programming, Y. Daniel Liang, Pearson Education.
9. Object Oriented Programming through Java, P. Radha Krishna, University Press.
10. Programming in Java, S. Malhotra, S. Chudhary, 2nd edition, Oxford Univ. Press.
11. Java Programming and Object-oriented Application Development, R. A. Johnson, Cengage Learning.

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Website: https://siiet.ac.in/

Department of Computer Science and Engineering

Course Outcomes

Course: JAVA PROGRAMMING (C225) **Class: II – II SEM – A - Section**

After completing this course, the student will be able to:

C225.1 Analyze Object Oriented Programming Concepts (Analysis)

C225.2 Develop the Abstract Classes and know the importance of the Inheritance, Encapsulation and Polymorphism (Synthesis)

C225.3 Implementing interfaces and creating packages and create files and directories using g Java I/O Streams. (Synthesis)

C225.4 Get the importance of Exception handling and knowledge of multithreading and java collection classes concepts (Application)

C225.5 Design web applications by using applets and swings. (Knowledge)

C225.6 Recognize event handling concepts in java(Knowledge)

Mapping of course outcomes with program outcomes:

High -3 Medium -2 Low-1

PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2
C225.1	3	3	3	-	2	-	-	-	-	-	-	-	-	-
C225.2	3	3	3	-	2	-	-	-	-	-	-	2	-	-
C225.3	3	2	3	-	-	-	-	-	-	3	-	-	-	2
C225.4	3	3	3	2	3	-	-	-	2	2	-	3	-	-
C225.5	3	2	3	3	3	2	-	2	3	2	3	3	2	2
C225.6	3	2	3	-	3	-	2	-	2	-	-	3	-	2
C225	3	2.5	3	2.5	2.6	2	2	2	2.3	2.3	3	2.75	2	2

CO – PO / PSO Mapping Justification

Course: JAVA PROGRAMMING (C225) **Class: II – II SEM – A - Section**

PROGRAMME 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, 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 & 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 & 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 & 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, give and receive clear instructions.

PO11: Project Management & 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 lifelong learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs):

PSO1 : Professional Skills: Ability to implement computer programs of varying complexity in the areas related to web design, cloud computing and networking.

PSO2: Problem-Solving Skills: The ability to develop quality products using open ended programming environment.

C225.1 Analyze Object Oriented Programming Concepts (Analysis)

	Justification
PO1	The analysis of OOP concepts enhances engineering knowledge by showcasing how these principles can be applied in the development of complex engineering solutions. (Level 3)
PO2	OOP principles such as abstraction, encapsulation, inheritance, and polymorphism, students engage in problem analysis within the context of software engineering. (Level 3)
PO3	By understanding OOP principles, students can design system components that meet specified needs while considering public health and safety, as well as cultural, societal, and environmental considerations. (Level 3)
PO5	Students can effectively use modern tools in complex engineering activities, addressing the need for appropriate techniques, resources, and tools with an understanding of their limitations.

C225.2 Develop the Abstract Classes and know the importance of the Inheritance, Encapsulation and polymorphism (Synthesis)

	Justification
PO1	By applying these concepts, engineers can create more efficient, maintainable, and extensible codebases, enabling them to solve complex engineering problems in a structured and systematic manner.(Level 3)
PO2	By Understanding these concepts students can build upon existing knowledge and solutions, fostering innovation and efficient problem-solving approaches in various engineering disciplines. (Level 3)
PO3	Can analyze concepts to ensure the efficiency, reliability, and sustainability of the solutions, ultimately contributing to the well-being of individuals and society as a whole. (Level 3)
PO5	By Understanding ensures efficient problem-solving, accurate prediction, and modeling, ultimately leading to successful outcomes in complex engineering tasks. (Level 2)
PO12	These concepts not only apply to programming but can be extended metaphorically to various domains in life-long learning. (Level 2)

C225.3 Implementing interfaces and creating packages and create files and directories using Java I/O Streams. (Synthesis)

	Justification
PO1	They help engineers solve complex problems by applying expertise in abstraction, modularity, data storage, and retrieval, ultimately leading to the development of robust, maintainable, and efficient software systems. (Level 3)
PO2	By understanding these skills empower students to identify, formulate, and analyze complex problems, leading to substantiated conclusions and informed decision-making in software development (Level 2)

PO3	By Analyzing these concepts, software solutions can be designed with the appropriate considerations, leading to more effective and sustainable solutions. (Level 3)
PO10	By employing these techniques, students can effectively comprehend and write reports and design documentation, make presentations that convey complex engineering activities clearly, and provide and receive instructions accurately (Level 3)
PSO2	This synthesis contributes to the development of problem-solving skills within an open-ended programming environment, enabling engineers to tackle diverse challenges in software development effectively. (Level 2)

C225.4 Get the importance of Exception handling and knowledge of multithreading and java collection classes concepts (Application)

	Justification
PO1	By understanding of exception handling, multi threading, and Java collection classes is crucial for engineers to effectively develop robust and efficient software applications in their respective fields (Level 3)
PO2	By implementing these concepts students can able to anticipate and handle errors, utilize parallel computing for faster analysis, and efficiently manage and process data (Level 3)
PO3	By incorporating these concepts into the design process, students can ensure that their solutions meet the specified needs and contribute to the overall well-being of society. (Level 3)
PO4	These concepts provide mechanisms for addressing unexpected issues, optimizing resource utilization, and organizing data efficiently, all of which are crucial for research-based knowledge, data analysis, and drawing valid conclusions in complex problem-solving scenarios. (Level 2)
PO5	Can Analyze techniques for addressing challenges, optimizing performance, and managing data efficiently while necessitating an understanding of their limitations for accurate prediction and modeling. (Level 3)
PO9	Importance of exception handling, multithreading, and knowledge of Java collection classes in engineering extends to both individual and team work. Individual expertise ensures robust code, while team collaboration benefits from standardized practices, creating a cohesive and efficient development environment. (Level 2)
PO10	Clear documentation, standardized practices, and the ability to convey complex concepts contribute to the reliability and societal impact of engineering activities. (Level 2)
PO12	Developers who recognize the need for continuous improvement and possess the ability to engage in independent learning ensure that their software engineering practices remain current, effective, and aligned with the latest advancements in technology. (Level 3)

C225.5 Design web applications by using Applets and swings. (Knowledge)

	Justification
PO1	This knowledge is essential for creating solutions to complex engineering problems that require interactive and visually appealing interfaces and enables students to utilize GUI components effectively to deliver efficient and user-friendly web applications. (Level 3)
PO2	Designing web applications using Applets and Swings involves problem analysis by identifying and formulating complex engineering problem (Level 2)
PO3	Knowledge in these concepts involves creating system components that meet specified needs while considering public health, safety, cultural, societal, and environmental aspects. (Level 3)
PO4	Applying research-based knowledge and investigation methods integrates practical skills with a research-oriented mindset for effective problem-solving in web application development. (Level 3)
PO5	Designing web applications with Applets and Swings exemplifies modern tool usage by employing contemporary engineering and IT tools. (Level 3)
PO6	Students understand the impact of their work, ensuring responsible and ethical

	practices in web application development that align with societal needs and obligations. (Level 2)
PO8	Approach integrates technical expertise with a commitment to upholding ethical standards in the design and implementation of web solutions. (Level 2)
PO9	Designing web applications with Applets and Swings requires both individual and teamwork skills. Students must function effectively independently, showcasing individual proficiency, and collaborate seamlessly within diverse teams. (Level 3)
PO10	Effective communication within the engineering community and society. Students must comprehend, write, and articulate complex concepts in reports and design documentation. (Level 2)
PO11	Ensures successful web application development while considering project management and financial considerations. (Level 3)
PO12	Designing web applications with Applets and Swings aligns with the concept of life-long learning as it requires continuous adaptation to technological changes. (Level 3)
PSO1	Ability to implement computer programs related to web design highlighting proficiency in diverse technical domains critical for professional success. (Level 2)
PSO2	By addressing the complexities of open-ended programming environments students demonstrate the ability to develop quality products, showcasing their analytical and problem-solving proficiency in web design and development. (Level 2)

C225.6 Recognize event handling concepts in java(Knowledge)

