



Course Plan
For
ADVANCED PROGRAMMING IN C++ AND JAVA


II B. Tech(CSE)

I SEMESTER

ACADEMIC YEAR

2015-16

Dr. SURESH DARA
Associate Professor


	COURSE PLAN	2015-16
		Regulation: R13

FACULTY DETAILS:

Name of the Faculty:: Dr. D SURESH
 Designation: Associate Professor
 Department:: IT

COURSE DETAILS

Name Of The Programme::	B.Tech	Batch::	2014
Designation::	II-B.Tech		
Year	2015-16	Semester	II
Department::	IT		
Title of The Subject	ADVANCED PROGRAMMING USING C++ AND JAVA	Subject Code	58037
No of Students	60		

	COURSE PLAN	2015-16
		Regulation: R14

2015-16

1. TARGET

- a) Percentage Pass: 100%
- b) Percentage I class 60%

2. COURSE PLAN

(Please write how you intend to cover the contents: i.e., coverage of Units by lectures, guest lectures, design exercises, solving numerical problems, demonstration of models, model preparation, or by assignments, etc.)

- | | |
|------------------------|----------------------------|
| 1. More no of Examples | 3. Tests |
| 2. Assignments | 4. Best utilization of lab |

3. METHOD OF EVALUATION

- 3.1. Continuous Assessment Examinations (CAE 1, CAE 2)
- 3.2. Assignments / Seminars
- 3.3. Mini Projects
- 3.4. Quiz
- 3.5. Term End Examination
- 3.6. Others

4. List out any new topic(s) or any innovation you would like to introduce in teaching the subject in this Semester.

- Making the students to think beyond languages and making them understand that C++ and JAVA is a paradigm that helps manage complexity involved in software.

Signature of HOD
Date:

Signature of Faculty
Date:



GUIDELINES TO STUDY THE SUBJECT

2015-16

Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: DR. D SURESH
Designation: Associate Professor
Department:: IT

Guidelines for Preparing the Course:

Course Description:

This course introduces computer programming using the C++ AND JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre major and/or elective course requirement.

Course Objectives:

1. Understanding the fundamentals of programming such as variables condition and iterative executions, methods, etc.
2. Understanding the fundamentals of object oriented programming in java, including defining classes, invoking methods, using class libraries, etc.
3. Fine knowledge on important topics and principles of software development.
4. Developing the ability to write a program to solve specified problem.
5. Be able to use C++ and JAVA SDK environment to create, debug and run simple JAVA programs

Learning Outcomes:

1. Design, create, build, and debug C++ and JAVA applications.
2. Apply algorithmic thinking to solve programming problems.
3. Implement syntax rules in JAVA programs.
4. Explain variables and data types used in program development.
5. Apply arithmetic operations for displaying numeric output.
6. Write and apply decision structures for determining different operations.
7. Write and apply loop structures to perform repetitive tasks.
8. Write user-defined methods.
9. Identify and implement arrays, array lists, and multidimensional arrays.
10. Write C++ and JAVA programs using object-oriented programming techniques including classes, objects, methods, instance variables, composition, inheritance, and polymorphism.
11. Write programs using graphical user interface (GUI) components and JAVA's Event Handling model



COURSE OBJECTIVES

2015-16

Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: Dr. D SURESH
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 Department: IT

On completion of this Subject / Course the student shall be able to:

S.No.	Objectives	Outcomes
1	Students learn to C++ Overview- Concepts of Classes ,Objects, C++ Programming Structure, Constructors and destructors, parameter passing methods, method and Constructor Over Loading, Inline functions, static class members, this pointer, friend functions, Operator Overloading, Generic Programming- Function and class templates, I/O Streams.	
2	Students should get knowledge on Java History – Features of java, java Programming Structure, Java Tokens, Constants, Variables, Expressions, Overview of arrays and strings, Concept of Classes ,objects, accessing class members, constructors ,overloading of methods and constructors, This ,static members, String Buffer class, Wrapper classes, Command Line Arguments.	
3.	Students should get knowledge on Inheritance and Interfaces: Defining a sub class, inheritance types, sub class constructor, Final, super, Runtime polymorphism in java, runtime polymorphism using virtual functions in C++. Abstract methods and classes, visibility control, Defining Interfaces, extending interfaces, implementing interfaces. Packages: Defining, Creating and Accessing a Package, Understanding CLASSPATH, importing packages, Exploring java.io, java.util	
4	Students should get knowledge on Exception Handling and Multithreaded Programming: Types of errors-Compile time and Run time errors, Exceptions, Types of Exceptions, Syntax of Exception handling code, Multiple catch statements, Using finally statement, Throwing our own exceptions. Introduction to threads: Creating Threads, life cycle of a thread, Thread priority, synchronization, and daemon Threads	
5	Students should get knowledge on Applet Programming: Introduction, how applet differ from applications, building applet code, applet life cycle, passing parameters to applets. Event Handling: Events, Event sources, Event classes, Event Listeners, Delegation event model, handling mouse and keyboard events, Adapter classes. Swing – Introduction, components, containers, exploring swing- JApplet, JFrame and JComponent, Icons and Labels, text fields, buttons – The	

