SRI BHARATHI

ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

Kaikkurichi, Pudukkottai -622 303

www.sbec.edu.in

NAAC DOCUMENTS

Quality Indicator Frame Work

Criterion – 1

CURRICULAR ASPECTS

Submitted by

IQAC

Internal Quality Assurance Cell

Sri Bharathi Engineering College for Women

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

Criterion 1	Curricular Aspects	100

1.1 Curricular Planning and Implementation(20)

1.1.1 The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment

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SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)
Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PREFACE OF THE COURSE FILE

Batch : **2017-2021**

Academic Year : **2018-2019 / ODD**

Program : **COMPUTER SCIENCE AND ENGINEERING**

Year & Semester : **2nd Year / 3th Semester**

Course Code : **CS8392** NBA Course Code: **C204**

Name of the Course : **OBJECT ORIENTED PROGRAMMING**

Faculty in-charge : G. BHUVANESHWARI, AP/CSE

Signature of the Faculty in-charge

[G.BHUVANESHWARI]

HoD / CSE

[R.VIJAY]
HOD / CSE
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
KAIKKURICHI
PUDUKKOTTAI - 622 303

Dr. S.THILAGAVATHI M.E.,Ph.D.,
PRINCIPAL
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
Kaikkurichi - 622 303, Pudukkotta. Dt.

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REVIEW OF COURSE FILE

(To be pasted on the inner side of the file-backside).(#-State Yes/No.)

S.N	Details Date:	R-I-*	R-II-*&	R-III-*&	R-IV-*&$	R-V-*&$@
1.	Preface of the course file	yes				
2.	Vision, Mission, PEOs, POs, PSOs, Blooms taxonomy	yes				
3.	Subject handlers of yesteryears					
4.	Timetable/Workload of the staff – Distribution of teaching load – Roles and Responsibilities	yes				
5.	Syllabus signed by staff & HoD	yes				
6.	Lecture Schedule signed by staff & HoD	yes				
7.	Course Committee meeting circular and minutes	yes				
8.	Identification of Curricular gap and Content Beyond the syllabus	yes				
9.	Self-study topics	yes				
10.	Previous AU Question papers	yes				
11.	Unit wise Q&A and Objective type questions	yes				
12.	Unit wise course material	yes				
13.	Assignment question paper with sample answer sheets and mark entry		yes			
14.	Tutorial question paper with key and mark entry		yes			
15.	Class test/IA test Q Paper with Key, sample answer papers and mark entry		yes			
16.	IA Test- result analysis-CAP-evidence-root cause analysis.		yes			
17.	Retest –Q paper-Attendance-marks		yes			
18.	AU Web portal entry sheet		yes			
19.	Very poor performance in first two tests-action taken.-communication to parents-evidence					
20.	Absence for two tests-action taken-communication to parents-evidence.					
21.	Indiscipline of student reported, if any					
22.	Special class/coaching class/remedial class/attendance-CAP					
23.	Conduct of Seminar, Quizzes - proof					
24.	Content beyond the syllabus - proof			yes		
25.	Student feedback on faculty			yes		
26.	Course end survey					
27.	Internal Assessment sheet			yes		
28.	AU question paper with students feedback					
29.	Discrepancy of the question paper and correspondence, if any					
30.	AU result analysis-Details of arrear students.					
31.	AU grade sheet					yes
32.	CO – PO & PSO attainment sheet					yes
	Signature of Course handling faculty					
	Signature of HoD/CSE					

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KAIKKURICHI, PUDUKKOTTAI - 622 303

ACADEMIC YEAR (2018 – 2019) ODD SEMESTER

DEPARTMENT OF CSE & IT

INDIVIDUAL STAFF WORKLOAD

S. No	STAFF NAME	SUBJECT CODE & NAME	YEAR & DEPT	NO OF STUDENTS	NO OF HOURS	TOTAL HOURS
1.	Mr.R.Vijay	IT6701 – Information Management	IV IT	06	5	11
		EC8381- Fundamentals Of Data Structures In C Lab	II ECE	30	3	
		CS6711/ IT6712 – Security Lab	IV CSE & IT	28	3	
2.	Ms.P.Subha	CS6703 – Grid and Cloud Computing	IV CSE & IT	28	5	15
		IT6512 – Web Programming	III IT	09	6	
		CS6712 – Grid & Cloud Computing Lab	IV CSE & IT	28	3	
		Job Seekers	IV CSE	22	1	
3.	Mrs.A.Nushrath Fathima	CS6503 - Theory of Computation	III CSE	21	6	15
		GE8151- Problem Solving and Python Programming	I SEC A	-	5	
		CS6712 – Grid & Cloud Computing Lab	IV CSE & IT	28	3	
		Job Seekers	IV IT	06	1	
4.	Mr.K.Swaminathan	CS8391- Data Structures	II CSE & IT	27	5	16
		GE8151- Problem Solving and Python Programming	I SEC B	-	5	
		CS8381- Data Structures Lab	II CSE & IT	27	3	
		GE8161- Problem Solving and Python Programming Laboratory	I SEC A	-	3	

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S. No	STAFF NAME	SUBJECT CODE & NAME	YEAR & DEPT	NO OF STUDENTS	NO OF HOURS	TOTAL HOURS
5.	Ms.G.Bhuvaneswari	CS6007 - Information Retrieval	IV CSE	22	5	16
		CS8392- Object Oriented Programming	II CSE & IT	27	5	
		CS6511/IT6513 – Case Tools Lab	III CSE& IT	30	3	
		GE8161- Problem Solving and Python Programming Laboratory	I SEC B	-	3	
6.	Ms.S.Jayapratha	IT6702 – Data Warehousing and Data Mining	IV IT	06	5	16
		CS6504 – Computer Graphics	III CSE	21	5	
		IT6711 - Data Mining Lab	IV IT	06	3	
		IT6551 - Networks Laboratory	III IT	09	3	
7.	Ms.G.Sugapriya	CS6551 – Computer Networks	III IT	09	5	17
		CS6501– Internet Programming	III CSE	21	6	
		IT6512 – Web Programming Lab	III IT	09	3	
		CS8383- Object Oriented Programming Lab	II CSE & IT	27	3	
8.	Ms.G.Sasikala	CS6502 – Object Oriented Analysis and Design	III CSE& IT	30	5	14
		EC8381- Fundamentals Of Data Structures In C Lab	II ECE	30	3	
		CS6513 – Computer Graphics Lab	III CSE	21	3	
		CS6511/IT6513 – Case Tools Lab	III CSE& IT	30	3	
9.	Ms.V.Yogam	CS6003 – Ad Hoc and Sensor Networks	IV CSE& IT	28	5	14
		CS8383- Object Oriented Programming Lab	II CSE & IT	27	3	
		CS6512 – Internet Programming Lab	III CSE	21	3	
		CS6513 – Computer Graphics Lab	III CSE	21	3	

HoD/ CSE

PRINCIPAL

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEEERING

COURSE PLAN

Subject code : CS8392	**Branch/ Year/ sem/ Section: BE/CSE/ II/ III**
Subject Name: OBJECT ORIENTED PROGRAMMING	**Batch:20217-2021**
Staff Name : G.BHUVANESHWARI	**Academic Year : 2018-2019**

COURSE OBJECTIVE

- Develop Java programs using OOP principles
- Develop Java programs with the concepts inheritance and interfaces
- Build Java applications using exceptions
- Develop JAVA applications using I/0 streams
- Develop Java applications with threads and generics classes
- Develop interactive Java programs using swings

TEXT BOOKS:

1. Herbert Schildt, —Java The complete reference, 8th Edition, McGraw Hill Education, 2011.
2. Cay S. Horstmann, Gary cornell, —Core Java Volume –I Fundamentals, 9th Edition, Prentice Hall, 2013.

