MCA 513: Software Engineering

MCA-V Sem

Q1   What is software engineering? Explain the need of software engineering techniques in software development.

Q2   Explain the steps of software development life cycle.

Q3   What do you mean by software crisis? Discuss the main reasons of software crises.

Q4   What are essential characteristics of software engineering?

Q5   Explain different types of software.

Q6   What do you mean by the term software engineering? Describe the evolving role of software.

Q7   Give the various application areas of the software?

Q8   What are the different software components?

Q9   Explain in detail software engineering process.

Q10   Define software engineering. It is an art, craft, or an science?

Q11   What do you mean by feasibility study? Explain different types of feasibility studies.

Q12   What are the goals of software engineering? Explain.

Q13   What is the difference between analysis and design. Can one begin to design without analysis?

Q14   What are the factors involved in the emergence of software engineering? Explain.

Q15   Explain the different categories of maintenance in the software development life cycle.

Q16   Explain Waterfall model in detail with the help of diagram. State its advantages and also its limitations.

Q17   What is prototype model? Explain its working with neat diagram.

Q18   explain Iterative enhancement model with the help of a suitable example.

Q19   What are the major phases in the spiral model of software development? Explain.

Q20   Write a short note on comparison between various software development life cycle models.

Q21   Discuss the merits and demerits of various models of Software Engineering.

Q22   What do you mean by Data flow diagrams? Explain some of the symbols used to draw a DFD.

Q23   Explain different types of categories of software metrics.

Q24   Discuss some methods of monitoring and control of software development process.

Q25   Discuss the difference between Object Oriented and Function Oriented design.

Q26   What is meant by the term coupling in the context of software design? Is it true that in a good design, the modules should have low coupling? Why.

Q27   What is software metrics? What is the role of metrics in project management?

Q28   What is the goal of the functional decomposition approach to structured design?

Q29   Discuss the differences between size and function oriented metrics.

Q30   What is SRS? What are the different components of Software Requirement Specification?

Q31   What do you understand by the term system testing? What are different kinds of system testing that are usually performed on large software products?

Q32   Distinguish between software verification and software validation.
Q33   What are the various testing strategies? Explain in detail.
Q34   Explain the need of testing in software develop? Explain various testing technique.
Q35   What do you mean by regression testing and where do we use it?
Q36   Explain testing. List and describe various testing techniques briefly.
Q37   What do you understand by structured testing? List important structural testing techniques.
Q38   What is cyclomatic complexity? Compute the cyclomatic complexity of a flow graph of your choice.
Q39   What do you mean by cause-effect graphing technique? Discuss its relevance.
Q40   Explain the equivalence partitioning method as applied to determine black box test cases.
Q41   What is the difference between alpha and beta testing?
Q42   Write short notes on test cases and test plans.
Q43   What are the important debugging techniques? Explain.
Q44   Differentiate between black box and white box testing technique and suggest how they can be used together for defect testing.
Q45   Define structured programming? Discuss the advantages of structured programming.
Q46   Discuss requirement analysis phase in detail. What is the output of this phase?
Q47   What characteristics of software make it different from other Engineering products?
Q48   Comment on the statement "Software does not wear out". Also list the reasons for software crises.
Q49   What do you mean by Software? What are the attributes of good software? Explain.
Q50   What is the difference between methodology and a process? Explain.
Q51   What do you mean by software quality? Describe the factors that affect the software quality.
Q52   What do you mean by functional & non-functional requirements? Give examples.
Q53   Discuss the IEEE standards for SRS.
Q54   Write short note for calculating Cyclomatic complexity of a program with suitable example.
Q55   Discuss bottom-up & top-down design approach with example.
Q56   Write short note on the following with example.
        i) Integration testing ii) Regression testing
Q57   What do you mean by software maintenance. Explain different types of maintenance with example.
Q58   What do you mean by implementation? Discuss the activities involved during implementation.
Q59   What is SRS. Discuss various component & advantages of SRS.
Q60   Explain DFD. Draw a DFD for Payroll management system.
Q61   Discuss various types of module coupling & modeling cohesion. What is the relationship between them?
Q62   Discuss the difference between Function Oriented & Object Oriented design.
Q63   Do you agree with the following statement? "System testing can be considered as a pure black-box test". Justify your answer.
Q64   Distinguish among error, fault & failure. Which of these conditions is detected by testing? Justify your answer.

Q65   What is a coding standard? Why is it necessary for engineers of an organization to adhere to a coding standard?

Q66   What is meant by the term cohesion in the context of software design? Is it true that in a good design, the modules should have low cohesion? Why?

Q67   What do you understand by the term top-down decomposition in the context of function oriented design?

Q68   How is Cyclomatic complexity useful in program testing?

Q69   Explain some of the causes & remedies for high coupling between two software modules.

Q70   Explain desirable characteristics of a good SRS document.

Q71   What are the different levels of testing & the goals of the different levels?

Q72   What is structured programming & how does it help improve code quality?

Q73   What do you mean by Structured programming? Discuss the advantages of Structured programming.

Q74   Write short notes on Test Cases & Test Plans.

Q75   Describe various categories of maintenance. Which category consumes maximum time & why?