	Justification
PO1	Recognizing event handling concepts in Java aligns with engineering knowledge (PO1) by applying principles of mathematics, science, and engineering fundamentals to develop solutions for complex problems. (Level 3)
PO2	Understanding event handling as it requires identifying, formulating, and analyzing complex engineering problems using first principles of mathematics and engineering sciences. (Level 2)
PO3	By incorporating event-driven mechanisms, developers ensure responsiveness and consider factors such as public health, safety, and cultural and societal implications in their software designs. (Level 3)
PO5	Event handling in Java is a demonstration of modern tool usage (PO5), applying appropriate techniques and modern IT tools to address complex engineering activities with an awareness of limitations, ensuring effective problem-solving. (Level 3)
PO7	knowledge emphasizes the need for sustainable development in software design, ensuring responsible and long-lasting impact on both society and the environment. (Level 2)
PO9	Demonstrates individual and teamwork skills as developers effectively contribute to the implementation of responsive solutions both independently and as part of a collaborative team. (Level 2)
PO12	Implementing event-driven solutions, showcase the ability to adapt and evolve in the rapidly changing landscape of software engineering. (Level 3)
PSO2	Event handling concepts contribute to problem-solving skills by enabling the development of quality products in an open-ended programming environment. (Level 2)

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TIME TABLE FOR A.Y 2022-23

Class: II-B. Tech CSE -A **Semester: II** **LH. NO: A-301** **W.E.F:1-05-2023**

Period/ Day	1	2	3	4	1:00-1:30	5	6	7
	9:40-10:30	10:30-11:20	11:20-12:10	12:10-1:00		1:30-2:20	2:20-3:10	3:10-4:00
Monday	DM	JAVALAB(BATCH-I) / DBMS LAB(BATCH-II)			LUNCH	COI	JAVA	DBMS
Tuesday	OS	DBMS/JAVA(T)	LIB	DBMS		COI	CO-C/SS/DAA	
Wednesday	JAVA	OS	DBMS	BEFA		DBMS LAB(BATCH-I) /OS LAB (BATCH-II)		
Thursday	DM	COUN	BEFA	DM		OS	DBMS	BEFA
Friday	COI	INT	OS	JAVA/DBMS(T)		JAVA	BEFA	SPORTS
Saturday	DBMS	DM	JAVA	OS		OS LAB (BATCH-I) / JAVALAB(BATCH-II)		

SubjectCode	Subject Name	Name of the Faculty	Subject Code	Subject Name	Name of the Faculty
CS401PC	Discrete Mathematics	Dr.E.Naga Ratnam	CS405PC	Java Programming	Mrs B.S .Swapna Shanti
SM402MS	Business Economics & Financial Analysis	Mr.U P Bharadwaja	CS406PC	Operating Systems Lab	Mrs T.Ramya Priya/ Mrs P.Sowjanya/ Mr.Veera kishore K
CS403PC	Operating Systems	Mrs T.Ramya Priya	CS407PC Lab	Database Management Systems	Mrs D. Rajeswari/ V. Divya/ Mr A Vijay Kumar
CS404PC	Database Management Systems	Mrs D. Rajeswari	CS408PC	Java Programming Lab	Mrs B.S .Swapna Shanti/ Mrs.R.Padma/ Mrs R Ganga
	CO-C/SS/DAA	Mrs B.S .Swapna Shanti	MC409	Constitution of India	Mrs K Laxmi Shilpa
Sports	Sports	Mr.P Sreeramulu	LIB	Library	Mrs T.Ramya Priya
Internet	Internet	Mr D Nagaraju	COUN	Counselling	Mrs T.Ramya Priya
Class In-Charge : Mrs D. Rajeswari		Mentor 1 : Mrs D. Rajeswari		Mentor 2: Mrs B.S .Swapna Shanti	

Class In-Charge HOD PRINCIPAL

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LESSON PLAN

Course Title	JAVA PROGRAMMING
Course Code	CS405PC
Programme	B.Tech
Year & Semester	II-year II-semester
Regulation	R18
Course Faculty	Mrs.SWAPNASHANTHI, Assistant Professor , CSE

S.NO	Unit	TOPIC	Number of Sessions Planned	Teaching method/Aids	REFERENCE
1.	1	Introduction of Object-oriented thinking.	1	Black Board	T2
2.		A way of viewing world – Agents and Communities, messages & methods.	1	Black Board	T2
3.		Responsibilities, Classes and Instances, Class Hierarchies.	1	Black Board	T1, T2
4.		Inheritance, Method binding.	1	Black Board	T2
5.		**Tutorial 1(**Octal, Hexadecimal**)**	1	Black Board	T2
6.		Overriding and Exceptions, Summary of Object-Oriented concepts.		Black Board	T2
7.		Java buzzwords, An Overview of Java	1	Black Board	T1
8.		Data types, Variables and Arrays, operators, expressions, control statements.	1	Black Board	T1& T2
9.		Introducing classes, Methods and Classes, String handling.	1	Black Board	T2
10.		**Tutorial 2(** Floating point number representation **)**	1	Black Board	T1
11.		Inheritance concept, Inheritance basics, Member access, Constructors.		Black Board	
12.		Creating Multilevel hierarchy, super uses, using final with inheritance.	1	Black Board	T1
13.		Polymorphism-ad hoc polymorphism, pure polymorphism, method overriding.	1	Black Board	T1
14.		Abstract classes, Object class, forms of inheritance.	1	Black Board	T1
15.		**Tutorial 3(** Hamming Code **)**	1	Black Board	T1

16.		Inheritance- specialization, specification, construction, extension.		Black Board	
17.		limitation, combination, benefits of inheritance, costs of inheritance.	1	Black Board	T1 & T2
18.		Packages- Defining a Package, CLASSPATH.	1	Black Board	T1 & T2
19.		Access protection, importing packages.	1	Black Board	T1 & T2
20.		**Tutorial 4(**Four-Variable Map**)**	1	Black Board	T1 & T2
21.	**2**	Interfaces- defining an interface, implementing interfaces.		Black Board	T1
22.		Nested interfaces, applying interfaces, variables and extending interfaces.	1	Black Board	T1 & T2
23.		Stream based I/O(java.io) .	1	Black Board	T1
24.		The Stream classes-Byte streams and Character streams.	1	Black Board	T1
25.		**Tutorial 5(** sum of products , product of sums simplification**)**	1	Black Board	T1
26.		Reading console Input and Writing Console Output.	1	Black Board	T1
27.		File class, Reading and writing Files.	1	Black Board	T1
28.		Random access file operations.	1	Black Board	T2
29.		The Console class, Serialization.	1	Black Board	T1
30.		**Tutorial 6(** Five -Variable Map**)**	1	Black Board	T1
31.		Enumerations, auto boxing, generics.	1	Black Board	T1
32.		Exception handling - Fundamentals of exception handling	1	Black Board	T1
33.		Exception types, Termination or presumptive models.	1	Black Board	T2
34.		Uncaught exceptions, using try and catch.	1	Black Board	T2
35.		**Tutorial 7(** Binary Adder-Subtractor **)**	1	Black Board	T2
36.	**3**	Multiple catch clauses, nested try statements.	1	Black Board	T2
37.		Throw, throws and finally.	1	Black Board	T2
38.		Built- in exceptions, creating own exception sub classes.	1	Black Board	T2
39.		Differences between thread-based multitasking & process-	1	Black Board	T2

		based multitasking.			
40.		**Tutorial 8(** Magnitude Comparator **)**	1	Black Board	T2
41.		Java thread model, creating threads.	1	Black Board	T2
42.		Thread priorities.	1	Black Board	T2
43.		Synchronizing threads.	1	Black Board	T2
44.		Inter thread communication.	1	Black Board	T2
45.		**Tutorial 9(** Flip-flops, analysis of clocked sequential circuits **)**	1	Black Board	T2
46.		The Collections Framework (java.util)-)- Collections overview, Collection Interfaces.	1	Black Board	T2
47.		The Collection classes- Array List, Linked List, Hash Set.	1	Black Board	T2
48.		Tree Set, Priority Queue, Array Deque.	1	Black Board	T2
49.	**4**	Accessing a Collection via an Iterator, Using an Iterator, The For-Each alternative.	1	Black Board	T2
50.		**Tutorial 10(** Registers, Shift registers, Ripple counters **)**	1	Black Board	T2
51.		Map Interfaces and Classes.	1	Black Board	T2
52.		Comparators, Collection algorithms, Arrays.	1	Black Board	T1
53.		Dictionary, Hash table.	1	Black Board	T1
54.		Properties, Stack, Vector More Utility classes.	1	Black Board	T1
55.		**Tutorial 11(** Ripple counters **)**	1	Black Board	T1
56.		String Tokenizer, Bit Set.	1	Black Board	T1
57.		Date, Calendar, Random.	1	Black Board	T1& T2
58.		GUI Programming with Swing – Introduction.	1	Black Board	T2
59.		Layout Manager, Grid ,Border layout	1	Black Board	T2
60.		**Tutorial 12(** Programmable Logic Array **)**	1	Black Board	T2
61.	**5**	Flow Layout Card layout	1	Black Board	T2
62.		Applets and HTML, Security Issues.	1	Black Board	T2
63.		Applets and Applications.	1	Black Board	T2
64.		passing parameters to applets.	1	Black Board	T2
65.		**Tutorial 13(** Programmable Array Logic **)**	1	Black Board	T2
66.		Creating a Swing Applet, Painting in Swing.	1	Black Board	T2
67.		A Paint example, Exploring Swing Controls.	1	Black Board	T2
68.		Controls- JLabel and Image	1	Black Board	T2