REFERENCES:

1. Paul Deitel, Harvey Deitel, —Java SE 8 for programmers, 3rd Edition, Pearson, 2015.
2. Steven Holzner, —Java 2 Black bookl, Dreamtech press, 2011.
3. Timothy Budd, —Understanding Object-oriented programming with Java, Updated Edition, Pearson Education, 2000.

WEB RESOURCES

W1: https://www.geeksforgeeks.org/generics-in-java/ (TOPIC NO: 30)
W2:http://www.java2s.com/Java/JavaFX/JavaFX_Events.html(TOPIC NO:37)
W3: https://www.javatpoint.com/jvm-java-virtual-machine

TEACHING METHODOLOGIES:

- BB - BLACK BOARD
- PPT - POWER POINT PRESENTATION
- VIDEO - VIDEO

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CS8392 – OBJECT ORIENTED PROGRAMMING

L T P C

3 0 0 3

UNIT I INTRODUCTION TO OOP AND JAVA FUNDAMENTALS 9

Object Oriented Programming — Abstraction — objects and classes — Encapsulation- Inheritance — Polymorphism- OOP in Java — Characteristics of Java — The Java Environment — Java Source File - Structure — Compilation. Fundamental Programming Structures in Java — Defining classes in Java — constructors, methods -access specifiers — static members -Comments, Data Types, Variables, Operators, Control Flow, Arrays , Packages — JavaDoc comments.

UNIT II INHERITANCE AND INTERFACES 9

Inheritance — Super classes- sub classes –Protected members — constructors in sub classes- the Object class — abstract classes and methods- final methods and classes — Interfaces — defining an interface, implementing interface, differences between classes and interfaces and extending interfaces — Object cloning -inner classes, Array Lists — Strings

UNIT III EXCEPTION HANDLING AND I/O 9

Exceptions — exception hierarchy — throwing and catching exceptions — built-in exceptions, creating own exceptions, Stack Trace Elements. Input / Output Basics — Streams — Byte streams and Character streams — Reading and Writing Console — Reading and Writing Files

UNIT IV MULTITHREADING AND GENERIC PROGRAMMING 9

Differences between multi-threading and multitasking, thread life cycle, creating threads, synchronizing threads, Inter-thread communication, daemon threads, thread groups. Generic Programming — Generic classes — generic methods — Bounded Types — Restrictions and Limitations.

UNIT V EVENT DRIVEN PROGRAMMING. 9

Graphics programming — Frame — Components — working with 2D shapes — Using color, fonts, and images — Basics of event handling — event handlers — adapter classes — actions — mouse events — AWT event hierarchy — Introduction to Swing — layout management — Swing Components — Text Fields , Text Areas — Buttons- Check Boxes — Radio Buttons — Lists- choices- Scrollbars — Windows – Menus — Dialog Boxes.

TOTAL: 45 PERIODS

SIGNATURE OF THE FACULTY IN-CHARGE

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Topic No	Topic Name	Books For reference	Page No	Teaching Methodology	No of periods required	Cumulativ periods
UNIT I	**INTRODUCTION TO OOP AND JAVA FUNDAMENTALS**					**(9)**
1.	Object Oriented Programming - Abstraction – objects and classes - Encapsulation- Inheritance - Polymorphism- OOP in Java – Characteristics of Java –	R1(chapter1) R1(chapter 2)	12-14	BB	1	1
2.	The Java Environment - Java Source File -Structure – Compilation	R1(chapter1) R1(chapter 2)	15-16	BB	1	2
3.	Fundamental Programming Structures in Java	R1(chapter1) R1(chapter 2)	10-13	BB	1	3
4.	Defining classes in Java – constructors, methods	R1(109-129)	33-56	BB	1	4
5.	Access specifiers - static members	R1(141-146)	57-77	BB	1	5
6.	Comments, Data Types, Variables, Operators	R1(32-50) R1(61-80)	105-107	BB	1	6
7.	Control Flow	R1(81-109)	109-110	BB	1	7
8.	Arrays	R1(51-58)	111-125	BB	1	8
9.	Packages - JavaDoc comments.	R1(187-196)	141-155	BB	1	9

LEARNING OUTCOME:

At the end of unit , the students will be able to

- Know the basics of Object Oriented Programming and its concepts.
- Understand the basic concepts of java.
- Able to define the classes, constructors, methods and access specifiers.

UNIT II	**INHERITANCE AND INTERFACES**					**(9)**
10	Inheritance – Super classes- sub classes	R1(161-187)	125-128	BB	1	10
11.	Protected members – constructors in sub classes- the Object class – abstract classes and methods	R1(161-187)	191-200	BB	1	11
12.	Final methods and classes	R1(161-187)	177-182	BB	1	12
13.	Interfaces – defining an interface, implementing interface	R1(196-207)	157-162	BB	1	13
14.	Differences between classes and interfaces and extending interfaces	Web Ref.	171	BB	1	14
15.	Object cloning, inner classes, Array Lists	R1(185-186, 149-152, 466-469)	176-177	BB	1	15
16.	Strings	R1(371-397)	177-181	BB	1	16

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17.	Array Lists	R1(185-186, 149-152, 466-469)	183-185	PPT	1	17
18.	Inner classes	R1(185-186, 149-152, 466-469)	190-192	BB	1	18

LEARNING OUTCOME:

At the end of unit , the students will be able to

- Understand the concept of Inheritance.
- Gain knowledge about Classes and Constructors.
- Understand the concept of Packages and importing packages.
- Able to define the concept of Array Lists and Strings

UNIT – III EXCEPTION HANDLING AND I/O

19.	Exceptions - exception hierarchy - throwing and catching exceptions	R1(207-225)	205-209	BB VIDEO	1	19
20.	Built-in exceptions-creating own exceptions	R1(207-225)	209-211	BB	1	20
21.	Stack Trace Elements	R2(587)	217-218	BB	1	21
22.	Input / Output Basics	R1(289-307)	223-224	BB	1	22
23.	Streams – Byte streams	R1(289-307)	228-232	PPT	1	23
24.	Character streams	R1(289-307)	236	BB	1	24
25.	Reading and Writing Console	R1(289-307)	238-242	BB	1	25
26.	Reading files	R1(289-307)	249	BB	1	26
27.	Writing files	R1(289-307)	254	BB	1	27

LEARNING OUTCOME:

At the end of unit , the students will be able to

- Gain knowledge about Exceptions.
- Gain knowledge on creating own exceptions.
- Understand the concepts of Threads and Multithreading.
- Understand the concept of Reading and Writing File.

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Topic No	Topic Name	Books For reference	Page No	Teaching Methodology	No of periods required	Cumulativ periods
UNIT I	**INTRODUCTION TO OOP AND JAVA FUNDAMENTALS**					**(9)**
1.	Object Oriented Programming - Abstraction – objects and classes - Encapsulation- Inheritance - Polymorphism- OOP in Java – Characteristics of Java –	R1(chapter1) R1(chapter 2)	12-14	BB	1	1
2.	The Java Environment - Java Source File -Structure – Compilation	R1(chapter1) R1(chapter 2)	15-16	BB	1	2
3.	Fundamental Programming Structures in Java	R1(chapter1) R1(chapter 2)	10-13	BB	1	3
4.	Defining classes in Java – constructors, methods	R1(109-129)	33-56	BB	1	4
5.	Access specifiers - static members	R1(141-146)	57-77	BB	1	5
6.	Comments, Data Types, Variables, Operators	R1(32-50) R1(61-80)	105-107	BB	1	6
7.	Control Flow	R1(81-109)	109-110	BB	1	7
8.	Arrays	R1(51-58)	111-125	BB	1	8
9.	Packages - JavaDoc comments.	R1(187-196)	141-155	BB	1	9

LEARNING OUTCOME:

At the end of unit , the students will be able to

- Know the basics of Object Oriented Programming and its concepts.
- Understand the basic concepts of java.
- Able to define the classes, constructors, methods and access specifiers.

