MANGALORE UNIVERSITY

DEPARTMENT OF M.Sc. COMPUTER SCIENCE

MASTER OF COMPUTER APPLICATIONS (MCA) PROGRAMME

MCAS 305 :ADVANCED JAVA PROGRAMMING		
Hours/Week: 4 **Credits : 4**		**I.A. Marks: 30** **Exams. Marks: 70**

Course Outcomes:

CO1: Implement Object Oriented programming concept using basic syntaxes of control Structures, strings and function for developing skills of logic building activity.

CO2: Demonstrate understanding and use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.

CO3: Learn to access database through Java programs, using Java Data Base Connectivity (JDBC).

CO4: Students will also be exposed to advanced topics including multithreading, internet networking, and JDBC database connectivity.

CO5: Develop server side programs in the form of servlets.

	UNIT-I	12 Hours

Java 2 Enterprise Edition Overview: Overview of J2EE.

Java Database Connectivity (JDBC): The Concept of JDBC; JDBC Driver Types; JDBC Packages; A Brief Overview of the JDBC Process; Database Connection; Statement Objects; ResultSet; Transaction Processing; Metadata, Data Types; Exceptions.

	UNIT-II	12 Hours

Networking: Basics, Useful Classes and Interfaces, InetAddress, Sockets, URI, URL, URLConnection, HttpURLConnection, Datagrams.

Java Beans: Introduction, Advantages, Introspection, Bound and Constrained Properties, Persistence, Customizers, Java Beans API.

	UNIT-III	12 Hours

Servlets: Background, Life Cycle, Development Options, Tomcat, Example, Servlet API, Reading Parameters, 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.

UNIT-IV	12 Hours

Enterprise Java Beans: Enterprise Java Beans; Deployment Descriptors; Session Java Bean; Entity Java Bean; Message-Driven Bean; The JAR File.

Hibernate: Persistence, Problems in Object/Relational Mapping, Object/Relational Mapping and Java Persistence API; Introduction to Hibernate, Creating a JPA Project.

REFERENCE BOOKS:

1. Jim Keogh, **J2EE - The Complete Reference**, Tata McGraw Hill, 2008.
2. Herbert Schildt, **Java - The Complete Reference**, McGraw Hill Education, 2014, 9th Edition.
3. Gavin King et.al., **Java Persistence with Hibernate**, Manning Publications, 2016, 2nd Edition.
4. Cameron McKenzie, **Hibernate Made Easy**, Pulp java, 2008
5. Phil Hanna, **JSP 2.0: The Complete Reference**, Osborne