		Icon, JText Field.			
69.		The Swing Buttons- Jbutton.	1	Black Board	T1 & T2
70.		**Tutorial 14(** AWT Events **)**	1	Black Board	T2
71.		JRadio Button, JTabbed Pane, JScroll Pane.	1	Black Board	T2
72.		JList, JCombo Box, Swing Menus, Dialogs.	1	Black Board	T2

TEXT BOOKS

1. Concepts of Programming Languages, Robert .W. Sebesta 10th edition,

PearsonEducation
2. Programming Language Design Concepts, D. A. Watt, Wiley India Edition.

REFERENCE BOOKS

1. Programming Languages, A.B. Tucker, R.E. Noonan, TMH.

2. Programming Languages, K. C. Louden and K A Lambert., 3rd edition, CengageLearning.

3. Programming Language Concepts, C Ghezzi and M Jazayeri, Wiley India.

WEB REFERENCES

WR1: https://www.javatpoint.com/java-oops-concepts

WR2: https://www.tutorialspoint.com/java/java_tutorial.pdf

WR3: https://www.w3schools.com/java/java_while_loop.asp

WR4: https://www.geeksforgeeks.org/constructors-in-java/?ref=lbp

VIDEO REFERENCES

V1: https://nptel.ac.in/courses/106105191

V2: https://www.youtube.com/watch?v=9wZYkfnkW2c&list=PLd3UqWTnYXOkNiAs0KGdz2V-349MG1iyR

V3: https://www.youtube.com/watch?v=r59xYe3Vyks&list=PLS1QulWo1RIbfTjQvTdj8Y6yyq4R7g-Al

NOTES

https://drive.google.com/file/d/1UahhSu3ZPav-Pu80exsvVgdPmzcuqtsr/view?usp=sharing

https://drive.google.com/file/d/1BsI_YbOwTSTSdqiwdkMVC584OmjbCFnD/view?usp=sharing

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Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

POWER POINT PRESENTATION

PP1: https://drive.google.com/file/d/1TpuRFpzGi1O9GExl7c9-z6U9xk5zgIvJ/view?usp=sharing

PP2: https://docs.google.com/presentation/d/16Y7hbuoWFTOqHjR5Zel-QPN366fPtOjP/edit?usp=sharing&ouid=112433602927689134255&rtpof=true&sd=true

PP3: https://docs.google.com/presentation/d/1omVkDx0CwcJ-sTOGPmGEH3iUw7OibaiO/edit?usp=sharing&ouid=112433602927689134255&rtpof=true&sd=true

Code No: 154BE **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech II Year II Semester Examinations, April/May - 2023
JAVA PROGRAMMING
(Common to CSE, IT)

Time: 3 Hours **Max. Marks: 75**

Note: i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

What is variable? [2]
b) Explain the usage of 'final' keyword. [3]
c) Define a Package? [2]
d) Write a short note on Byte stream. [3]
e) Explain about built in exceptions. [2]
f) Write a short note on thread priorities. [3]
g) Discuss about Array deque. [2]
h) Write a short note on Scanner class. [3]
i) What is adapter class? [2]
j) Write a short note on swing. [3]

PART – B

(50 Marks)

2.a) Explain the 'for' loop with an example.
b) Write a short note on any two string handling functions. [5+5]

OR

3. What is inheritance? Explain different types of inheritances. [10]

4. Explain the concept of interface with an example program. [10]

OR

5. Demonstrate the Reading console Input and Writing Console Output with an example. [10]

6. Explain about the following:
a) Checked exceptions
b) Unchecked exceptions. [5+5]

OR

7.a) Write a short note on thread life cycle.
b) Discuss about thread based multitasking. [5+5]

8. Briefly explain about the following:
   a) Linked List
   b) Tree set. [5+5]

OR

9. Write a short note on:
   a) Priority Queue
   b) Hashtable. [5+5]

10. Briefly explain about the following:
   a) Card Layout
   b) JScroll Pane. [5+5]

OR

11.a) Explain any two swing controls.
   b) Write a Java program to demonstrate the handling Mouse events. [5+5]

--

R18

Code No: 154BE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech II Year II Semester Examinations, August/September - 2021

JAVA PROGRAMMING

(Common to CSE, IT)

Time: 3 Hours **Max. Marks: 75**

Answer any five questions All questions carry equal marks

- - -

1.a) Analyze the characteristics of object oriented programming concepts?
b) With suitable program segments examine the usage of „super" keyword. [8+7]

2.a) Does Java support multi way selection statement? Justify your answer.
b) Generate different forms of inheritance with suitable program segments and real world example classes. [7+8]

3.a) Demonstrate about Reading console Input and Writing Console Output.
b) Explain nested interface with example. [7+8]

4.a) What is java package? What is CLASSPATH? Show how to create and access a java package with an example.
b) Create an interface with at least one method and implement that interface. [7+8]

5.a) What is meant by re-throwing exception? Demonstrate with a suitable scenario for this.
b) Write a program that creates a thread that forces pre-emptive scheduling for lower priority threads. [7+8]

6.a) Summarize the differences between thread-based multitasking and process-based multitasking.
b) Write a program to illustrate user defined exception that checks the internal and external marks if the internal marks are greater than 40 it raise the exception "internal marks are exceed" if the external marks are greater than 60 exception is raised and display the message the "external marks are exceed." [7+8]

7.a) Develop a program to read a file content and extract words using String Tokenized class. Display the file if it contains the user query term/search key.
b) Judge the purpose of Stack class. [8+7]

8.a) Design a user interface to collect data from the student for admission application using swing components.
b) What is an adapter class? Demonstrate its role in event handling. [8+7]

---ooOoo---

Code No: 154BE **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech II Year II Semester Examinations, August/September - 2022
JAVA PROGRAMMING
(Common to CSE, IT)

Time: 3 hours **Max. Marks: 75**

Answer any five questions All questions carry equal marks

\- - -

1.a) Explain the concept of classes, objects and methods in OOP.
b) List and explain the benefits of OOPS. [7+8]

2.a) What is Multilevel Inheritance? Write a program to demonstrate multilevel inheritance.
b) Demonstrate with an example method overriding. [8+7]

3.a) Explain the various levels of protection provided to the variables or methods within classes, subclasses, and packages in java.
b) How to create packages and use them in java? Explain. [5+10]

4.a) Discuss the variables in interfaces and extending interfaces.
b) Give a brief note on the Stream classes. [8+7]

5.a) What happens when there is no suitable try block to handle an exception? Explain.
b) Write a java program to create multiple threads. [8+7]

6.a) Explain the various in-build exception handling classes in java.
b) Discuss the nested try Statements. [8+7]

7. Explain the following with examples:
a) Tree Set
b) Priority Queue. [8+7]

8.a) List and explain the limitations of AWT.
b) With the help of a neat diagram, explain the swing architecture. [8+7]