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UNIT II	**INHERITANCE AND INTERFACES**					**(9)**
10	Inheritance – Super classes- sub classes	R1(161-187)	125-128	BB	1	10
11.	Protected members – constructors in sub classes- the Object class – abstract classes and methods	R1(161-187)	191-200	BB	1	11
12.	Final methods and classes	R1(161-187)	177-182	BB	1	12
13.	Interfaces – defining an interface, implementing interface	R1(196-207)	157-162	BB	1	13
14.	Differences between classes and interfaces and extending interfaces	Web Ref.	171	BB	1	14
15.	Object cloning, inner classes, Array Lists	R1(185-186, 149-152, 466-469)	176-177	BB	1	15
16.	Strings	R1(371-397)	177-181	BB	1	16

17.	Array Lists	R1(185-186, 149-152, 466-469)	183-185	PPT	1	17
18.	Inner classes	R1(185-186, 149-152, 466-469)	190-192	BB	1	18

LEARNING OUTCOME:

At the end of unit , the students will be able to

- Understand the concept of Inheritance.
- Gain knowledge about Classes and Constructors.
- Understand the concept of Packages and importing packages.
- Able to define the concept of Array Lists and Strings

UNIT – III EXCEPTION HANDLING AND I/O

19.	Exceptions - exception hierarchy - throwing and catching exceptions	R1(207-225)	205-209	BB VIDEO	1	19
20.	Built-in exceptions-creating own exceptions	R1(207-225)	209-211	BB	1	20
21.	Stack Trace Elements	R2(587)	217-218	BB	1	21
22.	Input / Output Basics	R1(289-307)	223-224	BB	1	22
23.	Streams – Byte streams	R1(289-307)	228-232	PPT	1	23
24.	Character streams	R1(289-307)	236	BB	1	24
25.	Reading and Writing Console	R1(289-307)	238-242	BB	1	25
26.	Reading files	R1(289-307)	249	BB	1	26
27.	Writing files	R1(289-307)	254	BB	1	27

LEARNING OUTCOME:

At the end of unit , the students will be able to

- Gain knowledge about Exceptions.
- Gain knowledge on creating own exceptions.
- Understand the concepts of Threads and Multithreading.
- Understand the concept of Reading and Writing File.

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UNIT IV MULTITHREADING AND I/O, GENERICS, STRING HANDLING, GENERIC PROGRAMMING						(9)
28.	Differences between multi-threading	R1(227-259)	285-288	BB	1	28
29.	Multitasking, thread life cycle	R1(227-259)	288-292	BB	1	29
30.	Creating threads, synchronizing threads	R1(227-259)	315-316	BB	1	30
31.	Inter-thread communication,	R1(227-259)	324-327	BB	1	31
32	Daemon threads	R1(227-259)	334	BB	1	32
33.	Thread groups	R1(227-259)	315-320	BB	1	33
34.	Generic Programming – Generic classes	R1(325-343)	354-356	BB	1	34
35.	Generic methods	R1(344-364)	362-365	BB	1	35
36	Bounded Types – Restrictions and Limitations	R1(365-370)	365	BB	1	36

LEARNING OUTCOME:

At the end of unit , the students will be able to

- Understand the concept Reading and Writing Files.
- Known about Generic Programming.

UNIT V	EVENT DRIVEN PROGRAMMING					(9)
37.	Graphics programming - Frame – Components -	R1(738-740, 749-766, 829-832)	676-682	BB VIDEO	1	37
38.	Working with 2D shapes - Using color, fonts, andimages	R1(738-740, 749-766, 829-832)	683-685	BB	1	38
39.	Basics of event handling - event handlers	R1(Chapter 23)	686-695	BB	1	39
40.	Adapter classes - actions - mouse evenAWT event hierarchy	R1(Chapter 23)	638-650	BB	1	40
41.	Introduction to Swing – layout management -	R1(Chapter 30 &31)	653-655,659-661	BB	1	41
42.	Swing Components – TextFields , Text Areas – Buttons- Check Boxes	Web ref.	748-754	BB	1	42
43.	Radio Buttons – Lists- choices-	R1(Chapter 30 &31)	859-864	BB	1	43
44.	Scrollbars –Windows	Web ref.	702-710	BB	1	44
45.	Menus – Dialog Boxes.	R1(Chapter 30 &31)	711-720	BB	1	45

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46.	Java Virtual Machine and Java Applet	W3	1-3	VIDEO	2	47

COURSE OUTCOME

At the end of the course, the student should be able to:

- Develop Java programs using OOP principles
- Develop Java programs with the concepts inheritance and interfaces
- Build Java applications using exceptions
- Develop JAVA applications using I/0 streams
- Develop Java applications with threads and generics classes
- Develop interactive Java programs using swings

CONTENT BEYOND SYLLABUS

1. Java Virtual Machine & Java Applet

INTERNAL ASSESSMENT DETAILS

ASSESMENT NUMBER	I	II	III
Units	Unit 1 &2	Unit 3 & 4	Unit 5

ASSIGNMENT DETAILS

ASSIGNMENT NUMBER	I	II	III
DATE OF SUBMISSION	07.09.18	17.09.18	26.09.18

ASSIGNMENT NUMBER	DESCRIPTIVE QUESTIONS/TOPIC (Minimum of 8 Pages)
I	i)Oops Concepts
	ii)Features Of Java
II	i)Nested And Inner Class
	ii)Interfaces Concepts
III	i)Multi Threaded Programming
	ii)Auto Boxing

PREPARED BY

BHUVANESWARI .G

APPROVED BY 27/06/18

VERIFIED By

VIJAY .R

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PUDUKKOTTAI DISTRICT

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DEPARTMENT OF INFORMATION TECHNOLOGY

Identification of Curricular Gap & Content Beyond Syllabus(CBS)

Name of the Faculty : G.BHUVANESHWARI
Course Code & Name:CS8392 & Object Oriented Programming
Degree & Program:B.E. /CSE Semester: III Academic Year: 2018 -2019 /ODD

I.Mapping of Course Outcomes with POs & PSOs.(before CBS)

Table.1 Mapping of COs, C, PSOs with POs - before CBS.

CO/PSO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C204.1	2	2	2	1	2	-	-	-	-	-	-	-	2	2	1
C204.2	2	2	2	1	2	-	-	-	-	-	-	-	2	2	1
C204.3	2	2	2	1	2	-	-	-	-	-	-	-	2	2	2
C204.4	3	2	2	2	2	-	-	-	-	-	-	-	2	2	2
C204.5	3	2	2	2	2	-	-	-	-	-	-	-	2	2	2
C204.6	2	2	2	2	-	-	-	-	-	-	-	-	1	1	1
CS8392	2.3	2.0	2.0	1.5	2.0	-	-	-	-	-	-	-	1.8	1.8	1.5

II. Identification of content beyond syllabus.

Table.2 Identification of content beyond syllabus

Details of Content Beyond Syllabus(CBS) added	POs strengthened/ vacant filled	CO/Unit
Java Virtual Machine and Java Applet	PO5(1) Vacant filled	C204.6/ V

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III. Mapping of Course Outcomes with POs & PSOs. (After CBS)

Table.3 Mapping of COs, C, PSOs with POs- after CBS.

