2.2.1

G. Narayanamma Institute of Technology & Science
AUTONOMOUS (for Women)
Department of CSE
II B.Tech I Sem CSE-B (2019-2023 batch)
Mid Marks Analysis for the Academic Year 2020-21
Object Oriented Programming

Slow Learners (<12) : NIL

(>=25):

Roll.No	Student Name	Mid 1
19251A0561	Addagatla Ramya Spoorti	27
19251A0562	Adluri Hanshika	27
19251A0563	Alladi Lahari	29
19251A0564	Arella Sonalika	28
19251A0565	Arpita Bejugam	29
19251A0566	Aruvanti Sravanthi	25
19251A0567	Ayesha Ansari	28
19251A0568	B Manasa	30
19251A0569	Bhavana Reddy Kanthala	26
19251A0570	Bhukya Siri Priya	27
19251A0571	Bodapati Dhanya	29
19251A0572	Chavva Hasitha	26
19251A0574	Dandu Samaikya	26
19251A0575	Dadi Lakshmi Sai Srujana	29
19251A0576	Danta Pravalika	27
19251A0577	Dheexitha M	25
19251A0578	Donthireddy Nikhila Reddy	29
19251A0579	Dosapati Divya	28
19251A0580	Elaprolu Vandana	29
19251A0582	G Kalathmika	27
19251A0583	Gokathoti Sivani	29
19251A0584	Hussain Najiyah Begum	27
19251A0585	Jallipalli Mounika	28
19251A0587	Jawaji Sanjana Priya	25
19251A0588	Jellella Rachana	27
19251A0589	Kuchanpally Rithika Reddy	27
19251A0590	K Sai Sreelekha	27
19251A0591	Kutur Chetna Reddy	26
19251A0592	Kamsani Spandana	26
19251A0593	Kommu Lumbini	25
19251A0598	Mothukuri Ashritha	30
19251A0599	Muduganti Sathwika	29
19251A05A0	Nagapuri Charitha	26
19251A05A1	Nandivada Yamini Swamy	26
19251A05A2	Nangunoori Sanjana	26
19251A05A3	Navya Sree Peram	27
19251A05A4	Pamujula Sujana Sri	28
19251A05A7	Preethika Chennareddy	29

19251A05A9	Radhika Gandla	30
19251A05B0	Saieni Alankruthi	29
19251A05B1	S Keerthana Pravallika	30
19251A05B2	Satwika Reddy Lankireddy	28
19251A05B3	Shereen Sultana	28
19251A05B4	Surisetty Lavanya	26
19251A05B5	Suvvada Divya	26
19251A05B8	Thummanapalli Preethi	27
19251A05B9	Vallala Sathvika	25
19251A05C0	Vuppugandla Shravani	28
19D21A0502	Aditi Chandoju	28
20255A0507	Akhila Athinarapu	29
20255A0508	Gali Poojitha	27
20255A0509	Gangalam Kiranmayee	29
20255A0510	Nuzhath Jahan	27

Improvement from Mid1 to Mid2:

Roll.No	Student Name	Mid 1	Mid 2
19251A0595	Musku Srihitha	22	24
19251A05B7	Thatwadi Sreehitha	24	25

2.2.1

G. Narayanamma Institute of Technology & Science
AUTONOMOUS (for Women)
Department of CSE
II B.Tech I Sem CSE-B (2019-2023 batch)
Mid Marks Analysis for the Academic Year 2020-21
Object Oriented Programming

Advance Learners (>=25):

Roll.No	Student Name	Mid 1	Mid2
19251A05B1	S Keerthana Pravallika	30	29

2.2.1

Elite

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

TOP
TOPPER
2%

This certificate is awarded to

SAMUDRALA KEERTHANA PRAVALLIKA

for successfully completing the course

Programming in Java

with a consolidated score of 94 %

Online Assignments	24.91/25	Programming Exam	25/25	Proctored Exam	43.84/50

Total number of candidates certified in this course: **2632**

Prof. G P Raja Sekhar
Dean, Continuing Education
IIT Kharagpur

Jul-Oct 2021
(12 week course)

Prof. Debjani Chakraborty
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

FREE ONLINE EDUCATION
swayam
शिक्षित भारत, उन्नत भारत

Roll No:NPTEL21CS56S23631828

To validate and check scores: https://nptel.ac.in/noc

2·3·1

G. NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE

(For Women)

Department of Computer Science and Engineering

Course Plan – One copy to be submitted to the HOD one week before commencement of the Semester

Date: 05-10-2021

Sub Code	Name of the Subject	Class/Sem	Name of the faculty/Designation	No. of Students	Total periods per semester/Year	
					Lectures	Tutorial
PC113 AX	Object Oriented Programming	II B.Tech, I Sem, CSE-A	Mrs. V. Divya Raj Assistant Professor	60	48	8

