VELAGAPUDI RAMAKRISHNA

SIDDHARTHA ENGINEERING COLLEGE::VIJAYAWADA

(AUTONOMOUS)

DEPARTMENT OF CE/CSE/ECE/EEE/EIE/IT/ME

MICRO LEVEL SYLLABUS

Class	**B Tech/M Tech/MCA/MBA**	**Regulation**	**VR20**
Subject Code	**20IT4302**	**Year & Semester**	**2021-22**
Title of the Subject	**JAVA PROGRAMMING**		

Unit No	Content/Topics Covered (mention Sub Topics as found in books)	Text Book	Chapter/ Section No.	Page Number
Unit I	Overview of Java	[T1]	2	73
	Data Types, variables and arrays		3	100
	Java is a Strong Typed Language		3.1	101
	Primitive types		3.2	101
	Integers		3.3	102-103
	Floating-Point Types		3.4	104-105
	Characters		3.5	106-107
	Booleans		3.6	108-109
	Variables		3.8	114-118
	Type conversion and casting		3.9	119
	Java's Automatic Conversions		3.9.1	119-122
	Arrays		3.11	123
	One-Dimensional Arrays		3.11.1	124-126
	Classes and objects		6	212
	Class Fundamentals		6.1	213-218
	Declaring objects		6.2	219-220
	Assigning object reference variables		6.3	221
	Introducing methods		6.4	222-231
	Constructors		6.5	232-236
	This Keyword		6.6	237
	Overloading methods		7.1	244-250
	Understanding Static		7.7	265-267
	Introducing final		7.8	268
	String Handling		17	711
	The String Constructors		17.1	714-716
	String Tokenizer Class		20.1	965
Unit II	**Inheritance**	[T1]	8	291
	Inheritance basics		8.1	292-301
	Using super		8.2	302-308
	Creating a Multilevel hierarchy		8.3	309-312
	Method overriding		8.5	315-318
	Dynamic method dispatch		8.6	319-323
	Using abstract classes		8.7	324-328
	Final with inheritance		8.8	329-330
	Packages & Interfaces		9	336
	Defining a package		9.1.1	338
	Finding package and CLASSPATH		9.1.2	339
	Packages and member access		9.2	341-346
	Importing packages		9.3	347-349
	Defining an interface		9.4.1	350-351
	Implementing interfaces		9.4.2	352-354
	Nested interfaces		9.4.3	355-356

	Applying interfaces		9.4.4	357-361
	Variables in interfaces		9.4.5	362-364
	Exception handling		10	376
	Exception handling fundamentals		10.1	378
	Exception types		10.2	379
	Uncaught exceptions		10.3	380-381
	Using try and catch		10.4	382-384
	Multiple catch clauses		10.5	385-386
	Throw		10.7	391
	Throws		10.8	392-393
	Finally		10.9	394-396
	Creating your own exception subclasses		10.11	399-402
Unit III	**Generics**	[T1]	14	558
	Generic class with two type parameters		14.3	571-572
	the general from of a generic class		14.4	573
	Bounded types		14.5	574-576
	Using assert		13.11	545-548
	Assertion Enabling and Disabling Options		13.11.1	549
	Multithread Programming		11	408-410
	The Java Thread Model		11.1	411-413
	Creating a thread		11.3	417
	Implementing Runnable		11.3.1	418-420
	Extending Thread		11.3.2	421-422
	creating multiple threads		11.4	423-425
	Thread Priorities		11.6	429
	Collections Framework		19	839-841
	Collections overview		19.1	842-843
	Collection interfaces		19.2	844-849
	List interfaces		19.2.2	849-851
	Set interfaces		19.2.3	852
	Collection Classes		19.3	859
	ArrayList		19.3.1	860-865
	LinkedList		19.3.2	866-867
	HashSet		19.3.3	868-869
	TreeSet Class		19.3.5	871
Unit IV	**Lambda Expressions**	[T1]	15	624-626
	Lambda Expression Fundamentals		15.1.1	627
	Functional Interfaces		15.1.2	628-629
	lambda expression examples		15.1.3	630-632
	Block lambda expressions		15.2	633-635
	Passing Lambda expression as arguments		15.4	638-642
	Method references		15.7	645
	Method References to static Methods		15.7.1	646-647
	Method References to Instance Methods		15.7.2	648-652
	Method References with Generics		15.7.3	653-657
	The Stream API		29	1479-1480
	Stream Basics:		29.1	1481
	Stream Interfaces		29.1.1	1482-1485
	obtaining a Stream		29.1.2	1486
	Stream examples		29.1.3	1487-1491
	Reduction Operations		29.2	1492-1494
	Using Parallel Streams		29.3	1495-1497
	Mapping		29.4	1498-1504

