School of Computer Science & Information Technology, DAVV, Indore

CS- 6316: Software Reuse & Customization

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Unit-I

Introducing to Software Reuse: What is Software Reuse?, Reuse types, Reuse Approaches, Reuse Technology, Reuse benefits & barriers, Reuse success & failure Factors, Reuse Driven Software Engineering is a business.

Unit-II

Architectural Style: Application and component systems- Application Developers can reuse OOSE model components; Application families allow significant reuse, Application Systems Are Built from Reusable Components, Group Components into Component Systems, Facades Control Access to Component System Internals, Component Systems Export Components Via Facades. Use Case Components, Object Components, Layered Architecture.

Unit-III

Process- Object Oriented Business Engineering, Applying Business Engineering to Define Process and Organization, Application Family engineering, Component System Engineering, Application System Engineering.

Unit-IV

Organizing a Reuse Business: Transition to a Reuse Business, Reengineering and Reuse, Managing the Reuse Business.

Unit-V

Design Patterns: Object Oriented Principles, Importance of Design Patterns in Reuse, Introduction to Creational Patterns, Structural Patterns, Behavioral Patterns, Miscellaneous Patterns, Implementation of Design Patterns.

Text Book:

1. Ivar Jacobson, Martin Griss, Patrick Johnson, "*Software Reuse Architecture, Process and Organization for Business Success"*, First Edition, Pearson Education, 2000.
2. Erich Gamma at al., "*Design Patterns: Elements of Reusable Object-Oriented Software*", Addison Wesley, 1999.

Reference Books:

1. Eric Braude, "*Software Design: From Programming to Architecture*", John Wiley & Sons, 2003.
2. Bernd Bruegge & A. Dutoit, "*Object Oriented Software Engineering using UML, Design Patterns, and Java*", Pearson Education, 2004.
3. Ugrasen Suman, "*Software Engineering: Concepts & Practices*", Cengage Learning publications, 2013.