JButton class, Check boxes, Radio buttons, Combo boxes, Tabbed Panes, Scroll Panes, Trees, and Tables.
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Signature of Faculty

Date:

Note: For each of the OBJECTIVE indicate the appropriate OUTCOMES to be achieved.
Kindly refer Page 16, to know the illustrative verbs that can be used to state the objectives.



COURSE OUTCOMES

2015-16

Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: Dr. D SURESH
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 Department:: IT

The expected outcomes of the Course / Subject are:

S.No.	General Categories of Outcomes	Specific Outcomes of the Course
A.	An ability to apply knowledge of mathematics, science, and engineering	
B.	An ability to design and conduct experiments, as well as to analyze and interpret data	
C.	An ability to design a system, component, or process to meet desired needs within realistic Constraints such as economic, environmental, social, political, ethical, health and safety, Manufacturability and sustainability	
D.	An ability to function on multi-disciplinary teams	
E.	An ability to identify, formulate, and solve engineering problems	
F.	An understanding of professional and ethical responsibility	
G.	An ability to communicate effectively	
H.	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
I.	A recognition of the need for, and an ability to engage in life-long learning	
J.	A knowledge of contemporary issues	
K.	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	

Objectives – Outcome Relationship Matrix (Indicate the relationships by ☒ mark).

Objectives \ Outcomes	A	B	C	D	E	F	G	H	I	J	K
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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COURSE SCHEDULE

2015-16

Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: Dr. D SURESH
 Designation: Associate Professor
 Department: IT

The Schedule for the whole Course / Subject is:: 62

S. No.	Topic	Duration (Date)		Total No. of Periods
		From	To	
1.	Concepts of Classes Objects, C++ Programming Structure, Constructors and destructors, parameter passing methods, method and Constructor Overloading, Inline functions, static class members, this pointer, friend functions, Operator Overloading, Generic Programming- Function and class templates, I/O Streams.	29-06-2015	07-08-2015	18
2	Java Language : Java History – Features of java, java Programming Structure, Java Tokens, Constants, Variables, Expressions, Overview of arrays and strings, Concept of Classes ,objects, accessing class members, constructors ,overloading of methods and constructors, This ,static members, String Buffer class, Wrapper classes, Command Line Arguments.	08-07-2015	22-08-2015	12
3.	Interfaces: Defining a sub class, inheritance types, sub class constructor, Final, super, Runtime polymorphism in java, runtime polymorphism using virtual functions in C++. Abstract methods and classes, visibility control, Defining Interfaces, extending interfaces, implementing interfaces. Packages: Defining, Creating and Accessing a Package, Understanding CLASSPATH, importing packages, Exploring java.io, java.util	31-08-2015	08-09-2015	10
4.	Standard and Multithreaded Programming: Types of errors- Compile time and Run time errors, Exceptions, Types of Exceptions, Syntax of Exception handling code, Multiple catch statements, Using finally statement, Throwing our own exceptions. Introduction to threads: Creating Threads, life cycle of a thread, Thread priority, synchronization, and daemon Threads.	09-09-2015	24-09-2015	11

5.	roduction, how applet differ from applications, building applet code, applet life cycle, passing parameters to applets. Event Handling: Events, Event sources, Event classes, Event Listeners, Delegation event model, handling mouse and keyboard events, Adapter classes. Swing – Introduction, components, containers, exploring swing	26-09-2015	24-10-2015	11

onal periods available for the course:

Hours /
Periods



SCHEDULE OF INSTRUCTIONS

2015-16

UNIT - I

Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: Dr. D SURESH
 Designation: Associate Professor
 Department:: IT

The Schedule for the whole Course / Subject is:: 62

Sl. No.	No.	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No ___ to ___
1		2	Review- Concepts of Classes Objects	1,2	C++: The Complete Reference, 5th Edition, Herbert schildt, TMH
2		2	Programming Structure, Constructors	1,2	-do-
3		2	destructors, parameter passing methods,	1,2	-do-
4		2	method and Constructor Over Loading,	1,2	-do-
5		2	Inline functions, static class members,	1,2	-do-
6		2	this pointer, friend functions	1,2	-do-
7		2	Operator Overloading	1,2	-do-
8		2	Generic Programming- Function and class templates	1,2	-do-
9			I/O Streams.	1,2	-do-

Signature of Faculty
Date

- Note:**
1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
 2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
 3. MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.



SCHEDULE OF INSTRUCTIONS

2015-16

UNIT - II

Regulation: R14

FACULTY DETAILS:


Name of the Faculty:: Dr. D SURESH
Designation: Associate Professor
Department:: IT

The Schedule for the whole Course / Subject is:: 62

Sl. No.	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No ___ to ___
1	1	Overview Of Java Language	3,4	The complete reference, 7th edition
2	2	Java History – Features of java, java Programming Structure, Java Tokens,	3,4	-do-
3	2	Constants, Variables, Expressions,	3,4	-do-
4	1	Overview of arrays and strings	3,4	-do-
5	1	Concept of Classes ,objects, accessing class members	3,4	-do-
6	2	, constructors ,overloading of methods and constructors,	3,4	-do-
7	1	This ,static members,	3,4	-do-
8	2	String Buffer class, Wrapper classes, Command Line Arguments.	3,4	-do-

Signature of Faculty
Date

- Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS	2015-16
	UNIT - III	Regulation: R14

FACULTY DETAILS:


Name of the Faculty:: Dr. D SURESH
 Designation: Associate Professor
 Department:: IT

The Schedule for the whole Course / Subject is:: 62

Sl. No.	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No ___ to ___
1	1	Inheritance and Interfaces: Defining a sub class	4,5	The complete reference, 7th edition
2	1	inheritance types, sub class constructor,	4,5	-do-
3	1	Final, super, Runtime polymorphism in java	4,5	-do-
4	2	Runtime polymorphism using virtual functions in C++.	4,5	-do-
5	1	Abstract methods and classes, visibility control,	4,5	-do-
6	2	Defining Interfaces, extending interfaces, implementing interfaces.	4,5	-do-
7	1	Packages: Defining, Creating and Accessing a Package	4,5	-do-
8	1	Understanding CLASSPATH, importing packages	4,5	-do-
9	1	Exploring java.io, java.util	4,5	-do-

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
 2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
 MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS	2015-16
	UNIT - IV	Regulation: R14

FACULTY DETAILS:


Name of the Faculty:: Dr. D SURESH
 Designation: Associate Professor
 Department: IT

The Schedule for the whole Course / Subject is:: 62

Sl. No.	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No ___ to ___
1	1	Types of errors-Compile time and Run time errors	6,7	The complete reference, 7th edition
2	2	Exceptions, Types of Exceptions, Syntax of Exception handling code	6,7	-do-
3	1	Multiple catch statements, Using finally statement,	6,7	-do-
4	2	Throwing our own exceptions.	6,7	-do-
5	2	Introduction to threads: Creating Threads, life cycle of a thread,	6,7	-do-
6	2	Thread priority, synchronization, and daemon Threads.	6,7	-do-

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
 2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
 MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	SCHEDULE OF INSTRUCTIONS UNIT - V	2015-16
		Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: Dr. D SURESH
 Designation: Associate Professor
 Department: IT

The Schedule for the whole Course / Subject is:: 62

Sl. No.	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No ___ to ___
1	1	Applet Programming: Introduction, how applet differ from applications, building applet code	6,7	The complete reference, 7th edition
2	2	Applet life cycle, passing parameters to applets.	6,7	-do-
3	2	Event Handling: Events, Event sources, Event classes, Event Listeners,	6,7	-do-
4	2	Delegation event model, handling mouse and keyboard events, Adapter classes.	6,7	-do-
5	2	Swing – Introduction, components, containers, exploring swing- JApplet, JFrame and JComponent, Icons and Labels, text fields, buttons –	6,7	-do-
6	2	The JButton class, Check boxes, Radio buttons, Combo boxes, Tabbed Panes, Scroll Panes, Trees, and Tables.	6,7	-do-