CO/PSO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C205.1	2	2	2	1	2	-	-	-	-	-	-	-	2	2	1
C205.2	2	2	2	1	2	-	-	-	-	-	-	-	2	2	1
C205.3	2	2	2	1	2	-	-	-	-	-	-	-	2	2	2
C205.4	3	2	2	2	2	-	-	-	-	-	-	-	2	2	2
C205.5	3	2	2	2	2	-	-	-	-	-	-	-	2	2	2
C205.6	2	2	2	2	*2	-	-	-	-	-	-	-	1	1	1
CS8392	2.3	2.0	2.0	1.5	2.0	-	-	-	-	-	-	-	1.8	1.8	1.5

JVM (Java Virtual Machine) Architecture & Java Applet

1. Java Virtual Machine
2. Internal Architecture of JVM

JVM (Java Virtual Machine) is an abstract machine. It is a specification that provides runtime environment in which java byte code can be executed.

JVMs are available for many hardware and software platforms (i.e. JVM is platform dependent).

What is JVM

1. **A specification** where working of Java Virtual Machine is specified. But implementation provider is independent to choose the algorithm. Its implementation has been provided by Oracle and other companies.
2. **An implementation** Its implementation is known as JRE (Java Runtime Environment).
3. **Runtime Instance** Whenever you write java command on the command prompt to run the java class, an instance of JVM is created.

The JVM performs following operation:

- Loads code
- Verifies code
- Executes code
- Provides runtime environment

JVM provides definitions for the:

- Memory area
- Class file format
- Register set
- Garbage-collected heap
- Fatal error reporting etc.

JVM Architecture

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1) Classloader

Classloader is a subsystem of JVM which is used to load class files. Whenever we run the java program, it is loaded first by the classloader. There are three built-in classloaders in Java.

1. **Bootstrap ClassLoader**: This is the first classloader which is the super class of Extension classloader. It loads the *rt.jar* file which contains all class files of Java Standard Edition like java.lang package classes, java.net package classes, java.util package classes, java.io package classes, java.sql package classes etc.
2. **Extension ClassLoader**: This is the child classloader of Bootstrap and parent classloader of System classloader. It loades the jar files located inside *$JAVA_HOME/jre/lib/ext* directory.
3. **System/Application ClassLoader**: This is the child classloader of Extension classloader. It loads the classfiles from classpath. By default, classpath is set to current directory. You can change the classpath using "-cp" or "-classpath" switch. It is also known as Application classloader.

2) Class (Method) Area

Class (Method) Area stores per-class structures such as the runtime constant pool, field and method data, the code for methods.

3) Heap

It is the runtime data area in which objects are allocated.

4) Stack

Java Stack stores frames. It holds local variables and partial results, and plays a part in method invocation and return.

Java Applet

Applet is a special type of program that is embedded in the webpage to generate the dynamic content. It runs inside the browser and works at client side.

Advantage of Applet

There are many advantages of applet. They are as follows:

- It works at client side so less response time.
- Secured
- It can be executed by browsers running under many plateforms, including Linux, Windows, Mac Os etc.

Drawback of Applet

- Plugin is required at client browser to execute applet.

Hierarchy of Applet

As displayed in the above diagram, Applet class extends Panel. Panel class extends Container which is the subclass of Component.

Lifecycle of Java Applet

1. Applet is initialized.
2. Applet is started.
3. Applet is painted.

4. Applet is stopped.
5. Applet is destroyed.

Lifecycle methods for Applet:

The java.applet.Applet class 4 life cycle methods and java.awt.Component class provides 1 life cycle methods for an applet.

java.applet.Applet class

For creating any applet java.applet.Applet class must be inherited. It provides 4 life cycle methods of applet.

1. public void init(): is used to initialized the Applet. It is invoked only once.
2. public void start(): is invoked after the init() method or browser is maximized. It is used to start the Applet.
3. public void stop(): is used to stop the Applet. It is invoked when Applet is stop or browser is minimized.
4. public void destroy(): is used to destroy the Applet. It is invoked only once.

java.awt.Component class

The Component class provides 1 life cycle method of applet.

1. public void paint(Graphics g): is used to paint the Applet. It provides Graphics class object that can be used for drawing oval, rectangle, arc etc.

There are two ways to run an applet

1. By html file.
2. By applet Viewer tool (for testing purpose).

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Assignment Answer Paper

Name of the student: A daikkalaj ayasri.J

AU Register No: 912617104001

Assignment – 01			Dateof Issue:	03.09.18	Marks	10
Course code	CS8392	Course Title	OBJECT ORIENTED PROGRAMMING			
Year	II	Semester	III	Dateof Submission:	07.09.18	

Q.No	Answers	CO
1	Briefly explain about the OOPS Concepts.	C204.1

Mark Allocation

Rubrics	Marks Allocated	Marks obtained
Content Quality	6	6
Presentation Quality	2	1
Timely submission	2	2
Total marks	10	9

G.B

Signature of the Faculty Incharge

[G.BHUVANESHWARI]

HoD/CSE

[R.VIJAY]

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IQAC Academic Audit Form

ACADEMIC YEAR: 2018-2019 ODD SEMESTER

Name of Department :	CSE	Year / Sem :	II / III	No. of Students Registered :	22
Details of Examination :	CT - 1 / CT - 2 / CT - 3/ Model Test				

S.No.	Course Code	List of Reg.No Verified	Course Log Book Verified (Y / N)	Course File Verified (Y / N)	No of students Attended	No of Absentees	No of Failures	Pass %	Remarks
1.	MA8351	912617104002	Yes	Yes	22	01	14	36.3%	-
2.	CS8351	912617104006	Yes	Yes	22	01	00	100%	-
3.	CS8391	912617104012	Yes	Yes	22	01	07	68%	-
4.	CS8392	912617104019	Yes	Yes	22	01	05	77%	-
5.	EC8395	912617104701	Yes	Yes	22	01	04	81%	-
-	-	-	-	-	-	-	-	-	-

Verified by

External Member Name and Signature:	J. SATHIYARAJ
Internal Member Name and Signature:	G. SUGAPRIYA

Overall Remarks:

try to Improve the pass percentage in MA8351

HoD/ CSE

IQAC Coordinator 24/9/18

Principal

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

STUDENT FEEDBACK ON FACULTY

S.NO.	DESCRIPTION	SCORED OUT OF 4	SCORED OUT OF 100
1.	Syllabus coverage as prescribed by University.	3.9	97
2.	Technical knowledge of the Teacher.	3.6	90
3.	Teacher's communication skill.	4.0	100
4.	Regularity in taking classes.	4.0	100
5.	Helping the students in conducting the experiment through set of instructions and demonstrations.	3.5	87
6.	Tendency of inviting opinion and question on subject matter from students.	4.0	100
7.	Knowledge of the Teacher in latest development of field.	4.0	100
8.	Perfectness of Valuation.	3.4	85
	OVERALL SCORE	3.8	95

