

Software Engineering Question BANK

computer science (KPRIT AIML)

GIT HUB : SHYAM-SUDHEER 1602

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SHYAM-SUDHEER1602

QUESTION BANK**PART – A (Short Answer Questions)**

S. No	Questions	Blooms Taxonomy Level	Course Outcome
UNIT – I			
1	Explain is legacy software?	Knowledge	
2	Demonstrate all the applications of software?	Knowledge	
3	List the types of software myths?	Knowledge	
4	Discuss the architecture of layered technology?	Understand	
5	List all the umbrella activities in process framework?	Understand	
6	Explain is process pattern?	Knowledge	
7	List the types of software models?	Understand	
8	List the types other software process models?	Understand	
9	Explain software component? explain its uses	Understand	
10	Explain process assessment?	Knowledge	
11	List the models in CMMI?	Knowledge	
12	Explain the levels in continuous model in CMMI?	Understand	
13	Compare between perspective and iterative process models?	Understand	
14	Explain staged model in CMMI?	Knowledge	
15	Write the other name of waterfall model and who invented waterfall model?	Understand	
16	Explain Boehm model?	Understand	
17	List the phases in unified process model??	Understand	
18	List the types of patterns?	Knowledge	
19	Explain PSP and TSP?	Knowledge	
20	Explain high speed adaptation model?	Understand	
UNIT - II			
1	Explain the kinds of system requirements?	Knowledge	
2	Explain functional requirement?	Knowledge	
3	Explain nonfunctional requirement?	Understand	
4	Explain domain requirements?	Understand	
5	List kinds of nonfunctional requirements?	Knowledge	
6	Explain example of functional requirement?	Understand	
7	Explain user requirements in detail?	Understand	
8	Explain system requirement in detail?	Understand	
9	Explain interface and list out how many types of there and what are they?	Knowledge	
10	Explain the term stake holder?	Knowledge	
11	Explain requirements gathering??	Knowledge	
12	Explain requirement validation?	Understand	
13	Explain requirement review?	Understand	
14	Explain data dictionary?	Understand	
15	Discuss data flow model?	Knowledge	
16	Explain state machine model of a microwave oven?	Knowledge	
17	List kinds of behavioral and object models?	Knowledge	
18	Design class hierarchy for library by using in heritage model?	Knowledge	
19	Describe ethnography?	Understand	
20	Explain viewpoints and types of viewpoints?	Understand	
UNIT - III			
1	Explain why design is important in design engineering?	Knowledge	
2	Discuss analysis and design model?	Understand	
3	Describe quality attributes and its guidelines?	Understand	
4	List the design concepts?	Knowledge	
5	Justify the importance of refactoring?	Understand	
6	Discuss on low coupling?	Understand	
7	Define software architecture with its importance?	Understand	
8	Explain taxonomy of architectural styles?	Knowledge	
9	Write short notes on architecture patterns?	Knowledge	
10	Compare function oriented and object oriented design?	Understand	
11	Define top-down and bottom-up design model?	Knowledge	

12	Write short notes on coupling?	Knowledge	
13	List out the steps for conducting component level design?	Knowledge	
14	Write short notes on cohesion?	Knowledge	
15	Design the class based components?	Understand	
16	List out the golden rules for interface design?	Understand	
17	Write short notes on interface design steps?	Knowledge	
18	Describe design evaluation?	Knowledge	
19	List out all the design issues?	Understand	
20	Explain process in user interface design?	Understand	
UNIT IV			
1	Compare verification and validation?	Knowledge	
2	Write short notes on unit testing?	Knowledge	
3	Describe smoke testing?	Knowledge	
4	List out the steps for bottom-up integration?	Knowledge	
5	List out the steps for top-down integration?	Understand	
6	Write short note on integration testing?	Understand	
7	Compare Quality assurance vs. Quality Control?	Knowledge	
8	Define CASE tools?	Knowledge	
9	Write short notes on validation testing?	Knowledge	
10	Explain art of debugging?	Understand	
11	Describe regression testing?	Knowledge	
12	List out the steps for integration step documentation?	Knowledge	
13	Describe performance testing?	Knowledge	
14	Write short notes on glass box testing?	Knowledge	
15	Explain behavioral testing?	Understand	
16	List the quality factors of McCall's?	Understand	
17	List the quality factors of ISO 9126?	Knowledge	
18	Define the following terms measures, metrics, and indicators?	Understand	
19	Write short notes on product metric land scrape?	Understand	
20	List out the metrics for analysis model?	Understand	
UNIT - V			
1	Define reactive and proactive risk strategies?	Knowledge	
2	List out the generic subcategories of predictable risks?	Understand	
3	Define risk components?	Understand	
4	List out the conditions for risk refinement?	Knowledge	
5	Write about quality concepts?	Understand	
6	Write short notes on formal technical reviews?	Understand	
7	List out review guidelines??	Understand	
8	Describe six sigma for software?	Knowledge	
9	Write about the classification of case tool?	Knowledge	
10	Write a short notes on ISO 9000 quality standards?	Understand	
11	Write the formulae for measures of reliability and availability?	Knowledge	
12	Explain about software cost estimation?	Knowledge	
13	Write short note on the various estimation techniques?	Knowledge	
14	Define software risks and what are the types of software risks?	Knowledge	
15	Describe risk components and drivers?	Understand	
16	Write the purpose of timeline chart?	Understand	
17	Expand RMMM in RMMM plan?	Knowledge	
18	Define software reliability?	Understand	
19	Define quality and quality control in quality management?	Understand	
20	Write short notes on risk identification?	Understand	