Signature of Faculty
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.
 2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.
 MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	COURSE COMPLETION STATUS	2015-16
		Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: Dr. D SURESH
 Subject:: Object Oriented Programmin
 Department:: IT
 Subject Code5404

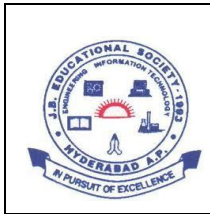
Actual Date of Completion & Remarks, if any

Units	Remarks	Nos. of Objectives Achieved
Unit 1	Good knowledge on OOPs concepts and knowledge on programming on C++	
Unit 2	Over view of JAVA and good knowledge on all JAVA basics and able to write basic programs.	
Unit 3	Able to acquire knowledge on Inheritance and Interface and knowledge on basic JAVA packages, able to create and utilize the packages	
Unit 4	Learned to handling exceptions and knowledge on write multi thread programming.	
Unit 5	Good knowledge on Applet programming and Good knowledge on Event handling and Swings	

Signature of Dean of School
Date:

Signature of Faculty
Date:

NOTE: AFTER THE COMPLETION OF EACH UNIT MENTION THE NUMBER OF OBJECTIVES ACHIEVED.



TUTORIAL SHEETS - I

2015-16

Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: Dr. D SURESH
Designation: Associate Professor
Department:: IT
The Schedule for the whole Course / Subject is:: 62

Date:

This Tutorial corresponds to Unit Nos.1,2,3

Time:

Q1. Explain the basic concepts of Object oriented programming

Q2. Briefly Explain Access specifiers in JAVA

Q3. Explain about array concepts in detail

Q4. Discuss in detail about forms of inheritance

Q5. Discuss in detail about final and super keyword in inheritance.

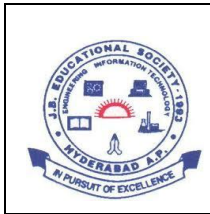
Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

Signature of Dean of School

Date:

Signature of Faculty

Date:



TUTORIAL SHEETS - II

2015-16

Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: Dr. D SURESH
Designation: Associate Professor
Department:: IT
The Schedule for the whole Course / Subject is:: 62

Date:

This Tutorial corresponds to Unit Nos.4,5,6

Time:

Q1. Discuss in detail about CLASSPATH

Q2. Explain checked & unchecked exceptions?

Q3. What is exception? What are the different types of exceptions?

Q4. Explain the following

i).dead lock ii) daemon thread iii) thread group iv) thread priorities

Q5. What is multithreading? Explain?

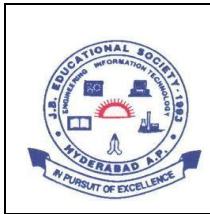
Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

Signature of Dean of School

Date:

Signature of Faculty

Date:



TUTORIAL SHEETS - II

2015-16

Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: Dr. D SURESH
Designation: Associate Professor
Department:: IT

Date:

This Tutorial corresponds to Unit Nos.7,8

Time:

Q1. Explain delegation event model?

Q2. Explain mouse events with e.g.?

Q3. What is an adapter class? Describe about various adapter classes in detail?

Q4. What is an adapter class? Describe about various adapter classes in detail?

Q5. .Describe about various components in swings

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

Signature of Dean of School
Date:

Signature of Faculty
Date:



ILLUSTRATIVE VERBS FOR STATING INSTRUCTIONAL OBJECTIVES

2015-16

Regulation: R14

These verbs can also be used while framing questions for Continuous Assessment Examinations as well as for End – Semester (final) Examinations.