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REPORT SHEET

S .NO	REG.NO	NAME	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
1.	912617104001	ADAIKKALAJAYASRI J	4	3	4	4	4	4	4	3
2.	912617104002	AKILA S	4	3	4	4	4	4	4	3
3.	912617104003	BAVANI V	4	3	4	4	4	4	4	3
4.	912617104005	INDUMATHI S	4	4	4	4	4	4	4	3
5.	912617104006	KARTHIKA S	4	4	4	4	3	4	4	3
6.	912617104007	KAYATHRI K	4	4	4	4	3	4	4	3
7.	912617104008	MULLAIYARASI R	4	4	4	4	3	4	4	3
8.	912617104009	NISHADEVI G	4	4	4	4	3	4	4	3
9.	912617104010	PARAMESHWARI S	4	4	4	4	3	4	4	3
10.	912617104011	PERIYANAYAGI M	3	4	4	4	3	4	4	3
11.	912617104012	PRIYADARSHINI S	4	4	4	4	3	4	4	3
12.	912617104013	PRIYADHARSHINI C	4	4	4	4	3	4	4	4
13.	912617104014	PRIYATHARSHINI V	4	4	4	4	3	4	4	4
14.	912617104015	RIZWANA PARVEEN Z	4	4	4	4	3	4	4	4
15.	912617104017	SEETHALAKSHMI S	4	4	4	4	4	4	4	4
16.	912617104018	VAHINI D	4	4	4	4	4	4	4	4
17.	912617104019	VINOTHA P	4	3	4	4	4	4	4	4
18.	912617104301	JAYA PREETHA C	4	3	4	4	4	4	4	4
19.	912617104302	RAJA LAKSHMI R	3	3	4	4	3	4	4	4
20.	912617104303	SANGEETHA S	4	3	4	4	3	4	4	4
21.	912617104701	NAVINA N	4	3	4	4	3	4	4	4
		AVERAGE	**3.9**	**3.6**	**4.0**	**4.0**	**3.5**	**4.0**	**4.0**	**3.4**
		PERCENTAGE	**97**	**90**	**100**	**100**	**87**	**100**	**100**	**85**

FACULTY INCHARGE

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Circular Date: 18-07-2018

The first cycle test will be conducted on 28.07.2018, 30.07.2018 31.07.2018 & 01.08.2018 for the III, V & VII semester (II, III & IV year) students.

The following instructions are to be followed by the faculty members.

- Total marks for which the question paper to be set will be for 50 marks.
- It is the responsibility of the question paper setter to take the Xerox copies of the required number of question papers with the help of Mr. Pandi. S & Ms. Anusha. G and it should be handed over to the Exam Coordinator Mr. J. Sathyaraj A.P/ EEE on or before 26.07.2018.
- The Exam Coordinators (exam cell) are requested to make necessary arrangements (hall arrangements, invigilation duty etc.,) for conducting the test.
- Faculty members are requested to handover the valued answer scripts to the students on or before 02.08.2018 and the class in-charges are requested to send the consolidated mark sheet along with the attendance percentage to the parents on or before 03-08-2018.

PRINCIPAL 18/07/18

Cc:
- All faculty
- Exam cell
- Office file

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Circular

Date: 18-07-2018

The first cycle test will be conducted on 28.07.2018, 30.07.2018 31.07.2017 & 01.08.2018 for the III semester (II year) B.E/ B.Tech students for 50 marks as per the time table given below. Students are directed to prepare well and score good marks.

Date	10.00 am -11.30 am	2.30 pm -4.00 pm
28.07.2018	**CE8302** Fluid Mechanics **(Civil)** **EE8351** Digital Logic Circuits **(EEE)** **EC8391** Control Systems Engineering **(ECE)** **COACHING (CSE & IT)**	**CE8392** Engineering Geology**(Civil)** **CS8392** Object Oriented Programming **(CSE&IT)** **ME8792** Power Plant Engineering **(EEE)** **EC8351**Electronic Circuits- I**(ECE)**
30.07.2018	**CE8351**Surveying **(Civil)** **CS8391** Data Structures **(CSE & IT)** **EC8353** Electronic Devices and Circuits **(EEE)** **EC8392** Digital Electronics **(ECE)**	**CE8391** Construction Materials **(CIVIL)** **EC8395** Communication Engineering **(CSE)** **EC8394** Analog and Digital Communication **(IT)** **EE8301** Electrical Machines - I **(EEE)** **EC8393** Fundamentals of Data Structures In C **(ECE)**
31.07.2018	**COACHING**	**MA8353** Transforms and Partial Differential Equations **(Civil, EEE)** **MA8351** Discrete Mathematics **(CSE & IT)** **MA8352** Linear Algebra and Partial Differential Equations **(ECE)**
01.08.2018	**COACHING**	**CE8301** Strength of Materials I **(Civil)** **CS8351** Digital Principles and System Design **(CSE & IT)** **EE8391** Electromagnetic Theory **(EEE)** **EC8352** Signals and Systems **(ECE)**

PRINCIPAL 18/7/18

Cc:

- All II year B.E / B.Tech Classes
- All faculty
- Exam cell
- Notice Board
- Office file

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Register Number: | | | | | | | | | | | | |

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CYCLE TEST – I			Date/Session	28.07.2018	Marks	50
Course code	CS8392	Course Title	OBJECT ORIENTED PROGRAMMING			
Regulation	2017	Duration	90 Minutes	Academic Year	2018-2019	
Year	II	Semester	III	Department	CSE	

COURSE OUTCOMES

C204.1:	Develop Java programs using OOP principles
C204.2:	Develop Java programs with the concepts inheritance and interfaces
C204.3:	Build Java applications using exceptions and I/O streams
C204.4:	Develop Java applications with threads
C204.5:	Develop Java applications with generics classes
C204.6:	Develop interactive Java programs using swings

Q.No.	Question		CO	BTS
	PART A **(Answer all the Questions 7 x 2 = 14 Marks)**			
1	Define Object Oriented Programming paradigms		C204.1	K1
2	What are the concepts of OOPS?		C204.1	K1
3	Define Object and Object variable.		C204.2	K2
4	What is the purpose of Default constructor?		C204.2	K1
5	Define static methods.		C204.2	K1
6	What is meant by abstract classes?		C204.1	K1
7	What is the use of extend keyword?		C204.2	K1
	PART B **(Answer all the Questions 2 x 13 = 26 Marks)**			
8a	Explain in detail about the Object Oriented concepts.	(13)	C204.1	K4
	(OR)			
8b	Explain Control statements with suitable example.	(13)	C204.1	K4
9a	Explain the concepts of Operators with an example.	(13)	C204.2	K1
	(OR)			
9b	Explain how Interface is implemented in java with a suitable example.	(13)	C204.2	K4
	PART C **(Answer all the Questions 1 x 10 = 10 Marks)**			
10a	Describe about classes in java and programming structure in java with examples.	(10)	C204.2	K2
	(OR)			
10b	Explain constructor methods with suitable example.	(10)	C204.2	K2

Course Faculty
(Name /Sign / Date)
[G.BHUVANESHWARI]

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HoD
(Name /Sign / Date)
[R.VIJAY]
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CYCLE TEST I ANSWER KEY

Subject Code : CS8392
Subject Name: Object Oriented Programming
Year /Sem : II/III

PART-A

1. Define Object Oriented Programming paradigms.
   Object-oriented programming is a programming paradigm based on the concept of "objects", which can contain data and code
2. What are the concepts of OOPS?

- Objects
- Classes
- Data Abstraction

3. Define Object and Object variable.
   The Object is the instance itself, whereas the Object Variable is the reference to the Object.
4. What is the purpose of default constructor?
   The purpose of constructor is to initialize the object of a class while the purpose of a method is to perform a task by executing java code.
5. Define static methods.
   Static methods are also similar to static variables, you can access them with reference to class name, without creating object.
6. What is meant by abtract classes?
   In Java, we can have an abstract class without any abstract method. This allows us to create classes that cannot be instantiated, but can only be inherited.
7. What is the use of extend keyword?
   The extend keyword is used in java. When the child class is derived from parent class then the keyword extend is used.