PART – B (Long Answer Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcome
UNIT – I			
1	Explain the evolving role of software?	Knowledge	
2	Define software and explain the various characteristics of software?	Knowledge	
3	Describe “Software myth”? Discuss on various types of software myths and the true aspects of these myths?	Knowledge	
4	Explain software Engineering? Explain the software engineering layers?	Understand	
5	Explain in detail the capability Maturity Model Integration (CMMI)?	Understand	
6	Describe with the help of the diagram discuss in detail waterfall model. Give certain reasons for its failure?	Knowledge	

7	Explain briefly on (a) the incremental model (b) The RAD Model?	Understand	
8	Explain the Spiral model in detail?	Understand	
9	Describe With the help of the diagram explain the concurrent development model?	Understand	
10	Explain unified process? Elaborate on the unified process work products?	Knowledge	
11	Explain specialized process models?	Knowledge	
12	Explain different software applications?	Knowledge	
13	Explain the paradigms do you think would be most effective? Why?	Understand	
14	Explain product and process are related?	Understand	
15	Explain personal and team process models?	Understand	
16	Explain process frame work activities?	Knowledge	
17	Explain the purpose of process assessment?	Knowledge	
18	Explain changing nature of software in detail?	Knowledge	
19	Explain and contrast perspective process models and iterative process models?	Understand	
20	Explain about the evolutionary process models?	Understand	
UNIT – II			
1	Write short notes on user requirements. What are requirements?	Knowledge	
2	Compare functional requirements with nonfunctional requirements?	Knowledge	
3	Discuss system requirements in a detail manner?	Understand	
4	Explain requirement engineering process?	Understand	
5	Discuss briefly how requirement validation is done?	Knowledge	
6	Discuss your knowledge of how an ATM is used; develop a set of use-cases that could serve as a basis for understanding the requirements for an ATM system?	Understand	
7	Describe four types of non-functional requirements that may be placed on a system. Give examples of each of these types of requirement?	Understand	
8	Explain how requirements are managed in software project management?	Understand	
9	Explain context models?	Knowledge	
10	Explain Behavioral models?	Knowledge	
11	Explain Data models?	Knowledge	
12	Explain Object models?	Understand	
13	Explain in which circumstances would you recommend using structured methods for system development?	Understand	
14	Explain SRS document and explain along with its contents?	Understand	
15	Explain interface specification in detail?	Knowledge	
16	Discuss how requirements are elicited and validated in software project?	Knowledge	
17	Discuss how feasibility studies are important in requirement engineering process?	Knowledge	
18	Demonstrate class hierarchy for library by using interface specification?	Understand	
19	Explain inheritance model?	Understand	
20	Explain state machine model with a suitable example?	Understand	
1	Explain a two level process? Why should system design be finished before the detailed design, rather starting the detailed design after the requirements specification? Explain with the help of a suitable example	Knowledge	
2	Discuss briefly the following fundamental concepts of software design: i) Abstraction ii) Modularity iii) Information hiding	Understand	
3	Explain briefly the following: i) Coupling between the modules, ii) The internal Cohesion of a module	Understand	
4	Discuss the fundamental principles of structured design. Write notes on transform analysis?	Knowledge	
5	Explain software architecture in a detail manner?	Understand	
6	Explain software design? Explain data flow oriented design?	Understand	
7	Explain the goals of the user interface design?	Understand	
8	Discuss briefly about the golden rules for the user interface design?	Knowledge	
9	Discuss interface design steps in a brief manner?	Knowledge	
10	Explain how the design is evaluated?	Understand	

