

Dronacharya College of Engineering, Gurgaon

Department of Electronics and Computers Engineering

Subject: Principles of Software Engineering (Code: CSE-302-F)

Semester: / Branch: VI ECS

Important Questions

Section A

- Q1. Differentiate between product, project and process?
- Q2. What is the use of Requirement Engineering? What are the problems in formulation of requirements?
- Q3. What is the difference between flowchart and structure chart?
- Q4. Draw level-1 DFD (Data Flow Diagram) for Railways Reservation Systems? Also write the data dictionary for the same.
- Q5. Define Software Engineering. Explain the various characteristics of software.
- Q6. Discuss in detail the “Waterfall” software life cycle model with example? Also write merits and demerits.
- Q7. Explain the “COCOMO” heuristic estimation technique in detail.
- Q8. What is E-R model? Where is it used? What different symbols are used in creating E-R diagram? Explain them.
- Q9. Define Bug, Error, Fault, Failure and Defect?

Section B

- Q1. Explain abstraction related to system design?

Q2. Explain various types of cohesion and coupling in detail. Which one is the best and which one is the worst among them in case of both cohesion and coupling?

Q3. Differentiate between object-oriented and function-oriented design with their relative merits and demerits through a suitable simple problem of your choice.

Q4. What is Design? What are the objectives of software design?

Q5. Discuss the relationship between the concept of information hiding as an attribute of effective modularity and the concept of module independence.

Q6. Differentiate between the following: (i) Abstraction and modularization (ii) Analysis and design.

Q7. What is Software Development Life Cycle (SDLC)? Why is it important to adhere to a life cycle model while developing a large software product.

Section C

Q1. Differentiate b/w black box (Functional) and white box (Structural) testing techniques.

Q2. Explain the driver and stub technique of unit testing taking a suitable example.

Q3. Explain top-down and bottom-up integration testing. Briefly explain the test plan.

Q4. Explain Debugging. Compare various debugging techniques available.

Q5. Explain equivalence partitioning technique of black box testing.

Q6. Discuss Reverse Engineering and Re-engineering.

Q7. What Verification and validation means?

Section D

Q1. Explain the CASE repository function in detail?

Q2. Discuss ISO 9001.

Q3. What is software quality assurance? Explain major SQA activities.

Q4. How do you perform formal technical reviews?

Q5. What is software reliability? Why it is difficult to accurately quantify the reliability of software product?