PART B

8.a Explain in detail about the Object Oriented concepts.

Object-oriented programming is a programming paradigm based on the concept of "objects", which can contain data and code: data in the form of fields, and code, in the form of procedures. A common feature of objects is that procedures are attached to them and can access and modify the object.

- Objects
- Classes

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- Data Abstraction
- Data Encapsulation
- Inheritance
- Polymorphism
- Message Passing
- Dynamic Binding

8.b Explain control statements with suitable example.

Decision-making statements decide which statement to execute and when. Decision-making statements evaluate the Boolean expression and control the program flow depending upon the result of the condition provided. There are two types of decision-making statements in Java, i.e., If statement and switch statement.

9.a Explain the concepts of operators with an example.

Operators in Java are the symbols used for performing specific operations in Java. Operators make tasks like addition, multiplication, etc which look easy although the implementation of these tasks is quite complex

9.b Explain how Interface is implemented in java with a suitable example.

An Interface in Java programming language is defined as an abstract type used to specify the behavior of a class. An interface in Java is a blueprint of a behaviour. A Java interface contains static constants and abstract methods.

10.a Describe about classes in java and programming structure in java with examples.

Java is an object-oriented programming language.Everything in Java is associated with classes and objects, along with its attributes and methods. For example: in real life, a car is an object. The car has **attributes**, such as weight and color, and **methods**, such as drive and brake.A Class is like an object constructor, or a "blueprint" for creating objects.

10.b Explain constructor methods with suitable example.

In Java, a constructor is a block of codes similar to the method. It is called when an instance of the class is created. At the time of calling constructor, memory for the object is allocated in the memory.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ACADEMIC YEAR 2018 – 2019 (ODD SEMESTER)

STUDENTS MARK STATEMENT- CO BASED CYCLE TEST-I

SUBJECT CODE &TITLE: CS8392 – OBJECT ORIENTED PROGRAMMING

YEAR/SEM: II YEAR & III SEMESTER **MONTH & YEAR: JULY 2018**

S.NO	REG NO	STUDENT NAME	CO1 (19)	CO2 (31)	TOTAL (50)	TOTAL (100)
1.	912617104001	ADAIKKALAJAYASRI J	15	24	39	78
2.	912617104002	AKILA S	14	31	45	90
3.	912617104003	BAVANI V	18	30	48	95
4.	912617104004	DHANALAKSHMI S	19	21	40	79
5.	912617104005	INDUMATHI S	14	29	43	85
6.	912617104006	KARTHIKA S	10	27	37	73
7.	912617104007	KAYATHRI K	18	20	38	76
8.	912617104008	MULLAIYARASI R	19	28	47	93
9.	912617104009	NISHADEVI G	11	10	21	42
10.	912617104010	PARAMESHWARI S	18	20	38	76
11.	912617104011	PERIYANAYAGI M	15	24	39	77
12.	912617104012	PRIYADARSHINI S	19	21	40	79
13.	912617104013	PRIYADHARSHINI C	19	21	40	80
14.	912617104014	PRIYATHARSHINI V	14	29	43	85
15.	912617104015	RIZWANA PARVEEN Z	18	30	48	95
16.	912617104017	SEETHALAKSHMI S	12	11	23	46
17.	912617104018	VAHINI D	16	30	46	91
18.	912617104019	VINOTHA P	14	29	43	85
19.	912617104301	JAYA PREETHA C	15	26	41	81
20.	912617104302	RAJA LAKSHMI R	15	24	39	78
21.	912617104303	SANGEETHA S	15	28	43	86
22	912617104701	NAVINA N	19	20	39	77

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MARKS RANGE:

<20	20-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
0	0	0	02	0	0	10	06	04

Total No.of Candidates Present	**22**
Total No.of Candidates Absent	**00**
Total No.of Students Pass	**20**
Total No. of Students Fail	**02**
Percentage of Pass	**90%**

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PUDUKKOTTAI DISTRICT

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ROOT CAUSE ANALYSIS

Name of the Faculty : G. BHUVANESHWARI
Degree & Program : BE / CSE
IA Test : I / II / III / Model
Target : 100. %

Course Code & Name : CS P392 object oriented programming
Semester & Section : III / Semester – II year.
University Exam/Month & Year:
Achieved : 90. %

S.NO	BATCH NO	NAME OF THE STUDENT	CAUSES FOR FAILURE	CORRECTIVE ACTION TAKEN	PREVENTIVE ACTION TAKEN	FOLLOWUP STATUS
1.	912617104009	Nisha devi . G	ABSENT	Advised to attend the exam without fail	Informed to the parents.	Daily attendance has been followed.
2.	912617104017	Seethalakshmi.S	Not study well because of illness.	Inform to parents, advised to take Daily test at home.	Daily test.	important programs has given assignment

G.Bhuvi

SIGNATURE OF THE FACULTY N-CHARGE

Dr. S.THILAGAVATHI M.E.,Ph.D.,
PRINCIPAL
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
Kaikkurichi - 622 303, Pudukkottai Dt.

HoD/CSE

HOD/ CSE
SRI BHARATHI ENGINEERING
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KAIKKURICHI,
PUDUKKOTTAI - 622 303

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN
KAIKKURICHI, PUDUKKOTTAI – 622 303.

Circular Date: 03.08.2018

Retest for first cycle test will be conducted from **06.08.2018 to 11.08.2018** for the III, V and VII semester (II, III & IV year) students.

The following instructions are to be followed by the faculty members.

The following instructions are to be followed by the faculty members.

- Total marks for which the question paper to be set will be for 50 marks. **(PART A** 5X2=10, **PART B** 2X13=26 **& PART C** 1X14=14)
- It is the responsibility of the **question paper** setter to take the Xerox copies of the required number of question papers.
- Concerned Faculty members are requested to conduct the examination as per the scheduled and handover the valued answer scripts to the students on or before **13.08.2018.**

PRINCIPAL

03/08/18

Cc:

- All faculty
- Exam cell
- Office file

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SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN
KAIKKURICHI, PUDUKKOTTAI – 622 303.

Circular

Date: 03.08.2018

Retest for first cycle test will be conducted from **06.08.2018 to 11.08.2018** for the III semester (II year) B.E students for **50 marks** as per the time table given below. Students are directed to prepare well and score good marks.