Week No.	Unit No.	Lecture No.	Topic	Dates on which completed	TM	TA	RU
1	1	1	**Unit-1: OOP Concepts:** Data Abstraction, Encapsulation, Inheritance, Polymorphism	18/10/2021	S/P	P	TE
		2	Classes and Objects, Procedural and Object Oriented Programming Paradigms	20/10/21	S/P	P	TE
		3	**Java Basics:** History of Java, Java Buzzwords, Data types, Variables	21/10/21	S/P	P	TE
		4	Arrays, Operators, Control Statements	23/10/21	S/P	P	TE
2	1	5	Introducing Classes, Methods	25/10/21	S/P	P	TE
		6	Constructors, Inner classes, Anonymous Inner classes	25/10/21	S/P, Quiz	P	TE
		7	String Handling	27/10/21	S/P	P	TE
		8	Sample Programs	28/10/21	C&T	B	TE
3	1	9	Revision and Discussion of Previous Question Papers for Unit-I	30/10/21	C&T	B	–
	2	10	**Unit-2: Inheritance:** Inheritance concepts, Member Access, Creating Multilevel Hierarchy	1/11/21	S/P	P	W
		11	Using super, Using final with inheritance	2/11/21	S/P	P	W
		12	Forms of Inheritance, its benefits and costs	6/11/21	Quiz S/P	P	W
4	2	13	Polymorphism - Pure and Adhoc	6/11/21	S/P	P	W
		14	Method Overriding	8/11/21	S/P	P	W
		15	Abstract classes, Object class	10/11/21	Quiz S/P	P	W
		16	**Packages:** Defining a Package, CLASSPATH	11/11/21	S/P C&T	B/P	TE
5	2	17	Access Protection, Importing Packages	13/11/21	S/P	P	TE
		18	**Interfaces:** Defining an interface, implementing interfaces	15/11/21	S/P C&T	B/P	TE
		19	Nested interfaces, variables in interfaces, Extending Interfaces		S/P C&T	B/P	TE
		20	Sample Programs		C&T	B	TE
6	2	21	Revision and Discussion of Previous Question Papers for Unit-2		C&T	B	–
	3	22	**Unit-3: Exception Handling:** Fundamentals of Exception handling, Exception Types		S/P	P	TE
		23	Using try and catch		S/P	P	TE
		24	Multiple catch clauses, Nested try statements		S/P	P	TE

7	3	25	Throw, throws and finally		S/P	P	TB
		26	Built in Exceptions, Creating own exception sub classes		S/P	P	TB
		27	***Database connection using JDBC**		S/P	P	W1
		28	**Multithreading:** Differences between thread based multitasking and process based multitasking		C&T	B	W2
8	3	29	Java Thread Model, Creating Threads		C&T	B	W2
		30	Thread priorities, synchronizing threads		S/P	P	W2
		31	Inter thread Communication		Quiz S/P	P	TB
		32	Sample Programs		C&T	B	TB
9	3	33	Revision and Discussion of Previous Question Papers for Unit-3		C&T	B	–
	4	34	**Unit-4: Stream based I/O(java.io):** The Stream classes-Byte Streams and Character Streams		C&T	B	W2
		35	Reading Console Input and Writing Console Output		S/P	P	W2
		36	File class, Reading and Writing files		S/P	P	W2
10	4	37	Random Access File Operations		Quiz S/P	P	W2
		38	Generics, Enumerations		S/P	P	W2
		39	**The Collections Framework(java.util):** Collections Overview, Collection Interfaces		S/P	P	TB
		40	Collection Classes- ArrayList, LinkedList		S/P	P	TB
11	4	41	Iterator, For-Each alternative, HashTable		S/P	P	TB
		42	Properties, Stack, Vector,		S/P	P	TB
		43	StringTokenizer, Calendar, Random, Scanner		Quiz S/P	P	TB
		44	Sample Programs		C&T	B	TB
12	4	45	Revision and Discussion of Previous Question Papers for Unit-4		C&T	B	–
	5	46	**Unit-5: Event Handling:** The Delegation Event Model-Events, Event Sources, Event Listeners		S/P	P	TB
		47	Event classes, Adapter classes		S/P	P	TB
		48	Handling mouse and keyboard events		Quiz S/P	P	TB
13	5	49	**GUI programming with Swing:** Introduction, Limitations of AWT, MVC architecture		S/P	P	W1
		50	Swing components and containers, Swing Controls		S/P	P	W1
		51	Swing Controls, Layout Managers		S/P	P	W1
		52	**Applets:** The Applet class, Difference between Applets and Applications		S/P Quiz	P	W1
14	5	53	Lifecycle of an Applet, Passing parameters to Applets		S/P	P	W1
		54	Sample Programs		C&T	B	TB
		55	***Implementing Data Structure concepts using Java**		S/P	P	W1
		56	Revision and Discussion of Previous Question Papers for Unit-5		C&T	B	–

*** Content Beyond Syllabus**

Signature of the Faculty
Date: 5/10/2021

Signature of HOD
Date:

Teaching Methods (TM): C&T, S/P, Videos, SEM, DEMO, CHART, ET/GL, QUIZ, GD, RTCS, JAR, PD, OL

