COURSE CODE	COURSE TITLE	L	T	P	C
1152CS109	COMPONENT BASED TECHNOLOGY	3	0	0	3

Course Category: Program Elective

A. Preamble :

This course Component Based Technology provides an introduction and Basic Concepts of Various Platform Component Based Technology

B. Prerequisite Courses:

Sl. No	Course Code	Course Name
1	1151CS202	Internet Programming

C. Related Courses:

Sl. No	Course Code	Course Name
1	1156CS601	Minor Project
2	1156CS701	Major Project

D. Course Educational Objectives :

Students are exposed to:

- Introduces in depth JAVA, CORBA and .Net Components
- Deals with Fundamental properties of components, technology and architecture and middleware.
- Component Frameworks and Development are covered in depth.

E. Course Outcomes:

Upon the successful completion of the course, learners will be able to

CO Nos.	Course Outcomes	Level of learning domain (Based on revised Bloom's taxonomy)
CO1	Understand the fundamentals of software components and their architecture	K2
CO2	Develop a Java Thread and Create a bean for an application	K3
CO3	Develop and Implement CORBA Based Technology Component	K3
CO4	Illustrate and Implement .NET Based Technology Component	K3
CO5	Discuss Component Based connectors, development and testing Tools	K2

Correlation of Cos with Program outcomes:

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	**L**							**M**					**L**		**L**
CO2	**L**		**L**					**M**		**L**	**L**		**L**	**H**	**L**
CO3	**L**		**L**		**H**			**M**		**L**	**L**		**L**	**H**	**L**
CO4	**L**		**L**		**H**			**M**		**L**	**L**		**L**	**H**	**L**
CO5	**L**		**L**		**H**			**M**		**L**			**L**	**H**	**L**

F. Course Content:

UNIT I INTRODUCTION 9

Software Components – objects – fundamental properties of Component technology – modules – interfaces – callbacks – directory services – component architecture –components and middleware

UNIT II JAVA BASED COMPONENT TECHNOLOGIES 9

Threads – Java Beans – Events and connections – properties – introspection – JAR files – reflection – object serialization – Enterprise Java Beans – Distributed Object models – RMI and RMI-IIOP

UNIT III CORBA COMPONENT TECHNOLOGIES 9

Java and CORBA – Interface Definition language – Object Request Broker – system object model – portable object adapter – CORBA services – CORBA component model – containers – application server – model driven architecture

UNIT IV . NET BASED COMPONENT TECHNOLOGIES 9

COM – Distributed COM – object reuse – interfaces and versioning – dispatch interfaces – connectable objects – OLE containers and servers – Active X controls – .NET components – assemblies – appdomains – contexts – reflection – remoting

UNIT V COMPONENT FRAMEWORKS AND DEVELOPMENT 9

Connectors – contexts – EJB containers – CLR contexts and channels – Black Box component framework – directory objects – cross-development environment – component-oriented programming – Component design and implementation tools – testing tools – assembly tools.

TOTAL: 45

Hours

G. Learning Resources

i. Text Books

1. Clemens Szyperski, “Component Software: Beyond Object-Oriented Programming”,

Pearson Education publishers, 2013

ii. REFERENCES

1. Ed Roman, “Mastering Enterprise Java Beans”, John Wiley & Sons Inc., 2012.

2. Mowbray, “Inside CORBA”, Pearson Education, 2013.

3. Freeze, “Visual Basic Development Guide for COM & COM+”, BPB Publication, 2011.

4. Hortsamann, Cornell, “CORE JAVA Vol-II” , Sun Press, 2012.