--ooOoo--

Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510

I- Mid Examinations, July-2023

SET-I

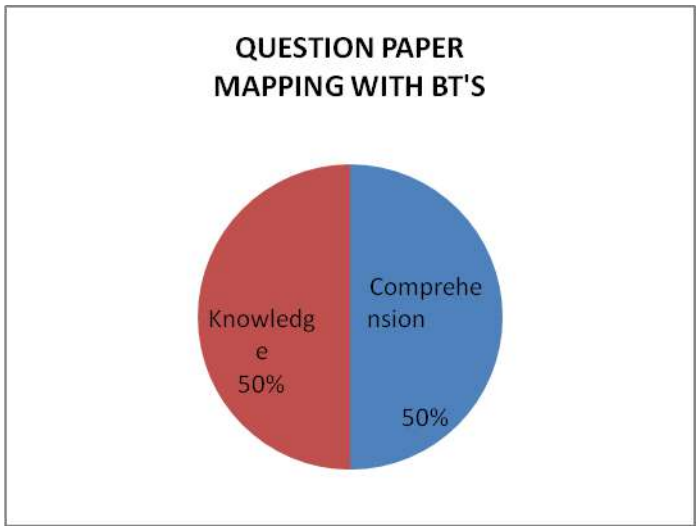
Year& Branch: II-II-CSE A, B & C Date: 12-07-2022 (FN)

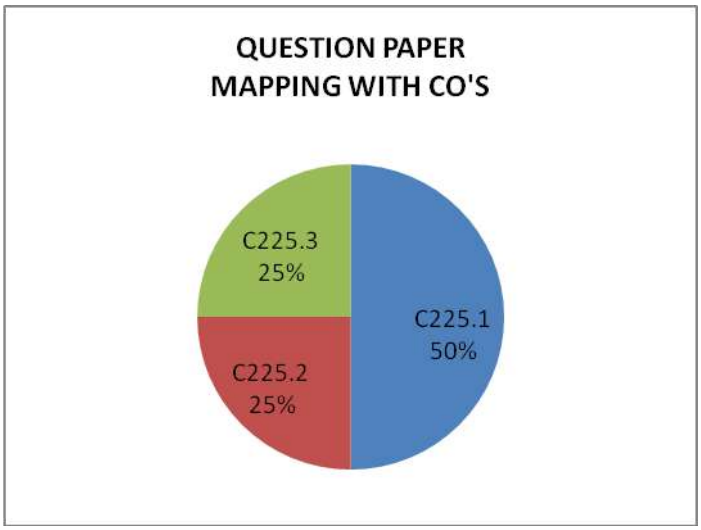
Subject: JAVA PROGRAMMING Marks: 10 Time: 60 min

Answer any TWO Questions. All Question Carry Equal Marks 2*5=10 marks

1. Explain constructor and types of constructor with example? [C225.1Comprehension

2. Write short notes on oops concept? Explain inheritance with example?
   [C225.1 (Knowledge)]
3. Define a package? Explain how to import package with example? [C225.2 Knowledge]
4. Illustrate the use of try, catch and finally? [C225.3 (Comprehension)]





Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510

I- Mid Examinations, July-2023

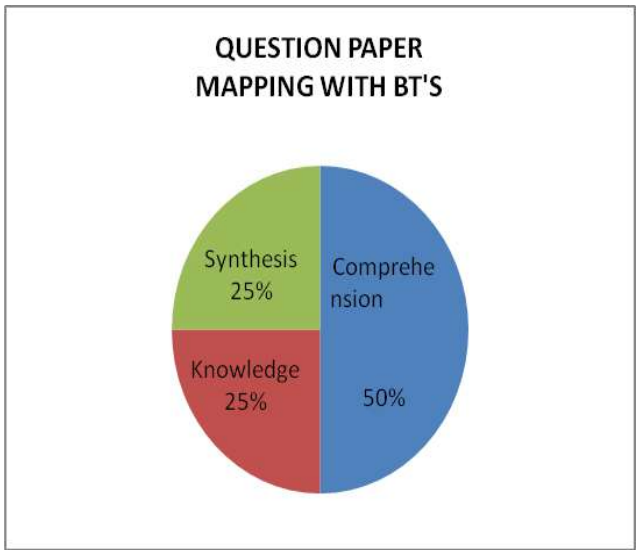
SET-II

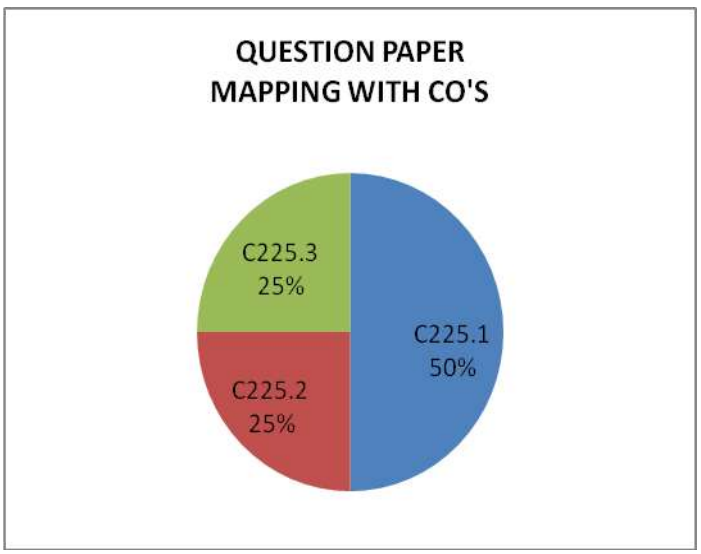
Year& Branch: **II-II-CSE A, B & C** Date: 12-07-2022 (FN)

Subject: JAVA PROGRAMMING Marks: 10 Time: 60 min

Answer any **TWO** Questions. All Question Carry Equal Marks 2*5=10 marks

1. Define polymorphism. Explain Different types with example? [C225.1 (Knowledge)]
2. What is an interface? How to implement an interface? [C225.2 Synthesis]
3. Explain final keyword? Illustrate with example? [C225.1 Comprehension]
4. Illustrate the use of try, catch and finally? [C225.3 (Comprehension)]





Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510

I- Mid Examinations, July-2023

Year& Branch: **II-II CSE A, B&C** Date: 12-07-2022 (FN)

Subject: JAVA PROGRAMMING Marks: 10 Time: 20 min

NAME: _____ ROLL NUMBER _____

I. Choose the correct answer

1. this keyword refers to [ ]

a) Current class b) Sub class
c) Super class d) Package

2. What is output of the following program [ ]

```
class Test
    {
    int  x=9
 Public static void main()
     {
     System.out.println(x++);
     System.out.println(--x);
     System.out.println(++x);
}
}
```

a) 9,8,10 b) 9,9,10
c) 10,9,10 d) 10,8,9

3. Which of the following supports code reusability_____ [ ]

a) Class b) Abstract
c) Interface d) Inheritance

4. Static polymorphism is also known as _____binding [ ]

a) Dynamic b) Late
c) Early d) All the three

5. Hiding of information can be achieved by_____ [ ]

a) Data Abstraction b) Inheritance
c) Data Hiding d) Polymorphism

6. interface to interface is inherited by _____keyword [ ]

a) implements b) extends
c) interface d) All the three

7. Assigment operators are [ ]

a) += b) Boolean

c) && d) ~

8. Scanner class is available in _____package [ ]

a) io b) awt c) lang d) util

9. Which is valid declaration of an array _____ [ ].
a) int a( ) b) int a[ ]
c) int a{ } d) none of the above

10.If a variable is declared as private it can be accessed in_____ [ ]
a) Class b) Package
c) Two different class d) All the above

II. Fill in the blanks

1. _____is defined as binding of data.
2. Class consists of _____ and _____.
3. Static methods cannot be _____ .
4. _____ is used to prevent inheritance.
5. Package classified into _____and_____.
6. Constructor name should be similar to _____.
7. Multiple inheritances can be achieved by _____.
8. Interface variables must be declared as _____.
9. Array is the collection of _____ elements.
10. String function which combines two strings _____.