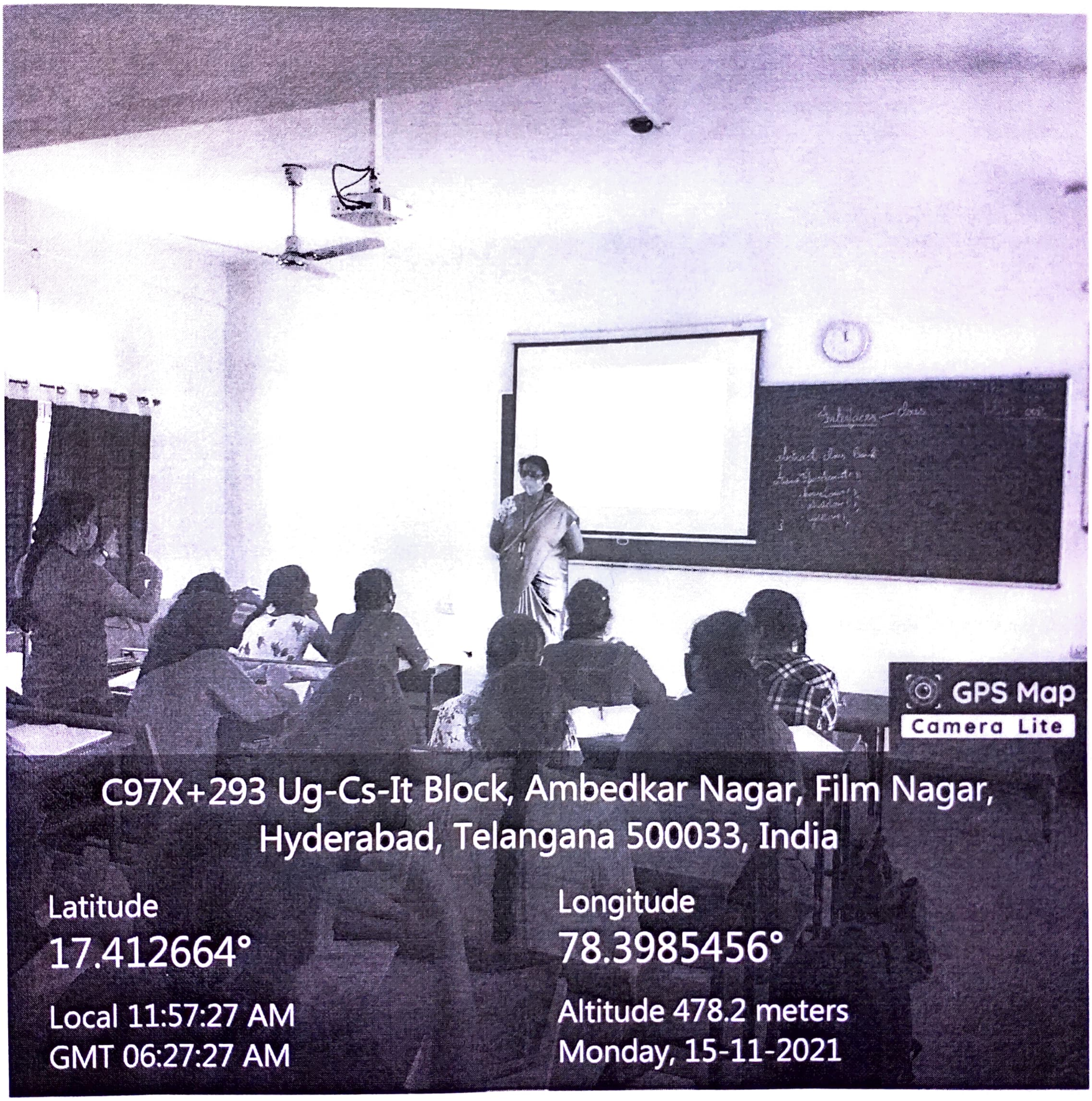
Teaching Aids (TA): Projector, Board.

W1 : onlinecourses.nptel.ac.in/noc21_cs56

W2 : udemy.com/course/java-object-oriented-programming-for-absolute-beginners

TB : [illegible] The Complete Reference Herbert Schildt Mc Graw Hill

2.3.2



C97X+293 Ug-Cs-It Block, Ambedkar Nagar, Film Nagar, Hyderabad, Telangana 500033, India

Latitude
17.412664°

Longitude
78.3985456°

Local 11:57:27 AM
GMT 06:27:27 AM

Altitude 478.2 meters
Monday, 15-11-2021

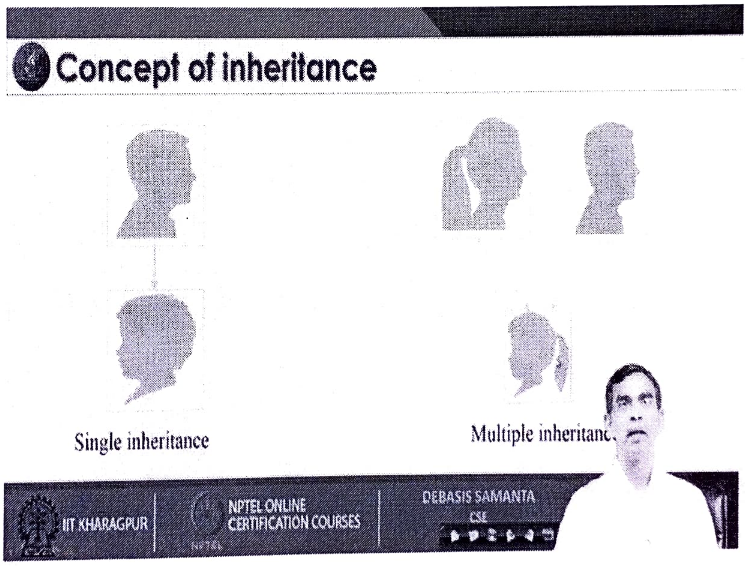
2.3.2

Programming in Java
Prof. Debasis Samanta
Department of Computer Science Engineering
Indian Institute of Technology, Kharagpur

Lecture – 13
Inheritance

So, in this lecture we will discuss one important object oriented paradigm is called the Inheritance. We have discussed the encapsulation, then inheritance is another important object oriented paradigm; in today's lecture we will discuss about the Inheritance. So, first we should learn about the concept and then how this concept is basically implementable in Java program.

(Refer Slide Time: 00:41)



Concept of inheritance

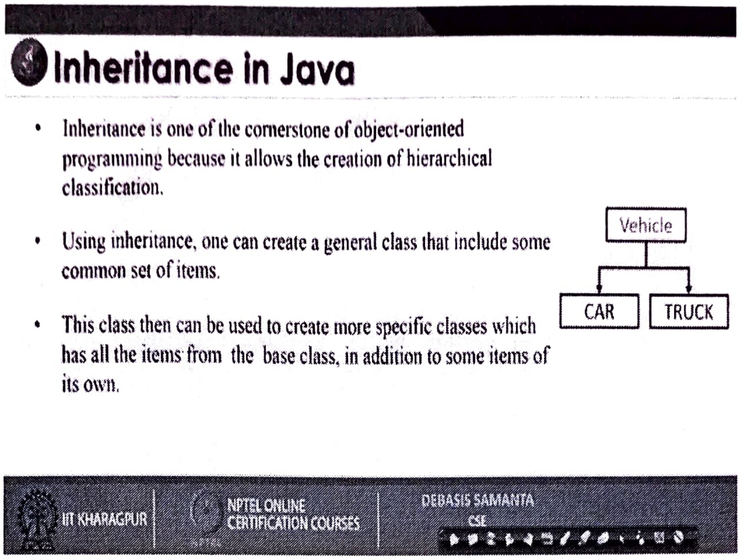
Single inheritance

Multiple inheritanc.

