MANIPAL UNIVERSITY
JAIPUR

**Faculty of Engineering, School of Computer and Communication Engineering**
**B. Tech. CCE and B. Tech. CSE (IoT & IS), V-Semester**
**Software Engineering**

## Assignment-1

1. Why is primary goal of software development now shifting from producing good quality software to good quality maintainable software?
2. List the reasons for the "software crisis"? Why are CASE tools not normally able to control it?
3. What is software crisis? Was Y2K a software crisis?
4. How are software myths affecting software process? Explain with the help of examples.
5. State the difference between program and software. Why have documents and documentation become very important.
6. What is software engineering? Is it an art, craft or a science? Discuss.
7. Define the term "Software engineering". Explain the major differences between software engineering and other traditional engineering disciplines.
8. What is software process? Why is it difficult to improve it?
9. What are the components of a software? Discuss how a software differs from a program.
10. Discuss major areas of the applications of the software.
11. Differentiate between the following:
    (i) Deliverables and milestones
    (ii) Product and process
    (iii) Measures, metrics, and measurement
12. Distinguish between generic and customized software products. Which one has larger share of market and why?

## Assignment-2

1. What do you understand by the term Software Development Life Cycle (SDLC)? Why is it important to adhere to a life cycle model while developing a large software product?
2. List the advantages of using waterfall model instead of build and fix model.
3. Discuss the prototyping model. What is the effect of designing a prototype on the overall cost of the project?
4. Compare iterative enhancement model and evolutionary process model.
5. Sketch a neat diagram of spiral model of software life cycle.
6. Compare the waterfall model and the spiral model of software development.
7. Describe the rapid application development (RAD) model. Discuss each phase in detail.
8. What is the role of user participation in the selection of a life cycle model?
9. Why do we feel that characteristics of requirements play a very significant role in the selection of a life cycle model?

10. Discuss the selection process parameters for a life cycle model.
11. What is unified process? Explain various phases along with the outcome of each phase.
12. Describe the unified process work products after each phase of unified process.

**Assignment-3**

1. What are crucial process steps of requirement engineering? Discuss with the help of a diagram.
2. Explain the importance of requirements. How many types of requirements are possible and why?
3. What do you understand with the term "requirements elicitation"? Discuss any two techniques in detail.
4. What are components of a use case diagram. Explain their usage with the help of an example.
5. Consider the problem of railway reservation system and design the following:
   (i) Problem statement.
   (ii) Use case diagram.
   (iii) Use cases.
6. What are the linkages between data flow and E–R diagrams?
7. A department of computer science has usual resources and usual users for these resources. A software is to be developed so that resources are assigned without conflict. Draw a DFD specifying the above system.
8. Write short notes on
   (i) Data flow diagram.
   (ii) Data dictionary.
9. What is software requirements specification (SRS)? List out the advantages of SRS standards. Why is SRS known as the black box specification of a system?
10. Discuss the difference between the following:
    (a) Functional & nonfunctional requirements
    (b) User & system requirements