# MCS-034

## (Software Engineering)

# IMPORTANT TOPIC

# Book-1

**Book-1**

- Define "Software Engineering". (page-7)Illustrate various phases of Life cycle of Software Development.(Means SDLC model) page-10
- Water fall model, Prototyping Model, Spiral model- [Advantages, disadvantages, with diagrams] page-9
- Explain the various levels of Capability Maturity Models. (page-13)
- Types of requirements , SRS, Problem in SRS, Requirements Gathering tools/ technique (page-23)
- DFD & ERD
- Data Dictionary(page-30)
- Software prototyping, it's advantages and disadvantages. (Page-34)
- Define Cohesion and Coupling. Explain various types in each of them. (page-44)
- Elaborate the rules for human computer interface design. (Page-49)

- Validation and verification(page-53)
- Black box testing and its methods(page-56)
- White box testing and its methods (page-58)
- What is Cyclomatic Complexity ? How is it computed ? Calculate Cyclomatic Complexity for the program to find the smallest of three numbers.(page-61)
- CFG and Mutation Testing. (page-61)
- Define debugging. Explain the characteristics of bugs in detail. (page-65)

# Book-2

**Book-2**

- List and explain the two categories of project metrics along with the help of an example for each. (page-5)
- COCOMO model , Putnam's Model, Statistical Model (page-13)
- What is a risk ? Explain different types of software risks. Risk Management Techniques. Risk Manager Tool(page-18,21)
- Work breakdown structure, Flow Graph, Gantt Chart (Pge-25)
- Software Quality Assurance(SQA) (page-34)
- Explain various approaches for the Formal Technical Review . Compare and contrast formal and informal technical reviews. (page-35)
- Software Reliability (page-40)
- Define "Software Quality" and "Software Reliability". Is it possible to achieve both ? Justify your answer.
- Define "Baseline". What is its significance ? How can it be changed ? (page-45)
- Version Control (page-48)
- Change Control (page-50)
- Write a detailed note on auditing and reporting. (page-54)

# Book-3

**Book-3**

- Architecture of GSM (page-23)
- Explain the process of developing wireless application using J2ME. (page-23)
- Describe the features of Java Device Test Suite (JDTS) and its applications. (page-29)
- What are CASE Tools ? With a suitable diagram, explain the categories of CASE Tools. (page-31,33)
- Software Configuration Management (page-44)
- CLEANROOM Software Engineering (page-54)
- Describe the challenges for Component Based Software Engineering (CBSE). (page-59)
- Domain Engineering and Structural Modeling (page-60)
- Explain software reengineering with a diagram. (page-63) Life Cycle (page-64)