Now, inheritance is very common concept is a biological term although and you know exactly the inheritance means basically inheritance a child children inherits from its parents order it is the (Refer Time: 00:54). So, the concept it is like this and then single inheritance means, if it inherits from on only on entity and multiple inheritance means if one entity inherits from the multiple entities.

So, concept it is there the both single as well as multiple inheritance and then inheritance can be also hierarchically with multiple levels; so, multi level inheritance. So, children inherits from the parent, grandchildren inherits from the children like this one.

(Refer Slide Time: 02:11)



Inheritance in Java

- Inheritance is one of the cornerstone of object-oriented programming because it allows the creation of hierarchical classification.
- Using inheritance, one can create a general class that include some common set of items.
- This class then can be used to create more specific classes which has all the items from the base class, in addition to some items of its own.

Vehicle

CAR

TRUCK

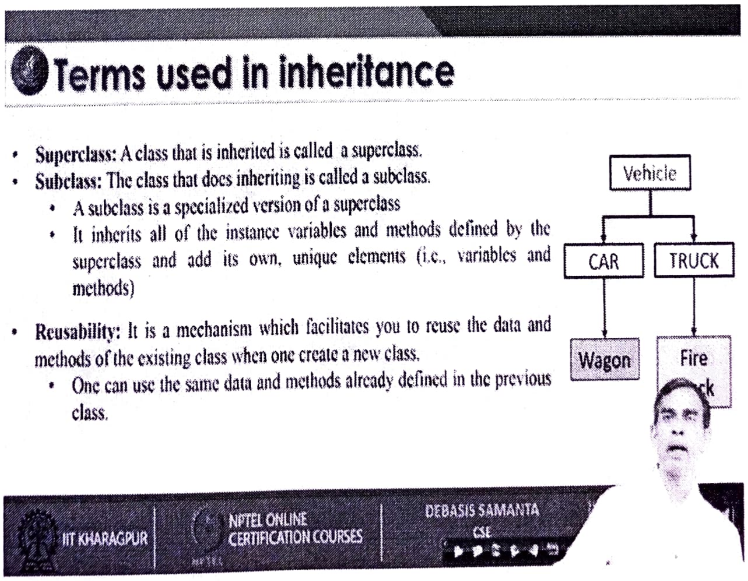
IIT KHARAGPUR

NPTEL ONLINE CERTIFICATION COURSES

DEBASIS SAMANTA
CSE

So, this is a concept of there now, here inheritance in Java is very useful for many reason. The first reason is that using inheritance we can create given a class another class. So, the concept of this thing is very important here.

(Refer Slide Time: 02:27)



Terms used in inheritance

- **Superclass:** A class that is inherited is called a superclass.
- **Subclass:** The class that does inheriting is called a subclass.
  - A subclass is a specialized version of a superclass
  - It inherits all of the instance variables and methods defined by the superclass and add its own, unique elements (i.e., variables and methods)
- **Reusability:** It is a mechanism which facilitates you to reuse the data and methods of the existing class when one create a new class.
  - One can use the same data and methods already defined in the previous class.

Vehicle

CAR

TRUCK

Wagon

Fire
ck

IIT KHARAGPUR

NPTEL ONLINE CERTIFICATION COURSES

DEBASIS SAMANTA
CSE

Now, so this concept is basically given a class we usually call it is a super class. And, if we can create another class from this class then this is called a sub class. As an example here we can see Vehicle is a super class whereas, CAR and the TRUCK are the two sub classes. Similarly, FireTruck is another subclass of the class TRUCK. So, here TRUCK

2.3.4

G.NARAYANAMMA INSTITUTE OF TECHNOLOGY AND SCIENCE

(AUTONOMOUS) FOR WOMEN

SHAIKPET, HYDERBAD-500104

ACADEMIC CALENDAR (2021-2022)

B. Tech II Year – I Sem

Commencement of Class Work	18-10-2021
1st Spell of Instructions	18-10-2021 To 11-12-2021(8 Weeks)
First Mid Term Examinations	13-12-2021 To 18-12-2021 (1 Week)
2nd Spell of Instructions	20-12-2021 To 12-02-2022 (8 Weeks)
Second Mid Term Examinations	14-02-2022 To 19-02-2022 (1 Week)
End Semester Examinations (Practicals & Theory Exams)	22-02-2022 To 12-03-2022 (3 Weeks)

B. Tech II Year – II Sem

Commencement of Class Work	14-03-2022
1st Spell of Instructions	14-03-2022 To 07-05-2022(8 Weeks)
Summer Vacation	09-05-2022 to 21-05-2022 (2 Weeks)
First Mid Term Examinations	23-05-2022 To 28-05-2022 (1 Week)
2nd Spell of Instructions	31-05-2022 To 23-07-2022 (8 Weeks)
Second Mid Term Examinations	25-07-2022 To 30-07-2022 (1 Week)
End Semester Examinations (Practicals & Theory Exams)	02-08-2022 To 20-08-2022 (3 Weeks)

To NB &
file

1/10/2021

PRINCIPAL

2.6.1

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Program Outcomes (POs)

PO 1: Engineering knowledge: To acquire firm knowledge of Mathematics, Science, Engineering & Computer Science.

PO 2: Problem analysis: To identify, formulate & analyze requirements of IT Applications.