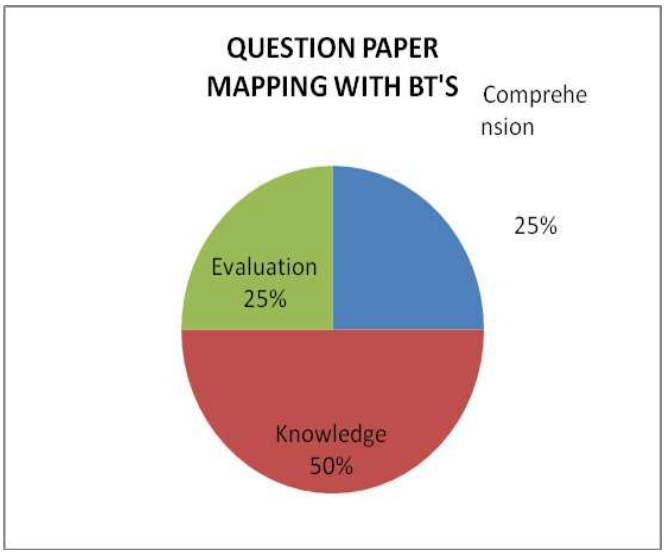
Sri Indu Institute of Engineering & Technology
Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510 **SET-I**
II- Mid Examinations, Sept-2023

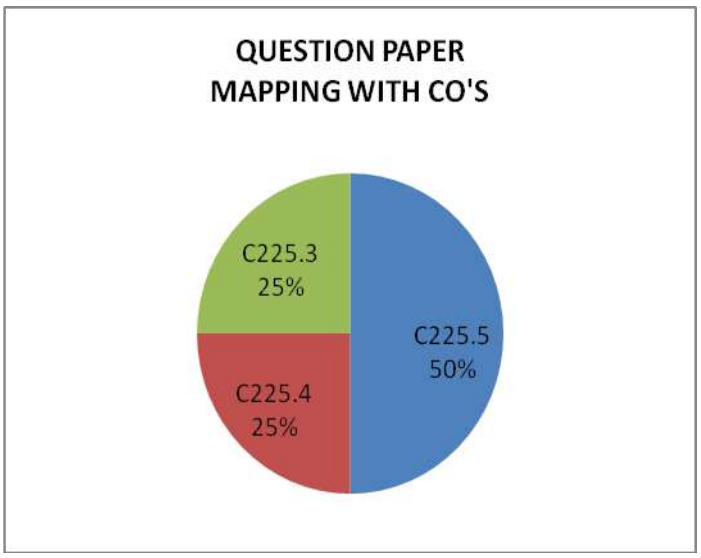
Year& Branch: **II-II-CSE-A,B&C** Date: 14-09-2023

Subject: JAVA PROGRAMMING Marks: 10 Time:60 min

Answer any **TWO** Questions. All Question Carry Equal Marks 2*5=10 marks

1. Define synchronization? Explain synchronizing threads with an example.
   [C225.3 (Knowledge)]
2. Write a short note on Array list with an example? [C225.4 (Knowledge)]
3. Illustrate Grid and Border layout managers in java with examples.
   [C225.5 (Comprehension)]
4. Summarize any three swing components with examples. [C225.5 (Evaluation)]





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Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510
II- Mid Examinations, Sept-2023

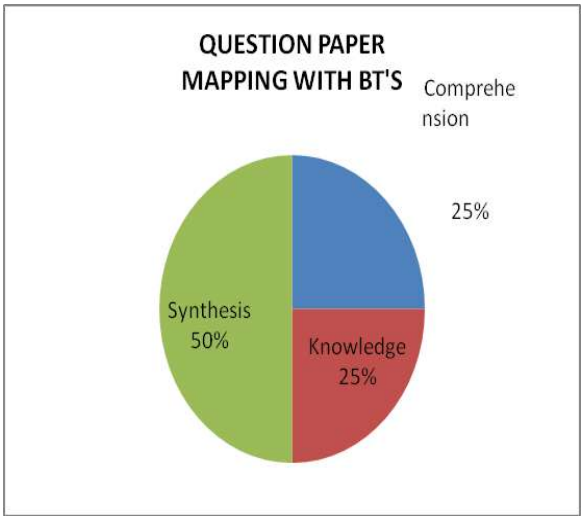
SET-II

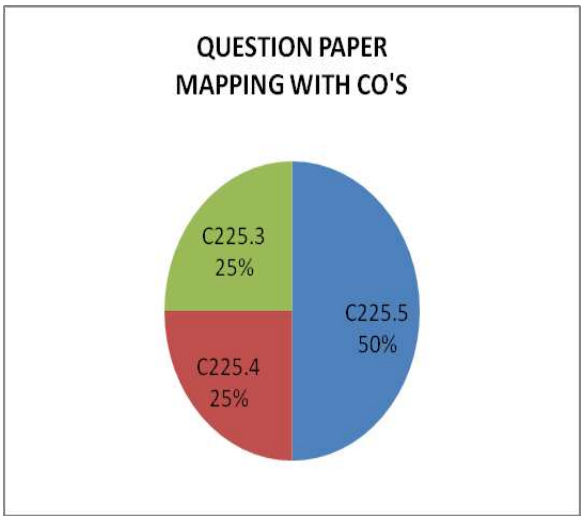
Year& Branch: **II-II- CSE-A,B &C** Date: 14-09-2023

Subject: JAVA PROGRAMMING Marks: 10 Time: 60 min

Answer any **TWO** Questions. All Question Carry Equal Marks 2*5=10 marks

1. What is thread? Explain inter thread communication? [C225.3 (Synthesis)]
2. Explain in detail about Hash set? [C225.4 (Comprehension)]
3. What is the role of event listeners in event handling? List the Java event listeners [C225.5 (Synthesis)]
4. Define Applet? Explain Applet Life cycle with an example? [C225.5 (Knowledge)]





Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510

II- Mid Examinations, Sept-2023

Year& Branch: **II-II –CSE A,B&C** Date: 14-09-2023

Subject: JAVA PROGRAMMING Marks: 10 Time: 20 min

NAME: _____ROLL NUMBER _____

I. Choose the correct answer

1. 1. 1. Wrapper classes in java is [ ]
   a. Used to encapsulate primitive Datatypes b. Declare new classes called wrapper.
   c. Create new instance of a class. d. None of these.
2. Which method is used to add a new line to the file in java [ ]
   a. File.addLine( ) b. file.nextLine( )
   d. File. write( ) d. file. line( )
3. Which method is used to delete a new line to the file in java [ ]
   a. File. Delete ( ) b. file. remove( )
   b. File.garbage( ) d. file. dump()
4. Which of the following is a valid data structure in java [ ]
   a. Array b. List c. vector d. All of these
5. Which of the following is a superclass of a every class in java [ ]
   a. Array List b. Abstract class c. object class d. String
6. What are the types of memory allocated in java [ ]
   a. Heap memory b. stack memory c. Both A & B d. none
7. Which of these is a property of threads in java [ ]
   a. Multiple threads can be executed concurrently b. has its own priority
   c. both a & b d. none of these
8. What is the full form of **AWT** [ ]
   a. Absolute window tool kit b. Abstract window tool kit
   c. Absolute wear tool kit d. none of these
9. Which class in java is used to take input from the user [ ]
   a. Scanner b. input c. applier d. none of these
10. Which of these methods deletes all the elements from invoking collection [ ]

a. clear () b. reset () c. delete () d. refresh ()

II. Fill in the blanks

1. _____ function is used to display the output of an applet.
2. _____ packages contain all the collection classes.
3. After the browser calls init() _____ method generates automatically.
4. _____class is an abstract class that represents the display area of the applet.
5. _____ is the initial quantity of array list.
6. _____ thread can be executed at a time.
7. Java. Lang. NullpointerException is a _____.
8. _____ interface provides the key-value pair.
9. _____ of these maintains insertion order.
10. _____interface does not allow duplicates.