	Collecting		29.5	1505-1509
	Iterators and Stream:		29.6	1510
	Use an Iterator with a Stream		29.6.1	1511
	Use Spliterator		29.6.2	1512-1516
	Total Number of Proposed Lecture Hours	**46**		

Delivery Methods:

The following are the various content delivery methods used to deliver the courses

- M0: POGIL(Process Oriented Guided Inquiry Learning)
- M1: Lecture interspersed with discussions
- M2: Lecture with a quiz
- M3: Tutorial
- M4: Demonstration (Such as model, laboratory, field visit)
- M5: Group Discussion
- M6: Group Assignment/ Project
- M7: Presentations
- M8: Asynchronous Discussion

Text Book:

[T1] Herbert Schildt, “Java The Complete Reference”, 11th Edition, McGraw-Hill Education, New Delhi, 2019.

Reference Book:

[R1]. Kathy Sierra & Bert Bates, Head First Java, Second edition, Shroff/O’Reilly, 2009
[R2]. Herbert Schildt, Dale Skrien, “Java Fundamentals A Comprehension Introduction”, Special Indian Edition, McGraw-Hill Education India Pvt. Ltd, 2013.
[R3]. Paul J. Dietel and Dr.Harvey M. Deitel, “Java How to Program”, 9th Edition, Prentice-Hall, Pearson Education, 2011.
[R4] Timothy Budd, “Understanding Object Oriented Programming with Java “, Updated edition, Pearson Education, 2013.

E-resources and other digital material

[1] Prof. I.Sengupta. (19-05-2021), Department of Computer Science&Engineering, I.I.T Kharagpur, “Internet Technologies" NPTEL,http://nptel.ac.in/video.php? Subject Id=106105084
[2] Mia Minnes, Leo Porter, Christine Alvarado, University of California, San Diego (19-05-2021) Object Oriented Programming in Java Available: https://www.coursera.org/learn/object-oriented-java
[3] Cay Horstmann, Cheng-Han Lee, Sara Tansey, San Jose State University, (19-05-2021) Intro to Java Programming Available https://eu.udacity.com/course/intro-to- java-programming--cs046

Designation	Name in Capitals	Signature with Date
Course Coordinator	N. SATYA KRISHNA	
Module Coordinator	BL PHANEENDRA KUMAR	
Program Coordinator	Dr. KALYANI	
HoD	Dr. M. SUNEETHA	

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Dt.12-06-2019

GUIDELINES FOR DRAFTING MICRO LEVEL SYLLABUS

1. The micro level syllabus is framed in order to give a clear insight into the detailed content of the syllabus prescribed for the subject.

2. The micro level syllabus is not just simply reproducing the prescribed syllabus from horizontal orientation to vertical orientation

3. The micro level syllabus must include every minute heading from the source - Text Book/Reference Book - specifying the source no., chapter no. and page no. in the source

4. The micro level syllabus offer guidance to three sections of users, namely, the Teacher that teaches the course, the student who learns the subject and the paper setter who sets the question paper for the semester end examination.

5. The micro level syllabus should clearly indicate the full scope of any particular topic such as definition, theoretical explanation, diagram, analysis, derivation, problems etc.

6. The micro level syllabus is an important document which must be carefully drafted spending enough time in order to avoid confusion among any of the three sections of users.

7. The micro level syllabus must include books/references at the end of the document

8. The micro level syllabus must be subjected to a thorough discussion among the Course Coordinator, Module Coordinator, Program Coordinator and the Head of the Department.

9. The signed documents may be displayed in the department web site for information to all the stake holders.

CONTROLLER OF EXAMINATIONS