11	Explain design processing along with its quality?	Knowledge	
12	Explain the design concepts in software engineering?	Understand	
13	Explain pattern based software design in a detail manner?	Understand	
14	Elaborate model for the design?	Understand	
15	Discuss architectural styles and patterns?	Knowledge	
16	Explain with a neat diagram of architectural design?	Knowledge	
17	Elaborate modeling component level design?	Knowledge	
18	Describe mapping data flow into software architecture?	Understand	
19	Explain the guide lines of component level design?	Understand	
20	Describe the way of conducting a component level design?	Understand	
UNIT- IV			
1	Explain about the importance of test strategies for conventional software?	Knowledge	
2	Discuss black box testing in a detailed view?	Apply	
3	Compare black box testing with white box testing?	Apply	
4	Compare validation testing and system testing?	Knowledge	
5	Discuss software quality factors? Discuss their relative importance?	Understand	
6	Discuss an overview of quality metrics?	Understand	
7	Explain should we perform the Validation test – the software developer or the software user? Justify your answer?	Apply	
8	Explain about Product metrics?	Knowledge	
9	Explain about Metrics for maintenance?	Knowledge	
10	Explain in detail about Software Measurement?	Understand	
11	Explain about Metrics for software quality?	Knowledge	
12	Explain strategic approach to software testing	Understand	
13	Describe test strategies for conventional software	Understand	
14	Describe validation testing	Understand	
15	Write a long notes on system testing	Knowledge	
16	Demonstrate art of debugging	Knowledge	
17	Discuss a framework for product metrics	Knowledge	
18	Demonstrate metrics for analysis model	Understand	
19	List the metrics for the design model	Understand	
20	Describe metrics for source code and for testing	Understand	
UNIT - V			
1	Explain about software risks?	Knowledge	
2	Elaborate the concepts of Risk management Reactive vs Proactive Risk strategies?	Understand	
3	Explain about RMMM Plan?	Understand	
4	Explain about Quality concepts?	Knowledge	
5	Explain software quality assurance?	Understand	
6	Explain about formal technical reviews?	Understand	
7	Explain in detail ISO 9000 quality standards?	Understand	
8	Discuss risk refinement?	Knowledge	
9	Compare reactive with proactive risk strategies?	Knowledge	
10	Discuss software reliability?	Understand	
11	Briefly explain about formal approaches to SQA?	Knowledge	
12	Demonstrate statistical SQA?	Understand	
13	Define software reliability along with its terms?	Understand	
14	Explain risk projection in detail?	Understand	
15	Explain seven principals of risk management?	Knowledge	
16	Explain software reviews in brief?	Knowledge	
17	Explain six sigma for software engineering?	Knowledge	
18	Explain quality management with their terms?	Understand	
19	Demonstrate risk identification?	Understand	
20	Describe developing a risk table?	Understand	

PART – C (Problem Solving and Critical Thinking Questions)

S. No	Questions	Blooms Taxonomy Level	Course Outcome
UNIT – I			
1	Describe the law of conservation of familiarity in your own words?	Knowledge	
2	Suggest a few ways to build software to stop deterioration due to change?	Knowledge	
3	Try to develop a task set for the communication activity?	Apply	
4	What is the purpose of process assessment? Why has SPICE been developed as a standard for process assessment?	Knowledge	
5	Discuss the meaning of “cross-cutting concerns” in your words?	Knowledge	
UNIT – II			
1	Identify and briefly describe four types of requirements that may be defined for computer based system?	Knowledge	
2	List out plausible user requirements for the following functions a) Cash dispensing function in a bank ATM? b) Spelling check and correcting function in a word processor?	Knowledge	
3	Suggest how an engineer responsible for drawing up a system requirements specification might keep track of the relationship between functional and non- functional requirements?	Knowledge	
4	Suggest who might be stakeholders in a university student record system. Explain why it is almost inevitable that the requirements of different stakeholders will conflict in some way?	Knowledge	
5	Explain who should be involved in requirements review? draw a process model showing how a requirements review might be organized?	Apply	
UNIT – III			
1	State how do we assess quality of a software design?	Knowledge	
2	Suggest a design pattern that you encounter in a category of everyday things?	Apply	
3	Provide examples of three data abstractions and the procedural abstractions that can be used to manipulate them?	Apply	
4	Explain the difference between a data base that services one or more conventional business applications and data warehouse?	Knowledge	
5	Demonstrate the architecture of a house or building as a metaphor, draw comparison with software architecture. How are the disciplines of classical architecture and software architecture similar? How do they differ?	Apply	
UNIT – IV			
1	Provide a few examples that illustrate why response time variability can be an issue?	Knowledge	
2	Develop two additional design principles “place the user in control”?	Apply	
3	Develop two additional design principles “make the interface consistent”?	Apply	
4	Develop a complete test strategy for the safe home system. Document it in a test specification.	Apply	
5	Provide examples for unit testing?	Apply	
UNIT – V			
1	Quality and reliability are related concepts but are fundamentally different in number of ways. Discuss them?	Apply	
2	You have been given the responsibility for improving quality of software across your organization. What is the first thing that you should do? What’s next?	Apply	
3	Some people argue that an FTR should assess programming style as well as correctness is this a good idea? Why?	Apply	
4	Is it possible to assess the quality of software if the customer keeps changing what it is supposed to do?	Apply	
5	Create a risk table for the project that if you are the project manager for a major software company. you have been asked to lead a team that’s developing “next generation “word- processing software?	Apply	