ILLUSTRATIVE VERBS FOR STATING **GENERAL OBJECTIVES**

Know

Comprehend

Understand

Apply

Analyze

Design

Generate

Evaluate

ILLUSTRATIVE VERBS FOR STATING **SPECIFIC OBJECTIVES:**

A. Cognitive Domain

1	2	3	4	5	6
Knowledge	Comprehension Understanding	Application of knowledge & comprehension	Analysis of whole w.r.t. its constituents	Synthesis combination of ideas/constituents	Evaluation judgement

Define	Convert	Change	Breakdown	Categorize	Appraise
Identify	Defend	Compute	Differentiate	Combine	Compare
Label	Describe (a procedure)	Demonstrate	Discriminate	Compile	Conclude
List	Distinguish	Deduce	Distinguish	Compose	Contrast
Match	Distinguish	Manipulate	Separate	Create	Criticize
Reproduce	Estimate	Modify	Subdivide	Devise	Justify
Select	Explain why/how	Predict		Design	Interpret
State	Extend	Prepare		Generate	Support
	Generalize	Relate		Organize	
	Give examples	Show		Plan	
	Illustrate	Solve		Rearrange	
	Infer			Reconstruct	
	Summarize			Reorganize	
				Revise	

B. Affective Domain

Adhere
Assist
Attend
Change
Develop
Help
Influence
Initiate

Resolve
Select
Serve
Share

C. Psychomotor Domain (skill development)

Bend
Calibrate
Compress
Conduct
Connect
Convert
Decrease
Demonstrate

Dissect
Draw
Extend
Feed
File
Grow
Handle
Increase

Insert
Keep
Elongate
Limit
Manipulate
Move precisely
Operate
Paint

Perform
Prepare
Remove
Replace
Report
Reset
Run
Set

Straighten
Strengthen
Time
Transfer
Type
Weigh



LESSON PLAN
Unit-I

2015-16

Regulation: R14

Name of the Faculty:: Dr. D SURESH

Designation: Associate Professor

Subject Code 5404


Unit 1

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	C++ Overview- Concepts of Classes Objects			
2	Programming Structure, Constructors			
3	destructors, parameter passing methods,			
4	method and Constructor Over Loading,			
5	Inline functions, static class members,			
6	this pointer, friend functions			
7	Operator Overloading			
8	Generic Programming- Function and class templates			
9	I/O Streams.			

On completion of this lesson the student shall be able to(Outcomes)

- 1.
- 2.
- 3.
- 4.


	ASSIGNMENT Unit-I	2015-16
		Regulation: R14

Assignment / Questions

1. What are keywords in C++?
2. What is difference between C and C++?
3. Define the following terms in C++:
 - i) Method Overriding.
 - ii) Exception.
4. Explain 'Classes' and 'Objects' briefly.
5. What is an Object? How can you declare Objects in C++? Explain with an example.
6. What are the four categories of visibility for class members in C++?
7. Define a class? What is its importance in OOPs? Explain C++ point of view?

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN Unit-II	2015-16
		Regulation: R14

Name of the Faculty:: Dr. D SURESH

Designation: Associate Professor

Designation: Associate Professor


Unit 2

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	JAVA Basics History of JAVA, JAVA buzzwords, datatypes			
2	variables, scope and life time of variables, arrays,			
3	operators, expressions,			
4	control statements, type conversion and costing			
5	objects, constructors, methods, access control,			
6	this keyword, garbage collection, overloading			
7	access control, constructors			
8	parameter passing, recursion			
9	nested and inner classes, exploring string class.			

On completion of this lesson the student shall be able to

- 1.
- 2.
- 3.
- 4.


	ASSIGNMENT Unit-II	2015-16
		Regulation: R14

Assignment / Questions

1. Explain Decision control statements in JAVA? Mention their Syntaxes. Give an example for each.
2. What are the Relational operators in JAVA? Explain with an illustrative example
- 3(a) What is a constructor? What are its special properties?
 (b) How do we invoke a constructor?
 (c) What are objects? How are they created from a class?
- 4 Write a program that will compute the following series:
 (a) $1/1 + 1/2 + 1/3 + \dots + 1/n$
 (b) $1/1 + 1/2 + 1/2^2 + \dots + 1/2^n$.
- 5 Explain Decision control statements in JAVA? Mention their Syntaxes. Give an example for each.
- 6 What is a constructor? What are its special properties?
 (c) How do we invoke a constructor?
- 7 What are objects? How are they created from a class?