Date	04.00 pm -05.30 pm
06.08.2018	MA8353-Transforms and Partial Differential Equations (CIVIL/EEE) EC8393-Fundamentals of Data Structures in C (ECE) EC8395-Communication Engineering(CSE) EC8394-Analog and Digital Communication(IT)
07.08.2018	CE8391-Construction Materials (CIVIL) EC8351-Electronic Circuits I (ECE) ME8792-Power Plant Engineering (EEE)
08.08.2018	CE8301-Steength of Materials-I (CIVIL) CS8351-Digital Principles and System Design (CSE/IT) EC8352- Signals and Systems (ECE) EC8353-Electron Devices and Circuits(EEE)
09.08.2018	CE8351-Surveying(CIVIL) CS8391-Data Structures-(CSE/IT) EC8391-Control System Engineering (ECE) EE8301-Electrical Machines-I(EEE)
10.08.2018	CE8392-Engineering Geology (CIVIL) CS8392-Object Oriented Programming(CSE/IT) EC8392-Digital Electronics (ECE) EE8391-Electromagnetic Theory(EEE)
11.08.2018	CE8302-Fluids Mechanics(CIVIL) MA8351-Discrete Mathematics (CSE/IT) MA8352- Linear Algebra and Partial Differential Equations (ECE) EE8351-Digital Logic Circuits(EEE)

PRINCIPAL

03/08/18

Cc:

- All II year B.E Classes
- All faculty
- Exam cell
- Notice Board
- Office file

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Register Number: | | | | | | | | | | | | |

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi and affiliated to Anna University, Chennai)
Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

CYCLE TEST – I (RETEST)			Date/Session	28.07.2018	Marks	50
Course code	CS8392	Course Title	OBJECT ORIENTED PROGRAMMING			
Regulation	2017	Duration	90 Minutes	Academic Year	2018-2019	
Year	II	Semester	III	Department	CSE	

COURSE OUTCOMES

C204.1:	Develop Java programs using OOP principles
C204.2:	Develop Java programs with the concepts inheritance and interfaces
C204.3:	Build Java applications using exceptions and I/O streams
C204.4:	Develop Java applications with threads
C204.5:	Develop Java applications with generics classes
C204.6:	Develop interactive Java programs using swings

Q.No.	Question		CO	BTS
	PART A **(Answer all the Questions 7 x 2 = 14 Marks)**			
1	What is the use of extend keyword?		C204.2	K1
2	Define static methods.		C204.2	K1
3	Define Object Oriented Programming.		C204.1	K2
4	Define Object and Object variable.		C204.2	K1
5	What are the concepts of OOPS?		C204.1	K1
6	What is meant by abstract classes?		C204.2	K1
7	What is the purpose of Default constructor?		C204.2	K1
	PART B **(Answer all the Questions 2 x 13 = 26 Marks)**			
8a	Explain decision making statements with suitable example.	(13)	C204.1	K4
	(OR)			
8b	Explain in detail about the Object Oriented concepts.	(13)	C204.1	K4
9a	Explain inheritance and interface in java.	(13)	C204.2	K1
	(OR)			
9b	Explain how Interface is implemented in java with a suitable example.	(13)	C204.2	K4
	PART C **(Answer all the Questions 1 x 10 = 10 Marks)**			
10a	Describe about classes and objects in java and programming structure in java with examples.	(10)	C204.2	K2
	(OR)			
10b	Explain constructor methods with suitable example.	(10)	C204.2	K2

Course Faculty
(Name/Sign / Date)
[G.BHUVANESHWARI]

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HoD
(Name /Sign / Date)
[R.VIJAY]

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SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

KAIKKURICHI, PUDUKKOTTAI – 622 303

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ACADEMIC YEAR 2020-2021 (ODD SEMESTER)

INTERNAL MARK STATEMENT (OUT OF 20)

SUBJECT CODE &TITLE: CS8392 OBJECT ORIENTED PROGRAMMING
YEAR/SEM: II/III

S.NO	REG NO	STUDENT NAME	TOTAL (20)
1.	912617104001	ADAIKKALAJAYASRI J	16
2.	912617104002	AKILA S	18
3.	912617104003	BAVANI V	19
4.	912617104004	DHANALAKSHMI S	15
5.	912617104005	INDUMATHI S	17
6.	912617104006	KARTHIKA S	15
7.	912617104007	KAYATHRI K	16
8.	912617104008	MULLAIYARASI R	19
9.	912617104009	NISHADEVI G	15
10.	912617104010	PARAMESHWARI S	16
11.	912617104011	PERIYANAYAGI M	15
12.	912617104012	PRIYADARSHINI S	15
13.	912617104013	PRIYADHARSHINI C	17
14.	912617104014	PRIYATHARSHINI V	17
15.	912617104015	RIZWANA PARVEEN Z	19
16.	912617104017	SEETHALAKSHMI S	15
17.	912617104018	VAHINI D	18
18.	912617104019	VINOTHA P	17
19.	912617104301	JAYA PREETHA C	17
20.	912617104302	RAJA LAKSHMI R	16
21.	912617104303	SANGEETHA S	18
22.	912617104701	NAVINA N	17

SIGNATURE OF THE FACULTY IN-CHARGE **HoD/CSE** **PRINCIPAL**

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PUDUKKOTTAI - 622 303

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KAIKKURICHI - 622 303.
PUDUKKOTTAI DISTRICT

Dr. S.THILAGAVATHI M.E.,Ph.D.,
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SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN,KAIKURUCHI,PUDUKKOTTAI

Department of Computer Science and Engineering

Internal Assessment -Attainment of Course Outcomes (Through Direct Assessment)

ACADEMIC YEAR - 2018 - 19		BATCH	2017 - 2021
COURSE CODE/TITLE	CS8392 (C204)/OBJECT ORIENTED PROGRAMMING	COURSE OUTCOME	1 2 3 4 5 6
YEAR/SEM	II/III	TARGET(%)	65 65 65 65 65 65
COURSE COORDINATOR	G.BHUVANESHWARI,AP/CSE	TOTAL STRENGTH	22

ATTAINMENT LEVEL	Level	Range
	1	UP TO 60% of the students scored more than target
	2	61 - 79% of the students scored more than target
	3	80% & ABOVE of the students scored more than target

S.NO	REG NO	NAME OF THE STUDENT	IAT 1 - MARKS ALLOTED						IAT 2 - MARKS ALLOTED						IAT 3 - MARKS ALLOTED						Assignment / Mini Project /Tutorial / Seminar						TOTAL COURSE OUTCOME					
			C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6
			60	40							40	60							60	40		10	10			10	60	50	50	60	60	50
1	912617104001	ADAIKKALAJAYASRI J	47	31							30	46							54	36		8	8			8	47	39	38.4	46	54	44
2	912617104002	AKILA S	54	36							39	58							59	40		8	8			7	54	44	46.8	58	59.4	46.6
3	912617104003	BAVANI V	57	38							40	60							59	40		9	9			8	57	47	49	60	59.4	47.6
4	912617104004	DHANALAKSHMI S	47	32							31	47							53	35		7	9			8	47	39	40.2	47	52.8	43.2
5	912617104005	INDUMATHI S	51	34							37	56							55	36		8	8			9	51	42	45.2	56	54.6	45.4
6	912617104006	KARTHIKA S	44	29							30	44							54	36		8	7			9	44	37	36.6	44	54	45
7	912617104007	KAYATHRI K	45	30							33	50							53	35		8	8			9	45	38	41.2	50	52.8	44.2
8	912617104008	MULLAIYARASI R	56	37							39	58							61	40		9	8			9	56	46	46.8	58	60.6	49.4
9	912617104009	NISHADEVI G	44	29							32	48							53	36		9	9			9	44	38	41	48	53.4	44.6
10	912617104010	PARAMESHWARI S	46	30							40	59							54	36		8	9			8	46	38	48.6	59	54	44
11	912617104011	PERIYANAYAGI M	46	31							29	44							53	36		8	8			8	46	39	37.2	44	53.4	43.6
12	912617104012	PRIYADARSHINI S	47	32							31	47							53	36		8	9			8	47	40	40.2	47	53.4	43.6
13	912617104013	PRIYADHARSHINI C	48	32							35	52							56	37		9	9			8	48	41	43.8	52	55.8	45.2
14	912617104014	PRIYATHARSHINI V	51	34							36	53							56	38		9	9			8	51	43	44.6	53	56.4	45.6
15	912617104015	RIZWANA PARVEEN Z	57	38							40	61							58	39		8	9			9	57	46	49.4	61	58.2	47.8
16	912617104017	SEETHALAKSHMI S	43	28							30	44							53	35		8	9			9	43	36	38.6	44	52.8	44.2