MID-I KEY LINK:

https://drive.google.com/file/d/1j4NuZ6fWVqY4HuV38yY21Q4H31fboPXr/view?usp=sharing

MID-I OBJECTIVE KEY LINK:

https://drive.google.com/file/d/1DRGFydig1_WrwA1Tnay9Cvv26yli1uxw/view?usp=sharing

MID-II KEY LINK:

https://drive.google.com/file/d/1Q49niZVZWeusCacFo6MFojC6zhugmbUv/view?usp=sharing

MID-II OBJECTIVE KEY LINK:

https://drive.google.com/file/d/1b2BQ9KbVATGFaQaZREk4o2wMXMfWNO72/view?usp=sharing

Assignment Questions-I

(Assignment Questions are mapped with CO's, BT)

1) Write a short notes on object oriented concepts and Inheritance with an Example? (C225.1) (Knowledge)

2) Explain Constructors and Types? (C225.1) (Knowledge)

3) Define Abstract class. Explain with an Example? (C225.2) (Knowledge)

4) Define a Package. Explain how to import a Package? (C225.2) (Knowledge)

5) Explain try, catch and finally with an example? (C225.3) (Comprehension)

6) What is an Interface? Explain implementing Interfaces? (C225.2) (Synthesis)

7) Explain about finally keyword? (C225.3) (Comprehension)

8) Explain different types of Polymorphism? (C225.1) (Comprehension)

Assignment Questions-II

(Assignment Questions are mapped with CO's, BT)

1. Define synchronization? Explain synchronizing threads with an example. (C225.3) (Knowledge)
2. What is thread? Explain inter thread communication? (C225.3) (Synthesis)
3. Write short notes on Array list with an example? (C225.4) (Knowledge)
4. Discuss in detail about Hash set? (C225.4) (Knowledge)
5. Explain various layout managers in java (C225.5) (Comprehension)
6. What is the role of event listeners in event handling? List the Java event listeners (C225.5) (Synthesis)
7. Define Applet? Explain Applet Life cycle with an example? (C225.5) (Knowledge)
8. Discuss any three-swing components with examples. (C225.5) (Knowledge)

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I-MID & II-MID ASSIGNMENT PROOFS

MID-I ASSIGNMENT LINK:

https://drive.google.com/file/d/1ibC4pWQaR5ptdhv2nwfiiMubpMR4lNaY/view?usp=sharing

MID-II ASSIGNMENT LINK:

https://drive.google.com/file/d/1OXvSnjTAsEIBfw543d2iN-P4fUvNQtEu/view?usp=sharing

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(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Khalsa Ibrahimpatnam, Sheriguda(V), Ibrahimpatnam(M), Ranga Reddy Dist., Telangana – 501510

TUTORIAL TOPICS

Course Title	JAVA PROGRAMMING
Course Code	CS405PC
Programme	B.Tech
Year & Semester	II-year II-semester
Regulation	R18
Course Faculty	Mrs.SWAPNASHANTHI, Assistant Professor , CSE

S.NO	TOPIC	Number of Sessions Planned	Teaching method/Aids	REFERENCE
1	**Tutorial 1(**Octal, Hexadecimal**)**	1	Black Board	T2
	Overriding and Exceptions, Summary of Object-Oriented concepts.		Black Board	T2
	Java buzzwords, An Overview of Java	1	Black Board	T1
	Data types, Variables and Arrays, operators, expressions, control statements.	1	Black Board	T1& T2
	Introducing classes, Methods and Classes, String handling.	1	Black Board	T2
2	**Tutorial 2(** Floating point number representation **)**	1	Black Board	T1
	Inheritance concept, Inheritance basics, Member access, Constructors.		Black Board	
	Creating Multilevel hierarchy, super uses, using final with inheritance.	1	Black Board	T1
	Polymorphism-ad hoc polymorphism, pure polymorphism, method overriding.	1	Black Board	T1
	Abstract classes, Object class, forms of inheritance.	1	Black Board	T1
3	**Tutorial 3(** Hamming Code **)**	1	Black Board	T1

	Inheritance- specialization, specification, construction, extension.		Black Board	
	limitation, combination, benefits of inheritance, costs of inheritance.	1	Black Board	T1 & T2
	Packages- Defining a Package, CLASSPATH.	1	Black Board	T1 & T2
	Access protection, importing packages.	1	Black Board	T1 & T2
4	**Tutorial 4(**Four-Variable Map**)**	1	Black Board	T1 & T2
	Interfaces- defining an interface, implementing interfaces.		Black Board	T1
	Nested interfaces, applying interfaces, variables and extending interfaces.	1	Black Board	T1 & T2
	Stream based I/O(java.io) .	1	Black Board	T1
	The Stream classes-Byte streams and Character streams.	1	Black Board	T1
5	**Tutorial 5(** sum of products , product of sums simplification**)**	1	Black Board	T1
	Reading console Input and Writing Console Output.	1	Black Board	T1
	File class, Reading and writing Files.	1	Black Board	T1
	Random access file operations.	1	Black Board	T2
	The Console class, Serialization.	1	Black Board	T1
6	**Tutorial 6(** Five -Variable Map**)**	1	Black Board	T1
	Enumerations, auto boxing, generics.	1	Black Board	T1
	Exception handling - Fundamentals of exception handling	1	Black Board	T1
	Exception types, Termination or presumptive models.	1	Black Board	T2
	Uncaught exceptions, using try and catch.	1	Black Board	T2
7	**Tutorial 7(** Binary Adder-Subtractor **)**	1	Black Board	T2
	Multiple catch clauses, nested try statements.	1	Black Board	T2
	Throw, throws and finally.	1	Black Board	T2
	Built- in exceptions, creating own exception sub classes.	1	Black Board	T2

	Differences between thread-based multitasking & process-based multitasking.	1	Black Board	T2
8	**Tutorial 8(** Magnitude Comparator **)**	1	Black Board	T2
	Java thread model, creating threads.	1	Black Board	T2
	Thread priorities.	1	Black Board	T2
	Synchronizing threads.	1	Black Board	T2
	Inter thread communication.	1	Black Board	T2
9	**Tutorial 9(** Flip-flops, analysis of clocked sequential circuits **)**	1	Black Board	T2
	The Collections Framework (java.util)-)- Collections overview, Collection Interfaces.	1	Black Board	T2
	The Collection classes- Array List, Linked List, Hash Set.	1	Black Board	T2
	Tree Set, Priority Queue, Array Deque.	1	Black Board	T2
	Accessing a Collection via an Iterator, Using an Iterator, The For-Each alternative.	1	Black Board	T2
10	**Tutorial 10(** Registers, Shift registers, Ripple counters **)**	1	Black Board	T2
	Map Interfaces and Classes.	1	Black Board	T2
	Comparators, Collection algorithms, Arrays.	1	Black Board	T1
	Dictionary, Hash table.	1	Black Board	T1
	Properties, Stack, Vector More Utility classes.	1	Black Board	T1
11	**Tutorial 11(** Ripple counters **)**	1	Black Board	T1
	String Tokenizer, Bit Set.	1	Black Board	T1
	Date, Calendar, Random.	1	Black Board	T1& T2
	GUI Programming with Swing – Introduction.	1	Black Board	T2
	Layout Manager, Grid ,Border layout	1	Black Board	T2
12	**Tutorial 12(** Programmable Logic Array **)**	1	Black Board	T2
	Flow Layout Card layout	1	Black Board	T2
	Applets and HTML, Security Issues.	1	Black Board	T2
	Applets and Applications.	1	Black Board	T2
	passing parameters to applets.	1	Black Board	T2
13	**Tutorial 13(** Programmable Array Logic **)**	1	Black Board	T2

	Creating a Swing Applet, Painting in Swing.	1	Black Board	T2
	A Paint example, Exploring Swing Controls.	1	Black Board	T2
	Controls- JLabel and Image Icon, JText Field.	1	Black Board	WR4
	The Swing Buttons- Jbutton.	1	Black Board	T1 & T2
14	**Tutorial 14(** AWT Events **)**	1	Black Board	T2
	JRadio Button, JTabbed Pane, JScroll Pane.	1	Black Board	T2
	JList, JCombo Box, Swing Menus, Dialogs.	1	Black Board	T2

TEXT BOOKS

3. Concepts of Programming Languages, Robert .W. Sebesta

10th edition, PearsonEducation

4. Programming Language Design Concepts, D. A. Watt, Wiley India Edition.

REFERENCE BOOKS

4. Programming Languages, A.B. Tucker, R.E. Noonan, TMH.

5. Programming Languages, K. C. Louden and K A Lambert., 3rd edition, CengageLearning.

6. Programming Language Concepts, C Ghezzi and M Jazayeri, Wiley India.

Result Analysis:

Course Title	JAVA PROGRAMMING
Course Code	CS405PC
Programme	B.Tech
Year & Semester	II year II-semester, A sec
Regulation	R18
Course Faculty	Mrs.B.S.Swapna shanthi , Assistant Professor , CSE

Slow learners:

S No	Roll no	No of backlogs	Internal-I Status	Internal-II Status
1	20X31A0503	5	16	16
2	20X31A0507	4	18	18
3	20X31A0511	5	14	14
4	20X31A0530	4	20	14
5	20X31A0531	3	23	19
6	20X31A0532	4	20	19
7	20X31A0533	5	19	18
8	20X31A0541	3	19	20
9	20X31A0550	3	20	17
10	20X31A0556	4	20	19
11	20X31A0558	4	18	14
12	20X31A0559	3	19	20
13	21X35A0504	4	15	17