PO 3: Design/development of solutions: To effectively apply engineering principles to the design of computer & IT based Systems.

PO 4: Conduct investigations of complex problems: To synthesize research based knowledge in the design of programming and analysis of data for providing valid conclusions to complex problems.

PO 5: Modern tool usage: To possess skills for creating and selecting modern software development tools.

PO 6: The engineer and society: To apply conceptual knowledge relevant to professional engineering practices in societal, health, safety, legal and cultural issues and their consequences.

PO 7: Environment and sustainability: To understand the impact of engineering solutions in social and economic environments and work towards sustainable development.

PO 8: Ethics: To understand contemporary legal, social & ethical issues in computing.

PO 9: Individual and team work: To effectively work as an individual and adapt to a team environment.

PO 10: Communication: To communicate precisely and effectively both in oral and written in all engineering activities.

PO 11: Project management and finance: To apply engineering and management principles for managing and leading economically feasible projects in multi disciplinary environments as an individual and team member.

PO 12: Life-long learning: To develop confidence to engage in independent & lifelong learning in the context of Technological changes.

Program Specific Outcomes (PSOs)

PSO 1: The ability to develop software projects using standard practices and suitable programming environment.

PSO 2: To apply computer science knowledge in exploring and adopting latest technologies in different co-curricular activities.

2.6.1

G.NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE
(AUTONOMOUS) (FOR WOMEN)

Department of CSE

Course Name: Object Oriented Programming **Year/Sem:** II B.Tech I Sem

Course Code: PC113AX **NBA Corse Code:** C205

Regulation: GN-R-18

Module & Course Co-ordinators:

1. **Dr. A. Sharada, Professor, CSE, Module Co-ordinator**
2. Mrs.Ch. Radhika, Asst. Prof., CSE, Course Co-ordinator
3. Mrs. V. Divya Raj, Asst. Prof., CSE, Course Co-ordinator
4. Mrs. M. Lalitha, Asst. Prof., CSE, Course Co-ordinator

Course Objectives:

1. Learn the concepts of object oriented programming.
2. Introduce the implementation of inheritance, packages and interfaces.
3. Understand the concepts of exception handling and multithreading.
4. Introduce the java collection framework and I/O classes.
5. Gain knowledge in designing Graphical User Interface using applets and swing controls.

Course Outcomes:

C205.1	Understand the object oriented programming concepts and solve real world problems.
C205.2	Demonstrate the use of inheritance and packages.
C205.3	Understand and implement the concepts of exception handling.
C205.4	Develop multithreaded applications with synchronization.
C205.5	Solve problems using java collection framework and I/O classes.
C205.6	Design Graphical User Interface using applets and swing controls.

Mapping of Course Outcomes to Program Outcomes:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C205.1	2	2	3	2	2	-	-	-	2	-	-	-
C205.2	2	2	3	2	2	-	-	-	2	-	-	-
C205.3	2	2	3	2	2	-	-	-	2	-	-	-
C205.4	2	2	3	2	2	-	-	-	2	-	-	-
C205.5	2	2	3	1	2	-	-	-	1	-	-	-
C205.6	2	2	3	2	2	-	-	-	3	-	-	-
C205	**2.00**	**2.00**	**3.00**	**1.83**	**2.00**	-	-	-	**2.00**	-	-	-

Mapping of Course Outcomes to Program Specific Outcomes:

CO	PSO1	PSO2
C205.1	2	-
C205.2	2	-
C205.3	2	-
C205.4	2	-
C205.5	2	-
C205.6	2	-
C205	**2.00**	-

Unit-wise Course Outcomes mapping:

Unit No.	I	II	III	IV	V
Co No.	C205.1	C205.2	C205.3, C205.4	C205.5	C205.6

Signature of Course Co-ordinators

Signature of Module Co-ordinator

HOD-CSE

Al

II Year B.Tech. CSE I-Semester

AWT **Course Code: PC113AX**

L	T	P	C
3	-	-	3

tions

OBJECT ORIENTED PROGRAMMING

(Common to CSE & IT)

AwT

Prerequisites: Programming for Problem Solving

Course Objectives:

1. Learn the concepts of object oriented programming.
2. Introduce the implementation of inheritance, packages and interfaces.
3. Understand the concepts of exception handling and multithreading.
4. Introduce the java collection framework and I/O classes.
5. Gain knowledge in designing Graphical User Interface using applets and swing controls.

UNIT 1: (~8 Lecture Hours)

OOP concepts: Data abstraction, encapsulation, inheritance, polymorphism, classes and objects, Procedural and Object oriented programming paradigms.

Java Basics: History of Java, Java buzzwords, Data types, Variables, Arrays, operators, expressions, control statements, Introducing classes, Methods, Constructors, Inner classes, Anonymous Inner classes, String handling.

UNIT 2: (~10 Lecture Hours)

Inheritance: Inheritance concepts, Member access, Creating Multilevel hierarchy, using super, using final with inheritance, forms of inheritance, benefits of inheritance, costs of inheritance, Polymorphism- Adhoc polymorphism, pure polymorphism, method overriding, abstract classes, Object class.

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

Interfaces: Defining an interface, implementing interfaces, Nested interfaces, variables in interfaces and extending interfaces.

UNIT 3: (~10 Lecture Hours)

Exception handling: Fundamentals of exception handling, Exception types, 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.

javatpoint.com

oPS

oOPs lab

17 CSE B

UNIT 4: (~10 Lecture Hours)

Stream based I/O (java.io): The Stream classes - Byte streams ar Character streams, Reading Console Input and Writing Console Outpu File class, Reading and Writing files, Random access file operations Generics, Enumerations.

The Collections Framework (java.util): Collections overview, Collection Interfaces, The Collection classes - ArrayList, LinkedList, Iterator, The For-Each alternative, HashTable, Properties, Stack, Vector, StringTokenizer, Calendar, Random, Scanner.