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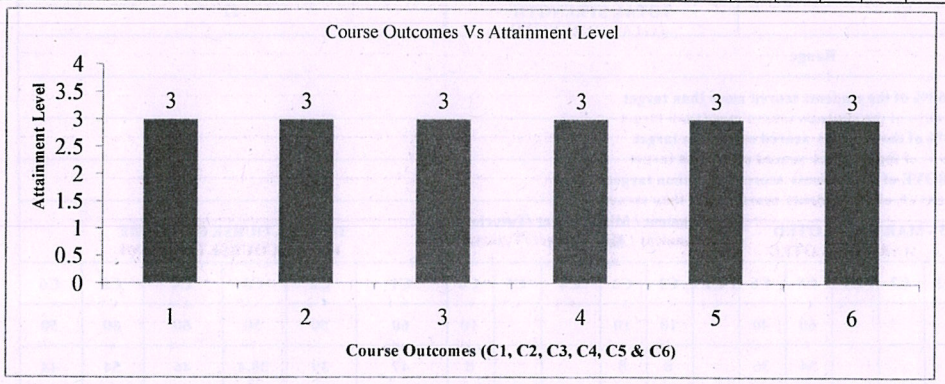
17	912617104018	VAHINI D	55	36							34	52							58	39		8	8			8	55	44	42.4	52	58.2	46.8
18	912617104019	VINOTHA P	51	34							36	53							58	38		8	8			7	51	42	43.6	53	57.6	45.4
19	912617104301	JAYA PREETHA C	49	32							32	49							59	39		8	8			8	49	40	40.4	49	58.8	47.2
20	912617104302	RAJA LAKSHMI R	47	31							33	49							55	36		7	7			8	47	38	39.8	49	54.6	44.4
21	912617104303	SANGEETHA S	51	34							41	61							61	40		8	8			9	51	42	48.8	61	60.6	49.4
22	912617104701	NAVINA N	46	31							35	53							59	40		9	9			9	46	40	44.2	53	59.4	48.6

CO's Target Value	39.0	32.5	32.5	39.0	39.0	32.5
No. of Students scored above CO's Target Value	22	22	22	22	22	22
Percentage of Students scored above Target	100.0	100.0	100.0	100.0	100.0	100.0
CO Attainment	3	3	3	3	3	3
CO attainment Values to plot the Graph	3	3	3	3	3	3



Faculty Incharge

HOD/CSE

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SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN,KAIKURUCHI,PUDUKKOTTAI

DEPARTMENT OF CSE

COURSE OUTCOME ATTAINMENT - UNIVERSITY EXAMINATION

ACADEMIC YEAR : 2018 - 2019 (ODD SEM)

YEAR/SEM: II/III **Batch:2017-2021**

SUBJECT :CS8392 (C204)/OBJECT ORIENTED PROGRAMMING

CO Attainment Level: 1 - (UPTO 60%) 2- (61%-79%) 3-(80% and Above)

TOTAL STRENGTH : 22

S.NO	Register No	NAME	Univ. Grade
1	912617104001	ADAIKKALAJAYASRI J	B+
2	912617104002	AKILA S	B+
3	912617104003	BAVANI V	A+
4	912617104004	DHANALAKSHMI S	B
5	912617104005	INDUMATHI S	B+
6	912617104006	KARTHIKA S	B
7	912617104007	KAYATHRI K	B
8	912617104008	MULLAIYARASI R	B+
9	912617104009	NISHADEVI G	B+
10	912617104010	PARAMESHWARI S	B+
11	912617104011	PERIYANAYAGI M	B+
12	912617104012	PRIYADARSHINI S	U
13	912617104013	PRIYADHARSHINI C	B
14	912617104014	PRIYATHARSHINI V	A+
15	912617104015	RIZWANA PARVEEN Z	A+
16	912617104017	SEETHALAKSHMI S	B
17	912617104018	VAHINI D	B
18	912617104019	VINOTHA P	B+
19	912617104301	JAYA PREETHA C	B+
20	912617104302	RAJA LAKSHMI R	B
21	912617104303	SANGEETHA S	B+
22	912617104701	NAVINA N	B

No. of O Grade	0	0
No. of A+ Grade	3	3
No. of A Grade	0	0
No.of B+ Grade	10	10
No. of B Grade	8	8
No. of U Grade	1	1
No. of UA Grade	0	0
Target for course outcome Attainment	60	22
No of students above the target	21	
CO-Attainment University (%)	95.45	

Faculty

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Overall Attainment Sheet – COs - POs & PSOs attainment calculation

CO	CO-Attainment Internal (CO-INT) (Avg. Attainment of All section) (%)	CO-Attainment University (CO-UNI) (Avg. Attainment of All section) (%)	Direct CO Attainment (0.20xCO-INT + 0.80xCO-UNI) (%)	CO Attainment Level
C204.1	100.0	95.45	96.4	3
C204.2	100.0	95.45	96.4	3
C204.3	100.0	95.45	96.4	3
C204.4	100.0	95.45	96.4	3
C204.5	100.0	95.45	96.4	3
C204.6	100.0	95.45	96.4	3

Closure of the Quality Loop:

CO	CO-Target for Academic Year						CO Attainment Gap	Action Proposed to
	14-15		15-16		16-17			
C204.1	65	79.71	65	69	65	96.4	-	-
C204.2	65	79.71	65	71.17	65	96.4	-	-
C204.3	65	79.71	65	63.15	65	96.4	-	-
C204.4	65	79.71	65	75.11	65	96.4	-	-
C204.5	65	79.71	65	73.57	65	96.4	-	-
C204.6	65	79.71	65	68.44	65	96.4	-	

Expected CO-PO Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C204.1	2	2	2	2	1	-	-	-	-	-	-	-	2	2	1
C204.2	2	2	2	2	1	-	-	-	-	-	-	-	2	2	1
C204.3	2	2	2	2	1	-	-	-	-	-	-	-	2	2	2
C204.4	3	2	2	2	2	-	-	-	-	-	-	-	2	2	2
C204.5	3	2	2	2	2	-	-	-	-	-	-	-	2	2	2
C204.6	2	2	2	2	2	-	-	-	-	-	-	-	1	1	1
C204	2.3	2	2	2	2.5	-	-	-	-	-	-	-	1.8	1.8	1.5

PO Attainment Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C204.1	2	2	2	2	1	-	-	-	-	-	-	-	2	2	1
C204.2	2	2	2	2	1	-	-	-	-	-	-	-	2	2	1
C204.3	2	2	2	2	1	-	-	-	-	-	-	-	2	2	2
C204.4	3	2	2	2	2	-	-	-	-	-	-	-	2	2	2
C204.5	3	2	2	2	2	-	-	-	-	-	-	-	2	2	2
C204.6	2	2	2	2	2	-	-	-	-	-	-	-	1	1	1
C204	2.33	2	2	2	1.5	-	-	-	-	-	-	-	1.83	1.83	1.5

Attainment of POs and PSOs:

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C204	2.3	2	2	2	2.5	-	-	-	-	-	-	-	1.8	1.8	1.5
Attainment	2.33	2	2	2	1.5	-	-	-	-	-	-	-	1.83	1.83	1.5

Comments by Program Coordinator	1. 2.
Remarks by HoD	

Name and Signature of the Faculty Member

G. Bhuvaneshwari

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