Advanced learners:

S No	Roll No	GATE MATERIAL
1	20X31A0502	Linked List Notes ; Binary Heaps · Heap Sort ; Graph & Its Applications ; Multistage Graph ; Lexical analysis, parsing, syntax-directed translation Runtime environments Intermediate code generation Local optimisation, Data flow analyses: constant propagation System calls, processes, threads, inter-process communication, concurrency and synchronization. DeadlockCPU and I/O scheduling Memory management and virtual memoryFile systems
2	20X31A0504	
3	20X31A0515	
4	20X31A0523	
5	20X31A0529	
6	20X31A0537	
7	20X31A0539	
8	20X31A0542	
9	20X31A0543	
10	20X31A0544	
11	20X31A0545	
12	20X31A0555	
13	20X31A0560	
14	21X35A0503	

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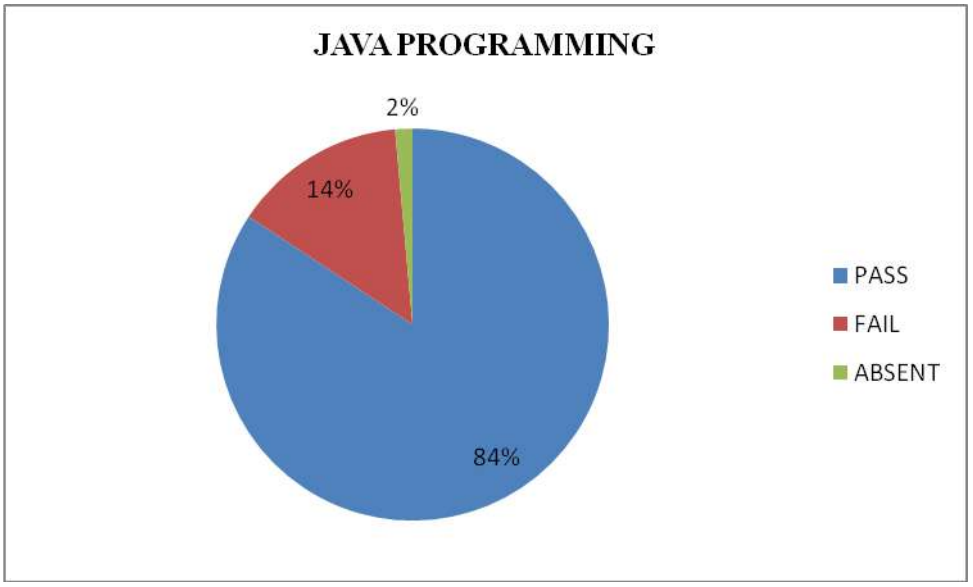
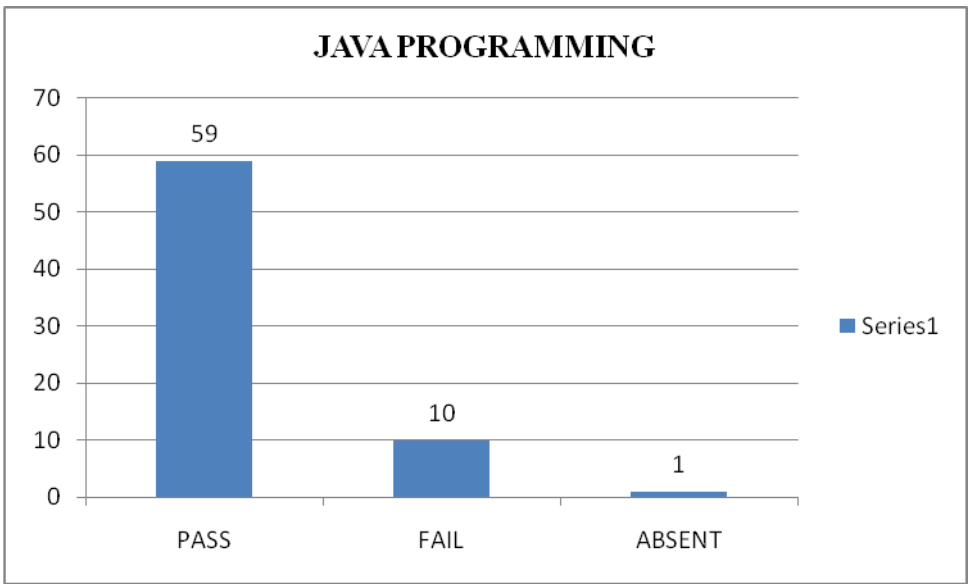
Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510
Website: https://siiet.ac.in/

BATCH CSE-III BTECH I- SEM CSE - A RESULT ANALYSIS

ACADAMIC YEAR	COURSE NAME	NUMBER OF STUDENTS		QUESTION PAPER SETTING		PASS%
		APPEARED	PASSED	INTERNAL	EXTERNAL	
2022-23	JAVA PROGRAMMING	69	59	COURSE FACULTY	EXTERNAL	85.5%

Java Programming Result Analysis





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Website: https://siiet.ac.in/

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

REMEDIAL CLASSES TIME TABLE

A.Y 2023-24 **SEMESTER-I**

BRANCH/ SEC	MON 4.00 PM-5.00 PM	TUE 4.00 PM-5.00 PM	WED 4.00 PM-5.00 PM	THUR 4.00 PM-5.00 PM	FRI 4.00 PM-5.00 PM
II CSE-A	DE	DS	JAVA	COA	COSM
II CSE-B	DS	DE	COSM	JAVA	COA
II CSE-C	COSM	COA	DE	DS	JAVA
III CSE-A	SE	FLAT	CN	WT	PPL
III CSE-B	WT	CN	SE	PPL	FLAT
III CSE-C	FLAT	WT	PPL	CN	SE
IVCSE-A	C&NS	DM	CC	POE	RTS
IV CSE-B	CC	RTS	C&NS	DM	POE
IV CSE-C	RTS	CC	POE	C&NS	DM

HOD

Computer Science & Engg. Dept.
SRI INDU INSTITUTE OF ENGG & TECH.
Sheriguda(V), Ibrahimpatnam(M), R.R.Dist-501 510.

PRINCIPAL

PRINCIPAL
Sri Indu Institute of Engineering & Tech
Sheriguda(Vill), Ibrahimpatnam
R R Dist Telangana -501 510

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Computer Science & Engineering

Course Outcome Attainment (Internal Examination-1)

Name of the faculty : B.S.Swapna Shanthi Academic Year: 2022-23

Branch & Section: CSE-A Examination: I Internal

Course Name: JAVA PROGRAMMING Year: II Semester: II

S.No	HT No.	Q1a	Q1b	Q1c	Q2a	Q2b	Q2C	Q3A	Q3b	Q3c	Q4a	Q4b	Q4c	Obj1	A1
Max. Marks ==>		5			5			5			5			10	5
1	21X31A0501				4						4			9	5
2	21X31A0502	4									4			9	5
3	21X31A0503	4									4			10	5
4	21X31A0504	4									4			9	5
5	21X31A0505	4									4			9	5
6	21X31A0506				5						5			10	5
7	21X31A0507	4									3			9	5
8	21X31A0508	4									3			8	5
9	21X31A0509	4			4									8	5
10	21X31A0510	3									1			8	5
11	21X31A0511	4			4									9	5
12	21X31A0512	3												8	5
13	21X31A0513	4									4			9	5
14	21X31A0514	4						4						9	5
15	21X31A0515	4			4									9	5
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26	21X31A0526	4									3			9	5
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29	21X31A0529	4									4			9	5
30	21X31A0530	4									3			9	5
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33	21X31A0533	5									4			9	5
34	21X31A0534	4			5									9	5
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37	21X31A0537	4			5									9	5
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67	22X35A0505	4									4			6	5
68	22X35A0506	3									4			7	5
69	22X35A0507	2									4			5	5
70	22X35A0508				4						4			6	5
71															
72															
73															
Target set by the faculty / HoD		3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	6.00	3.00
Number of students performed above the target		50	0	0	24	0	0	2	0	0	42	0	0	65	69
Number of students attempted		54	0	0	27	0	0	3	0	0	44	0	0	66	69
Percentage of students scored more than target		93%			89%			67%			95%			98%	100%

CO Mapping with Exam Questions:

CO - 1													Y	Y
CO - 2													Y	Y
CO - 3													y	y
CO - 4														
CO - 5														
CO - 6														

CO Attainment based on Exam Questions:

CO - 1													98%	100%
CO - 2													98%	100%
CO - 3													98%	100%
CO - 4														
CO - 5														
CO - 6														

CO	Subj	obj		Asgn	Overall	Level
CO-1		98%		100%	99%	3.00
CO-2		98%		100%	99%	3.00
CO-3		98%		100%	99%	3.00
CO-4						
CO-5						
CO-6						

Attainment (Internal 1 Examination) = **3.00**

Attainment Level	
1	40%
2	60%
3	>60%

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Computer Science & Engineering

Course Outcome Attainment (Internal Examination-2)

Name of the faculty: B.S.Swapna Shanthi | Academic Year: 2022-23

Branch & Section: CSE-A | Examination: II Internal

Course Name: JAVA PROGRAMMING | Year: II | Semester: II

S.No	HT No.	Q1a	Q1b	Q1c	Q2a	Q2b	Q2c	Q3a	Q3b	Q3c	Q4a	Q4b	Q4c	Obj4	A4
Max. Marks ==>		5			5			5			5			10	5
1	21X31A0501	4						3						8	5
2	21X31A0502	4						3						8	5
3	21X31A0503	3						4						8	5
4	21X31A0504	4						5						8	5
5	21X31A0505	4						4						8	5
6	21X31A0506	5			5									8	5
7	21X31A0507	5												8	5
8	21X31A0508	5						3						8	5
9	21X31A0509	3						4						8	5
10	21X31A0510	1						5						3	5
11	21X31A0511	4						5						8	5
12	21X31A0512	1						5						3	5
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58	21X31A0561	5												7	5
59	21X31A0562	2						4						7	5
61	21X31A0563	3			2									8	5
62	21X31A0564	5												8	5
63	21X31A0565	5												9	5
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65	22X35A0502				4			4						9	5
66	22X35A0503				4			4						9	5
67	22X35A0505	3			4									8	5
68	22X35A0506	3			3									9	5
69	22X35A0507	4						4						9	5
70	22X35A0508	4						5						9	5
Target set by the faculty / HoD		3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	6.00	3.00
Number of students performed above the target		57	0	0	17	0	0	31	0	0	2	0	0	65	69
Number of students attempted		62	0	0	19	0	0	36	0	0	5	0	0	69	69
Percentage of students scored more than target		92%			89%			86%			40%			94%	100%

CO Mapping with Exam Questions:

CO - 1														
CO - 2														
CO - 3														
CO - 4	**y**	**y**		**y**	**y**								y	y
CO - 5										y	**y**		y	y
CO - 6							**y**	**y**					y	y

% Students Scored >Target %	92%			89%			86%			40%			94%	100%

CO Attainment based on Exam Questions:

CO - 1														
CO - 2														
CO - 3														
CO - 4	92%			89%									94%	100%
CO - 5										40%			94%	100%
CO - 6							86%						94%	100%

CO	Subj	obj		Asgn	Overall	Level
CO-1						
CO-2						
CO-3						
CO-4	91%	94%		100%	95%	3.00
CO-5	40%	94%		100%	78%	3.00
CO-6	86%	94%		100%	93%	3.00

Attainment Level	
1	40%
2	60%
3	>60%

Attainment (Internal Examination-2) = **3.00**

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Computer Science & Engineering

Course Outcome Attainment (University Examinations)

Name of the faculty : B.S.Swapna Shanthi

Academic Year: 2022-23

Branch & Section: CSE-A

Year / Semester: II / II

Course Name: JAVA PROGRAMMING

S.No	Roll Number	Marks Secured
1	21X31A0501	4
2	21X31A0502	27
3	21X31A0503	37
4	21X31A0504	40
5	21X31A0505	27
6	21X31A0506	41
7	21X31A0507	14
8	21X31A0508	26
9	21X31A0509	31
10	21X31A0510	5
11	21X31A0511	34
12	21X31A0512	13
13	21X31A0513	40
14	21X31A0514	44
15	21X31A0515	34
16	21X31A0516	16
17	21X31A0517	38
18	21X31A0518	28
19	21X31A0519	43
20	21X31A0520	40
21	21X31A0521	27
22	21X31A0522	39
23	21X31A0523	47
24	21X31A0524	35
25	21X31A0525	44
26	21X31A0526	30
27	21X31A0527	27
28	21X31A0528	31
29	21X31A0529	29
30	21X31A0530	28
31	21X31A0531	8
32	21X31A0532	26
33	21X31A0533	41
34	21X31A0534	38
35	21X31A0535	-1

S.No	Roll Number	Marks Secured
36	21X31A0536	27
37	21X31A0537	27
38	21X31A0538	28
39	21X31A0539	7
40	21X31A0540	44
41	21X31A0541	33
42	21X31A0542	15
43	21X31A0543	26
44	21X31A0544	4
45	21X31A0545	34
46	21X31A0546	16
47	21X31A0547	28
48	21X31A0548	26
49	21X31A0549	26
50	21X31A0550	26
51	21X31A0552	26
52	21X31A0554	43
53	21X31A0555	27
54	21X31A0556	27
55	21X31A0557	36
56	21X31A0559	27
57	21X31A0560	40
58	21X31A0561	36
59	21X31A0562	47
60	21X31A0563	47
61	21X31A0564	36
62	21X31A0565	36
63	22X35A0501	38
64	22X35A0502	41
65	22X35A0503	28
66	22X35A0504	39
67	22X35A0505	30
68	22X35A0506	36
69	22X35A0507	32
70	22X35A0508	37

Max Marks 75	
Class Average mark	30
Number of students performed above the target	35
Number of successful students	70
Percentage of students scored more than target	50%
Attainment level	**2**

Attainment Level	**% students**
1	40%
2	60%
3	>60%

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Computer Science & Engineering

Course Outcome Attainment

Name of the faculty :	B.S.Swapna Shanthi	Academic Year:	2022-23
Branch & Section:	CSE-A	Examination:	I Internal
Course Name:	JAVA PROGRAMMING	Year:	II
		Semester:	II

Course Outcomes	1st Internal Exam	2nd Internal Exam	Internal Exam	University Exam	Attainment Level
CO1	3.00		3.00	2.00	2.70
CO2	3.00		3.00	2.00	2.70
CO3	0.00		0.00	2.00	0.60
CO4		3.00	3.00	2.00	2.70
CO5		3.00	3.00	2.00	2.70
CO6		3.00	3.00	2.00	2.70
Internal & University Attainment:			2.50	2.00	
Weightage			70%	30%	
CO Attainment for the course (Internal, University)			1.75	0.60	
CO Attainment for the course (Direct Method)			2.35		

Overall course attainment level **2.35**

SRI INDU INSTITUTE OF ENGINEERING & TECHNOLOGY

Department of Computer Science & Engineering

Program Outcome Attainment (from Course)

Name of Faculty:	B.S.Swapna Shanthi	Academic Year:	2022-23
Branch & Section:	CSE-A	Year:	II
Course Name:	JAVA PROGRAMMING	Semester:	II

CO-PO mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	-	2	-	-	-	-	-	-	-	-	-
CO2	3	3	3	-	2	-	-	-	-	-	-	2	-	-
CO3	3	2	3	-	-	-	-	-	-	3	-	-	-	2
CO4	3	3	3	2	3	-	-	-	2	2	-	3	-	-
CO5	3	2	3	3	3	2	-	2	3	2	3	3	2	2
CO6	3	2	3	-	3	-	2	-	2	-	-	3	-	2
Course	3	2.5	3	2.5	2.6	2	2	2	2.3	2.3	3	2.75	2	2

CO	**Course Outcome Attainment**
CO1	2.70
CO2	2.70
CO3	0.60
CO4	2.70
CO5	2.70
CO6	2.70
Overall course attainment level	**2.35**

PO-ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO Attainment	**2.35**	**1.96**	**2.35**	**1.96**	**2.04**	**1.57**	**1.57**	**1.57**	**1.80**	**1.80**	**2.35**	**2.15**

CO contribution to PO - 33%, 67%, 100% (Level 1/2/3)

ATTENDANCE REGISTER

Attendance Register Link:

https://drive.google.com/file/d/1e3BMniAB6-AS7fzSZZiev_ZgscMFQAAW/view?usp=sharing