UNIT 5: (~10 Lecture Hours)

Event Handling: The Delegation Event Model - Events, Event sources, Event Listeners, Event classes, Handling mouse and keyboard events, Adapter classes.

GUI Programming with Swing: Introduction, limitations of AWT, MVC architecture, Swing components, Swing containers, Swing Controls - JLabel, JTextField, JButton, JToggleButton, JCheckBox, JRadioButton, JTabbedPane, JScrollPane, JList, JComboBox, Swing Menus, Dialogs. Layout Managers-FlowLayout, Border Layout, GridLayout, CardLayout, GridBagLayout.

Applets: The Applet class, Difference between Applets and Applications, Life Cycle of an Applet, passing parameters to applets.

Text Books:

1. Herbert Schildt, Java: The Complete Reference, 9th Edition, McGraw Hill Education (India) Pvt. Ltd.
2. Herbert Schildt and Dale Skrien, Java Fundamentals - A Comprehensive Introduction, McGraw Hill Education (India) Pvt. Ltd., 2013.

Reference Books:

1. Jaime Nino and Frederick. A. Hosch, An Introduction to Programming and Object Oriented Design using Java, John Wiley & sons, 2013.
2. Timothy Budd, Understanding Object-Oriented Programming with Java, updated Edition, Pearson Education.
3. Y. Daniel Liang, Introduction to Java Programming, Comprehensive Version, 7th Edition, Pearson Education.
4. P. Radha Krishna, Object Oriented Programming through Java, Universities Press, 2008.

2.6.2

Course Attainment For External Examination

Class : II CSE-A,B &C (I Semester) Course Name: OOP

Batch:2019-2023

Roll NO	Grade Points obtained in External Exam	Marks obtained in External Exams	% of marks in External Exams (Calculated for 70%)		Roll NO	Grade Points obtained in External Exam	Marks obtained in External Exams	% of marks in External Exams (Calculated for 70%)
19251A0501	6	55	39.00		19251A0524	7	65	46.00
19251A0502	6	55	39.00		19251A0525	5	45	32.00
19251A0503	7	65	46.00		19251A0526	7	65	46.00
19251A0504	9	85	60.00		19251A0527	8	75	53.00
19251A0505	6	55	39.00		19251A0528	5	45	32.00
19251A0506	7	65	46.00		19251A0529	6	55	39.00
19251A0507	5	45	32.00		19251A0530	5	45	32.00
19251A0508	5	45	32.00		19251A0531	7	65	46.00
19251A0509	0	0	0.00		19251A0532	0	0	0.00
19251A0510	9	85	60.00		19251A0533	8	75	53.00
19251A0511	7	65	46.00		19251A0534	8	75	53.00
19251A0512	8	75	53.00		19251A0535	8	75	53.00
19251A0513	0	0	0.00		19251A0536	8	75	53.00
19251A0514	9	85	60.00		19251A0537	7	65	46.00
19251A0515	6	55	39.00		19251A0538	8	75	53.00
19251A0516	10	95	67.00		19251A0539	5	45	32.00
19251A0517	5	45	32.00		19251A0540	0	0	0.00
19251A0518	6	55	39.00		19251A0541	8	75	53.00
19251A0519	8	75	53.00		19251A0542	5	45	32.00
19251A0520	9	85	60.00		19251A0543	0	0	0.00
19251A0521	7	65	46.00		19251A0544	8	75	53.00
19251A0522	0	0	0.00		19251A0545	0	0	0.00
19251A0523	8	75	53.00		19251A0546	8	75	53.00

19251A05H6	6	55	39.00
19251A05H7	8	75	53.00
19251A05H8	7	65	46.00
19251A05H9	5	45	32.00
19251A05J0	7	65	46.00
20255A0513	9	85	60.00
20255A0514	6	55	39.00
20255A0515	8	75	53.00
20255A0516	6	55	39.00
20255A0517	8	75	53.00
20255A0518	0	0	0.00
18251A0570	0	0	0.00
200			8506.00
(Total No.of Students)			**(Total Marks of all Students)**
Threshold= Class Average marks	**No of students above Threshold**	**% of Students above Threshold**	**Attainment Level**
42.53	120.00	60.00	1

Course Attainment Level			
Internal Examination 1 E1	**Internal Examination 2 E2**	**Average of course attainment in internal examinatios (E1+E2)/2**	**Attainment levels in External Examination**
2.00	3	2.50	1
Attainment Level for the course			1.375

Range for defining the level			
	Description	Range	Level
	Not Attained	<50	0
	Weak	>=50 & <60	1
	Moderate	>=60 & <70	2
	Strong	>=70	3

Level1	50
Level2	60
Level3	70

With effect from 15/11/2021

GNITS	GNITS-F/ CSE/ TTL/ 040 / 00
TIME TABLE STAFF	DEPARTMENT : CSE

Academic year: 2021-2022 (I Semester)

Name of the Faculty: Mrs V.Divya Raj
Class Teacher

Paper Handling: II CSE A: OOP & LAB
I CSE B: PL Lab

DAY	1	2	3	4	5	6
MON			OOP			
TUE	OOPJ LAB			SDP		
WED		OOP		PL Lab(B)		
THU	OOPJ LAB					OOP(T)
FRI				OOPJ LAB		
SAT	OOP					

MSeeta
HOD CSE

GNITS-R- 18 –113AX

G. Narayanamma Institute of Technology & Science

(Autonomous) *(for Women)*

Shaikpet, Hyderabad- 500 104

II-B.Tech I-Semester *Regular Examinations, March-2021.*

OBJECT ORIENTED PROGRAMMING

(Common to CSE & IT)

