Software Engineering

(BCA-208) Question Bank

Short Answer type Questions

Q1. What is Feasibility study?

Q2. What is requirement?

Q3. What is the difference between product and process?

Q4. What is Context Diagram?

Q5. How context diagram is different from Level 1 DFD?

Q6. What is Software Crisis?

Q7. How Deliverable is different from Milestone?

Q8. How metrics is different from measurement?

Q9. What is productivity?

Q10. How productivity is related to effort?

Q11. Differentiate between module and a software component.

Q12. What is software engineering?

Q13. What is software life cycle?

Q14. What is requirement analysis?

Q15. What is degree of relationship?

Q16. What is cardinality in a relationship?

Q17. What is estimation?

Q18. What is the aim of software engineering?

Q19. Why metrics are required in software engineering?

Q20. What is Requirement Engineering?

Q21. Which one is more important: Product or Process? Why?

Long Answer type Questions

Q1. List the goals of software engineering?

Q2. What is the advantage of adhering to life cycle models for software?

Q3. Explain the software engineering, what do you understand by the term "software"? Discuss its characteristics and components?

Q4. Discuss the software process and product metrics with the help of examples and explain the SDLC.

Q5. What are the major phases in the water fall model and spiral model? Where is spiral model beneficial?

Q6. What is a prototype model? Under what circumstances is it beneficial to construct a prototype model?

Q7. Describe the Spiral Model of software development with strength, weakness. also give the reason for using Spiral Model.

Q8. What is System Development Life Cycle(SDLC). Explain its Phases.

Q9. What are the fundamental activities of a software process?

Q10. Which is more important-the product or process? Justify your answer.

Q11. What do you understand by Software measurements. Why it is necessary for Software.

Q12. Estimate the effort parameters from the set of data as shown in table

Project	Size (KLOC)	Effort (PM)
1	30	84
2	20	56
3	50	140
4	10	28

Q13. Describe the COCOMO Model of Software engineering.

Q14. How we Estimate cost of a software by Constructive Cost model (COCOMO). Explain all three modes of COCOMO Model with example.

Q15. Suppose that a system is developed and line of source instruction are 100KLOC. Compute the nominal effort and development time for each of the three development modes i.e. Organic, Semidetached and Embedded. Note:- Nominal effort means all the 15 Cost driver attribute have nominal values = 1.

Q16. What do you mean by Risk Analysis? Explain different steps of Risk Analysis.

Q17. Why requirement analysis is important in development of a software ? Describe analysis principles in details.

Q18. Define Requirement Analysis. Write Requirement Analysis principles. Also Explain FAST & DFD Techniques of Requirement Analysis.

Q19. Define SRS. Also List desirable characteristics of a good SRS document.

Q20. Draw the Data flow diagram for library/banking management system. Clearly describe the working of the system.

Q21. Write short note on Data dictionary.

Q22. What is prototype model and its various issues? Explain in detail. How is it different from evolutionary model?

Q23. Discuss the organization of good SRS along with its characteristics.

Q24. Explain spiral model of software development with the help of diagram. What are its limitations?

Q25. Consider the problem of university result management system and design the following:
i) Use Case Diagram
ii) Level-1 DFD
iii) ER Diagram

Q26. Design level-2 DFD for Library Management System.

Q27. Design ER Diagram for Library Management System.

Q28. What are the different requirement elicitation techniques? Explain in detail.

Q29. What is COCOMO Model. Explain in detail with its types

Q30. Suppose that a project was estimated to be 600 KLOC. Calculate the effort, development time, average staff size, productivity for organic and semidetached models.

Project	a	b	c	d
Organic	2.4	1.05	2.5	0.38
Semi-Detached	3.0	1.12	2.5	0.35
Embedded	3.6	1.20	2.5	0.32

Q31. What is the role of management in software development? Explain with the help of examples

Q32. What are the size metrics? How is function point metric advantageous over LOC metric? Explain.

Q33. Explain the activities that are undertaken during any typical software project planning.

Q34. What are the five functional units used in FPA?

Q35. The value of size of program in KLOC and different cost drivers are given below: Size= 400 KLOC, Complexity= 0.85, Analyst capability= 1.19, Modern in programming practices= 0.82, Required software reliability= 0.75. Calculate the effort, development time, average staff size and productivity of project using COCOMO Model.

Q36. What is risk? What are the risk management activities? Is it possible to prioritize the risk?