CS-5309 Object Oriented Analysis and Design

Faculty Name: Dr. Ugrasen Suman

UNIT I
Review of object oriented concepts, potential benefits and drawbacks of object oriented, Compare object oriented paradigm with structural/procedural paradigm. Elements of Object model, what is class, how to identify them, relationship among objects, relationship among classes.
Relationships: Associations, Multiplicity, Inheritance and Generalizations, Dependencies.

UNIT II
UML: Introduction, UML basics, UML Modeling, Requirement, Architecture, Design, Implementation, Deployment process.
Class diagrams – relationships, association, generalization, dependence, constraints.

UNIT III
Object diagrams, behavioral Modeling: modeling interaction, use cases, Representing Use Case Diagram, use of Use Case diagram in analysis process, Use Case relationships and its examples, Interaction diagrams.

UNIT IV
Activity diagrams, Decisions, Concurrent path, Signals, Swim lanes, events, signals, State Machines, process, threads, time, space, state chart diagrams. Interaction view- collaboration, Interaction, sequence diagrams, Best practices of software engineering.

UNIT V
Introduction to Rational Unified Process, Architecture centric process, Use-case driven process.
Case study and minor project.

Text Book(s):
1. Booch, Object Oriented Analysis and Design with Applications, Addision Wesley.
2. Schach, Stephen R., An introduction to Object Oriented Systems Analysis and Design with UML and unified process, 2003, TMH.

Reference Book(s):
1. G Booch, J Rambaugh. Ivar Jacobson, The UML User guide, Pearson Education.
2. Eric Brande, Software Design, John Wiley & Sons.
3. David William Brown, An Introduction to Object Oriented Analys is", John Wiley