Max. Marks: 70 **Time: 03 Hours**

*(Answer **05** full questions. Each question carries **14 marks**)*

****

Q.No		Question	Marks	Bloom's Level
Q.1	*(a)*	Contrast procedure oriented programming with object oriented programming.	[07]	[L2]
	(b)	What is constructor? Write a java program to demonstrate constructor overloading.	[07]	[L1]
Q.2	*(a)*	What properties of Java make it a robust language? Briefly describe them.	[08]	[L4]
	(b)	Quote an example for anonymous inner class.	[06]	[L3]
Q.3	*(a)*	How can a class be prevented from inheritance? Illustrate with an example.	[07]	[L4]
	(b)	Demonstrate member access in multilevel hierarchy considering Person, Employee and Professor classes.	[07]	[L6]
Q.4	*(a)*	How packages can be created and imported. Explain with example.	[07]	[L2]
	(b)	Write the difference between abstract class and interface.	[07]	[L2]
Q.5	*(a)*	Write a program to illustrate nested try statements in Java.	[07]	[L3]
	(b)	How to create user defined exception? Give illustrations.	[07]	[L2]
Q.6	*(a)*	With suitable example explain the methods of thread class.	[06]	[L3]
	(b)	Discuss the two approaches to achieve thread synchronization in Java.	[08]	[L1]
Q.7	*(a)*	Java collections framework was designed to meet several goals. Briefly discuss those goals.	[07]	[L1]
	(b)	Write a program to count number of words in a file using StringTokenizer class.	[07]	[L3]
Q.8	*(a)*	Discuss various types of keyboard events and write a program to handle keyboard events.	[07]	[L1]
	(b)	Explain the life cycle of the applet with an example program.	[07]	[L2]

---00O00---

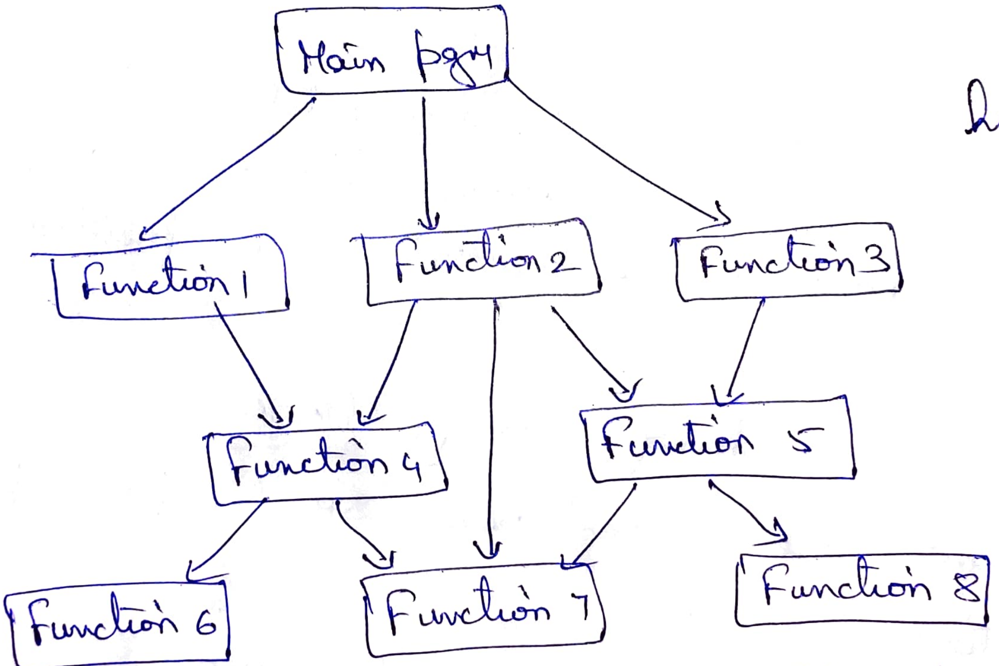
UNIT-1

JAVA PROGRAMMING

OOP concepts

Procedure - Oriented programming

- Programming using high level languages such as COBOL, Fortran & C is known as procedure-oriented programming (POP).
- In POP, the prob. is viewed as a sequence of things to be done such as reading, calculating & printing.
- These tasks are accomplished by vari functions.
- The primary focus is on functions.
- A typical pgm structure is shown below



Hierarchical decomposition

- POP involves writing a list of instructions for the comp. to follow & org. these inst. into groups known as functions.
- Flowchart is used to rep. these.
- Concentration is more on development of functions & very little attention is given to the data that is used by various functions.

UNIT-2 Inheritance

- It is a mechanism in which one object acquires all the properties & behaviours of parent object.
- New classes can be built on existing classes.
- When you inherit from an existing class, you can reuse methods & fields of parent class & you can add new methods & fields also.
- It represents IS-A relationship also called parent-child relationship. (programmer is a Employee).
- Inheritance is used for method overriding & code reusability.
- The class which inherits the properties of other is known as subclass, derived class, childclass and the class whose properties are inherited is known as super class, base class, parent class.
- extends keyword is used to inherit the properties of a class.
- Syntax

```
    class Super
    {
        ...
    }
    class Sub extends Super
    {
        ...
    }
```

18/1/17 2 hrs II CSEB
65, 68, 73, 74, 77, 82, 85, 87, 96,
98, B5, B8, [illegible] 20,

UNIT 3 Multithreading

- A multithreaded pgm contains two or more parts that can run concurrently.
- Each part of such a pgm is called a thread, & each thread defines a separate path of execution.
- Thus, multithreading is a specialized form of multitasking.
- Executing several pgms simultaneously is called multitasking.
- Multithreading – A pgm (process) is divided into two or more subpgms (process-es), which can be implemented at the same time in parallel.

Ex – one subpgm can display an animation on the screen while another may build the next animation to be displayed.

