


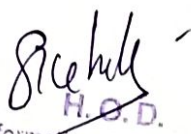
ADVANCED JAVA AND J2EE
[As per Choice Based Credit System (CBCS) scheme]
(Effective from the academic year 2017 - 2018)
SEMESTER – V

Subject Code	17CS553	IA Marks	40
Number of Lecture Hours/Week	3	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
CREDITS – 03			
Module – 1			Teaching Hours
Enumerations, Autoboxing and Annotations(metadata): Enumerations, Enumeration fundamentals, the values() and valueOf() Methods, java enumerations are class types, enumerations Inherits Enum, example, type wrappers, Autoboxing, Autoboxing and Methods, Autoboxing/Unboxing occurs in Expressions, Autoboxing/Unboxing, Boolean and character values, Autoboxing/Unboxing helps prevent errors, A word of Warning. Annotations, Annotation basics, specifying retention policy, Obtaining Annotations at run time by use of reflection, Annotated element Interface, Using Default values, Marker Annotations, Single Member annotations, Built-In annotations.			8 Hours
Module – 2			
The collections and Framework: Collections Overview, Recent Changes to Collections, The Collection Interfaces, The Collection Classes, Accessing a collection Via an Iterator, Storing User Defined Classes in Collections, The Random Access Interface, Working With Maps, Comparators, The Collection Algorithms, Why Generic Collections?, The legacy Classes and Interfaces, Parting Thoughts on Collections.			8 Hours
Module – 3			
String Handling :The String Constructors, String Length, Special String Operations, String Literals, String Concatenation, String Concatenation with Other Data Types, String Conversion and toString() Character Extraction, charAt(), getChars(), getBytes() toCharArray(), String Comparison, equals() and equalsIgnoreCase(), regionMatches() startsWith() and endsWith(), equals() Versus == , compareTo() Searching Strings, Modifying a String, substring(), concat(), replace(), trim(), Data Conversion Using valueOf(), Changing the Case of Characters Within a String, Additional String Methods, StringBuffer , StringBuffer Constructors, length() and capacity(), ensureCapacity(), setLength(), charAt() and setCharAt(), getChars(),append(), insert(), reverse(), delete() and deleteCharAt(), replace(), substring(), Additional StringBuffer Methods, StringBuilder			8 Hours
Text Book 1: Ch 15			
Module – 4			
Background; The Life Cycle of a Servlet; Using Tomcat for Servlet Development; A simple Servlet; The Servlet API; The Javax.servlet Package; Reading Servlet Parameter; The Javax.servlet.http package; Handling HTTP Requests and Responses; Using Cookies; Session Tracking. Java Server Pages (JSP): JSP, JSP Tags, Tomcat, Request String, User Sessions, Cookies, Session Objects			8 Hours
Text Book 1: Ch 31 Text Book 2: Ch 11			

Module – 5	
The Concept of JDBC; JDBC Driver Types; JDBC Packages; A Brief Overview of the JDBC process; Database Connection; Associating the JDBC/ODBC Bridge with the Database; Statement Objects; ResultSet; Transaction Processing; Metadata, Data types; Exceptions. Text Book 2: Ch 06	8 Hours
Course outcomes: The students should be able to:	
<ul style="list-style-type: none"> • Interpret the need for advanced Java concepts like enumerations and collections in developing modular and efficient programs • Build client-server applications and TCP/IP socket programs • Illustrate database access and details for managing information using the JDBC API • Describe how servlets fit into Java-based web application architecture • Develop reusable software components using Java Beans 	
Question paper pattern: The question paper will have TEN questions. There will be TWO questions from each module. Each question will have questions covering all the topics under a module. The students will have to answer FIVE full questions, selecting ONE full question from each module.	
Text Books: <ol style="list-style-type: none"> 1. Herbert Schildt: JAVA the Complete Reference, 7th/9th Edition, Tata McGraw Hill, 2007. 2. Jim Keogh: J2EE-TheCompleteReference, McGraw Hill, 2007. 	
Reference Books: <ol style="list-style-type: none"> 1. Y. Daniel Liang: Introduction to JAVA Programming, 7th Edition, Pearson Education, 2007. 2. Stephanie Bodoff et al: The J2EE Tutorial, 2nd Edition, Pearson Education, 2004. 3. Uttam K Roy, Advanced JAVA programming, Oxford University press, 2015. 	


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PROGRAMMING LANGAUGES [As per Choice Based Credit System (CBCS) scheme] (Effective from the academic year 2017 - 2018) SEMESTER – V			
Subject Code	17IS554	IA Marks	40
Number of Lecture Hours/Week	3	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
CREDITS – 03			
Module – 1			Teaching Hours
Overview, Names, Types, Type systems			8 Hours
Module – 2			
Semantics, semantic interpretation			8 Hours
Module – 3			
Functions, function implementation, memory management			8 Hours
Module – 4			
Imperative programming, object oriented programming, functional programming			8 Hours
Module – 5			
Logic programming, event-driven programming, concurrent programming			8 Hours
Course outcomes: The students should be able to:			
<ul style="list-style-type: none"> • Select appropriate languages for given applications • Compare and contrast the strengths and weaknesses of different languages 			
Question paper pattern:			
The question paper will have TEN questions.			
There will be TWO questions from each module.			
Each question will have questions covering all the topics under a module.			
The students will have to answer FIVE full questions, selecting ONE full question from each module.			
Text Books:			
1. Programming languages by Allen B. Tucker and Robert E. Noonan			
Reference Books:			
NIL			


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