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN Unit-II	2015-16
		Regulation: R14

Name of the Faculty:: Dr. D SURESH

Designation: Associate Professor

Designation: Associate Professor


Unit 2

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	JAVA Basics History of JAVA, JAVA buzzwords, datatypes			
2	variables, scope and life time of variables, arrays,			
3	operators, expressions,			
4	control statements, type conversion and costing			
5	objects, constructors, methods, access control,			
6	this keyword, garbage collection, overloading			
7	access control, constructors			
8	parameter passing, recursion			
9	nested and inner classes, exploring string class.			

On completion of this lesson the student shall be able to

- 1.
- 2.
- 3.
- 4.

	ASSIGNMENT Unit-II	2015-16
		Regulation: R14

Assignment / Questions

3. Explain Decision control statements in JAVA? Mention their Syntaxes. Give an example for each.
 4. What are the Relational operators in JAVA? Explain with an illustrative example
- 3(a) What is a constructor? What are its special properties?
- (b) How do we invoke a constructor?
- (c) What are objects? How are they created from a class?
- 4 Write a program that will compute the following series:
- (d) $1/1 + 1/2 + 1/3 + \dots + 1/n$
- (e) $1/1 + 1/2 + 1/2^2 + \dots + 1/2^n$.
- 5 Explain Decision control statements in JAVA? Mention their Syntaxes. Give an example for each.
 - 8 What is a constructor? What are its special properties?
 - (f) How do we invoke a constructor?
 - 9 What are objects? How are they created from a class?

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.



LESSON PLAN
Unit-III

2015-16

Regulation: R14

Name of the Faculty:: Dr. D SURESH

Designation: Associate Professor

Designation: Associate Professor

Unit 3

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Hierarchical abstractions, Base class object,			
2	subclass, subtype, substitutability,			
3	forms of inheritance- specialization, specification			
4	construction, extension limitation, combination			
5	benefits of inheritance costs of inheritance			
6	Member access rules, super uses			
7	using final with inheritance			
8	polymorphism- method overriding,,			
9	abstract classes,the object class			

On completion of this lesson the student shall be able to(Outcomes)

- 1.
- 2.
- 3.
- 4.



ASSIGNMENT
Unit-III

2015-16


Regulation: R14

Assignment / Questions

1. Explain the benefits of inheritance. How does JAVA achieve it.
2. Explain the two different methods provided by the JAVA language to support the idea of inheritance of specification.
3. Define simple inheritance. Explain with an example.
4. Explain the benefits of inheritance. How does JAVA achieve it.
5. Explain the two different methods provided by the JAVA language to support the idea of inheritance of specification.

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Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN Unit-III	2015-16
		Regulation: R14

Name of the Faculty:: Dr. D SURESH

Designation: Associate Professor

Designation: Associate Professor


Unit 4

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Defining, Creating and Accessing a Package			
2	Understanding CLASSPATH, importing packages			
3	differences between classes and interfaces			
4	defining an interface			
5	implementing interface,			
6	applying interfaces variables in interface			
7	extending interfaces.			
8	Exploring packages – Java.io			

On completion of this lesson the student shall be able to (Outcomes)

- 1.
- 2.
- 3.
- 4.


	ASSIGNMENT Unit-III	2015-16
		Regulation: R14

Assignment / Questions

1. Define Abstract class and Interface and what is the difference between them explain with suitable examples.
2. Explain how a package subclass can access protected and public variables?
3. Create an interface with at least one method, and implement that interface by defining an inner class within a method, which returns a reference to your interface.
4. Define Abstract class and Interface and what is the difference between them explain
5. with suitable examples.
 - (a) Explain how a package subclass can access protected and public variables?
 - (b) Create an interface with at least one method, and implement that interface by
6. defining an inner class within a method, which returns a reference

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN Unit-IV	2015-16
		Regulation: R14

Name of the Faculty:: Dr. D SURESH

Designation: Associate Professor

Designation: Associate Professor


Unit 5

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Concepts of exception handling,			
2	benefits of exception handling			
3	Termination or resumptive models, exception hierarchy			
4	usage of try, catch, throw, throws and finally			
5	built in exceptions			
6	creating own exception			
7	String Handling			
8	Exploring java.util			

On completion of this lesson the student shall be able to (Outcomes)

- 1.
- 2.
- 3.
- 4.