- This is similar to dividing the task into subtasks & assigning them to diff. people for execution independently & simultaneously.
- In our computers, we have only a single processor, the processor is doing only one thing at a time. However, the processor switches b/w the processes so fast that it appears that all of them are being done simultaneously.
- Java pgms discussed sofar are single sequential flow of ctrl.
- A thread is similar to a pgm that has a single flow of ctrl. Every pgm has atleast one thread.

```
class ABC      ← Begining
{
   ⋮   ↓      ← Single threaded body of execution
}
              ← end
```

- Java supports multithreading i.e, Java enables us to use multiple flows of ctrl. Each flow of ctrl is a seperate tiny pgm known as a thread that runs in ||el to others.

UNIT IV Java.util package

collections Framework :-

- This pkg contains a large no. of classes & interfaces that support a broad range of functionality.

Ex:- It contains classes

- that generate pseudorandom nos.
- manage date & time
- observe events
- manipulate sets of bits
- tokenize strings
- handle formatted data.

- collections Framework is a subsystem of java.util pkg.
- these are used to manage groups of objects.

- The Collection Interface

- The collections Framework defines several interfaces.

Collection - Enables you to work with groups of objects, it is top of the collections hierarchy.

Deque - Extends Queue to handle a double-ended queue.

List - Extends collection to handle sequences (lists of obj)

NavigableSet - Extends SortedSet to handle retrieval of elements based on closest-match searches.

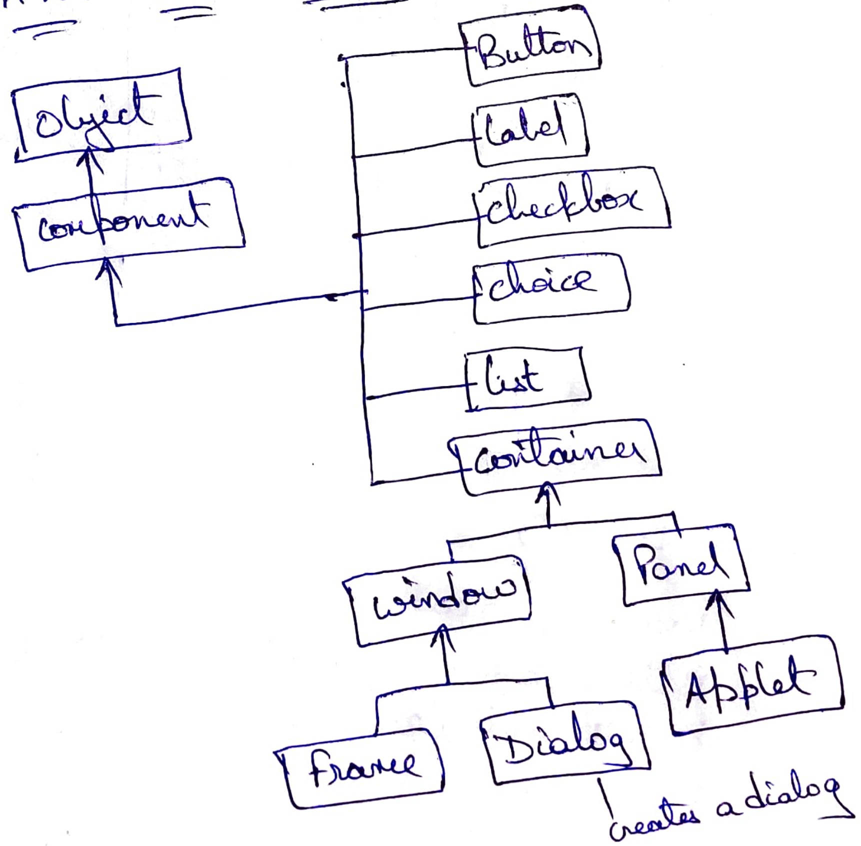
Queue - Extends collection to handle special types of lists in which elements are removed only from the head.

UNIT V GUI programming with Java

AWT - Abstract window Toolkit

- Java AWT is an API to develop GUI or window based applications in java.
- Java AWT Components are platform-dependent i.e Components are displayed according to the view of OS.
- AWT is heavyweight i.e its components are using the resources of OS.
- java.awt package provides classes for AWT api such as TextField, Label, TextArea, RadioButton, CheckBox, choice, List etc.

AWT class Hierarchy



G. NARAYANAMMA INSTITUTE OF TECHNOLOGY AND SCIENCE
(FOR WOMEN)

DEPARTMENT OF CSE

CONTENT BEYOND THE SYLLABUS

Year & Sem: II Year I Sem **Date:** 8-3-2021

Name of the Subject: Object Oriented Programming **Branch:** CSE-A, B & C

S.NO.	TOPICS	CO Mapping
1	Implementing Data Structure concepts using Java	**C205.5:** Solve problems using Java collection framework and I/O classes.
2	Data Base connection using JDBC	**C205.1:** Understand the object oriented programming concepts and solve real world problems.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C205.1	2	2	3	-	2	-	-	-	-	-	-	-	2	-
C205.5	2	2	3	1	2	-	-	-	1	-	-	-	2	-

1. Students gained knowledge about how to implement data structure concepts in Java.
2. Additional programs on JDBC connection were discussed and solved.

REFERENCES

1. Data structures, algorithms and applications in Java by Sartaj Sahni, University Press, 2nd Edition.
2. JDBC DRIVERS: https://www.geeksforgeeks.org/jdbc-drivers/
3. DATABASES: https://docs.oracle.com/javase/tutorial/jdbc/overview/database.html
4. JDBC: https://www.javatpoint.com/java-jdbc

Course Coordinators

Mrs. Ch. Radhika Ch. Radhika
Mrs. V. Divya Raj V Divya
Mrs. M. Lalitha Lalitha

Module Coordinator

Dr. A. Sharada

HOD CSE

Dr. M. Seetha