	ASSIGNMENT Unit-IV	2015-16
		Regulation: R14

Assignment / Questions

1. What happens if we don't handle an exception?
2. When do we use multiple catch handlers? Explain.
3. What are exception types? a.Explain the role of stack in JAVA exception handling?
a. b.Give the classification of various exceptions in JAVA.
4. Write a program to illustrate the usage of the following methods of StringBuffer class.Explain the output in each case. Delete(), setCharAt(), deleteCharAt(), append(),charAt(), getChars().
5. How does Random class generate pseudo random numbers?
Write a program to generate a set of random numbers. Find its sum and average.

The program should also display * based on the random numbers generated.

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Note: Mention for each question the relevant objectives and outcomes.



LESSON PLAN
Unit-IV

2015-16

Regulation: R14

Name of the Faculty:: Dr. D SURESH

Designation: Associate Professor

Designation: Associate Professor


Unit 6

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Differences between multi threading and multitasking			
2	thread life cycle			
3	creating threads			
4	synchronizing threads,			
5	interthread communication			
6	daemon threads, thread groups			
7	Enumerations, autoboxing			
8	annotations, generics			

On completion of this lesson the student shall be able to (Outcomes)

- 1.
- 2.
- 3.
- 4.


	ASSIGNMENT Unit-IV	2015-16
		Regulation: R14

Assignment / Questions

1. Differentiate between process-based multitasking and thread-based multitasking.
2. Explain the various states of a thread. What is the purpose of assigning priorities to the threads?
3. What is synchronization? Explain briefly with an example
4. With the help of an example, explain multithreading by extending thread class.
5. Implementing Runnable interface and extending thread, which method you prefer for multithreading and why.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN Unit-V	2015-16
		Regulation: R14

Name of the Faculty:: Dr. D SURESH

Designation: Associate Professor

Designation: Associate Professor


Unit 7

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Events, Event sources, Event classes			
2	Event Listeners, Delegation event model,			
3	handling mouse and keyboard events			
4	Adapter classes, inner classes.			
5	The AWT class hierarchy			
6	user interface components- labels, button, canvas, scrollbars, text components, check box, check box			
7	groups, choices, lists panels – scrollpane, dialogs, menubar, graphics			
8	layout manager – layout manager types			
9	boarder, grid, flow, card and grib bag.			

On completion of this lesson the student shall be able to

- 1.
- 2.
- 3.
- 4.


	ASSIGNMENT Unit-V	2015-16
		Regulation: R14

Assignment / Questions

1. What is event source? Give examples of event sources. How events are generated?
2. Are all events generated by user actions? Comment on it.
3. Explain following AWT classes with methods defined in them.
 - a. Font
 - b. Color
 - c. Graphics
 - d. Menu.
4. What are the limitations in AWT? How can you overcome by using Swings?
5. Explain about MVC architecture?
6. What is event source? Give examples of event sources. How events are generated?
7. Write a stand-alone AWT based application which creates a frame window that
 - a. responds to mouse clicks and key strokes.
 - b. Are all events generated by user actions? Comment on it.
8. Write a short notes o the following graphics functions
 - a) paint()
 - b) repaint()
 - c) update()
9. Define Canvas. Write a JAVA program which creates a canvas and displays an image on it.

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.

	LESSON PLAN Unit-V	2015-16
		Regulation: R14

Name of the Faculty:: Dr. D SURESH

Designation: Associate Professor

Designation: Associate Professor


Unit 8

INSTRUCTIONAL OBJECTIVES:

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Concepts of Applets, differences between applets and applications			
2	life cycle of an applet, types of applets,			
3	creating applets, passing parameters to applets.			
4	components, containers			
5	JApplet, JFrame and JComponent.			
6	Icons and Labels, text fields, buttons			
7	The JButton class, Check boxes,			
8	Radio buttons, Combo boxes			
9	Tabbed Panes, Scroll Panes, Trees, and Tables			

On completion of this lesson the student shall be able to

- 1.
- 2.
- 3.
- 4.

	ASSIGNMENT Unit-V	2015-16
		Regulation: R14

Assignment / Questions

1. What is an Applet?
2. Briefly describe the applets architecture? Differentiate between init() and start() in an applet?
3. Briefly describe the lifecycle of an applet?
4. Differentiate the following with suitable examples:
5. a) Frame, JFrame
b) Applet, JApplet
c) Menu, Jmenu
6. Write an applet program to design login screen?

Signature of Faculty

Note: Mention for each question the relevant objectives and outcomes.