

## QUESTION BANK

**Subject: Software Engineering and Project Management(BCS501)**

**Sem/Year: 5<sup>th</sup> Sem/3<sup>rd</sup> Year**

SL.NO	Questions	Marks	CO	BTL
<b>Module 1-Introduction:Software and Software Engineering</b>				
1.	Define Software? Describe the various Characteristics of the software that are considerably different from those of hardware?	10	1	1
2.	Explain the 7 categories of Software application domains that gives continuous challenges to software engineer considering changing nature of software with an example for each?	6	1	2
3.	Describe "Software myth"? Discuss on various types of software myths and the true aspects of these myths? Or Explain Software Myths with examples.	10	1	2
4.	What is Legacy Software? Explain.	4	1	1
5.	What is Software Process? Explain the five fundamental activities of generic software process and umbrella activities of generic process framework? (Chapter 1—1.4)	8	1	1
6.	What is Software Engineering? Explain the software engineering layers with neat diagram?	6	1	1
7.	List and explain the core principles of software engineering practice?/ Summarize the seven principles of software engineering practice proposed by David Hooker	4	1	1
8.	With a neat diagram explain generic process model? Or Write down the generic process framework that is applicable to any software project// Relationship between work Product, Task, Activity, System? (Chapter 2—2.1)	10	1	3
9.	Define Process Patterns? Explain briefly the template for describing process patterns proposed by Ambler	6	1	1
10.	With a neat diagram, explain the waterfall model of software Engineering process, With advantages and disadvantages?	8-10	1	2
11.	With neat diagram, Explain Boehm's spiral model? List its advantages and disadvantages? Or	8	1	3



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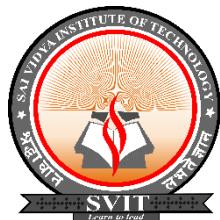
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	Which process model is best suited for risk management? Discuss in detail with an example. Give the advantages and disadvantages of the model			
12.	Explain Specialized Process development models?	6	1	1
13.	Discuss the prototyping model. What is the effect of designing a prototype on the overall cost of the software project?	6	1	3
14.	With a neat diagram explain Incremental process models and Evolutionary process models.	10	1	2
15.	Explain various Evolutionary Process Model?	10	1	2
16.	If you have to develop a word processing Software Product, What Process model will you choose? Justify your answer. Explain this Proposed Model with a Neat diagram	10	1	4
17.	For the Scenario described below, which Life Cycle Model would you choose? Give the reasons why you would choose this Model. “You are interacting with the MIS department of a very large Oil Company with multiple departments. They have a Complex legacy system, Migrating the data from this legacy system is not an easy task and would take a considerable time, The Oil Company is very particular about Processes, Acceptance criteria, and Legal Contract” Explain the above Proposed model briefly with a neat diagram	10	1	4
18	Define software engineering and explain its process	10	1	1
19	With a neat diagram explain Prescriptive and Waterfall model.	10	1	2
<b>Module 2: Requirement Engineering</b>				
1.	Explain Requirement engineering with tasks involved in Requirement Engineering Process.	10	2	1
2.	Explain the steps required to establish groundwork for an understanding of software requirements?	8	2	1
3.	Explain in detail the common techniques used for eliciting requirements from stakeholders	10	2	2
4.	Explain in detail about validating requirements.	6	2	1
5.	Develop Use Case for Safe Home systems?	8	2	3
6.	Develop a complete use case diagram for ATM machine? Explain the notations used in Use Case /diagram.	6	2	3
7.	Illustrate Scenario Based Modeling with Safe Home Surveillance example?	6	2	3



8.	Develop activity diagram for access camera surveillance.	4	2	3
9.	Briefly explain data modeling with Example?	10	2	1
10.	Explain the IEEE standard requirement document with its structure.			2
11.	Explain the UML models which supplements the use case with neat diagram of "Access Camera Surveillance via Internet" example?	10	2	2
12.	Explain class-based modeling with diagram?	10	2	2
13.	Explain in detail? i) Association and Dependency ii) CRC Modelling	6	2	2

**MODULE 3—Agile Development**

1.	What is Agility? How cost of change reduces from conventional software development? Explain the Principles of Agile software Development?	10	3	2
2.	What are the Agile process key Assumption? Explain agile principles.	10	3	1
3.	What are key traits that must exist among people on an effective software team.	6	3	1
4.	Illustrate in detail about XP Programming? How IXP incorporates new practices to ensure project success?	7	3	3
5.	Explain Adaptive software development.(ASD) with diagram	6	3	1
6.	Explain i) Dynamic Systems Development Method (DSDM) ii) Crystal iii) Feature Driven Development (FDD)	9	3	1
7.	Explain i) Lean Software Development (LSD) ii) Agile Modeling (AM) iii) Agile Unified Process (AUP)	9	3	1
8.	Explain Scrum framework in Agile methodology with diagram?	8	3	1
9.	Explain the Core Principles that guides at Process level and Practice Level?	7	3	1
10.	Explain the Communication Principles and Planning principles of Framework Activity ?	10	3	1
11.	Explain the Construction Principles of Process Framework Activity?	7	3	1
12.	Explain Modeling Principles.	10	3	1



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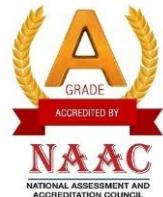
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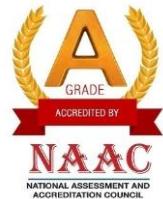
## MODULE 4—Software Project Management

SL.NO	Questions	Marks	CO	BTL
1.	Why is Software Management Project crucial in ensuring the success of software development projects?	7	4	2
2.	What is project? Explain the characteristics of project and how software projects are different from other types of projects?  Explain the difference between software projects and other projects in detail. /How does project management methodology differ for simple projects and complex projects ?	10	4	1
3.	What is Contract Management? How does it contribute to the successful execution and delivery of software explain with example?	7	4	2
4.	What are the sequential activities to be covered to complete the software project by a project manager? Explain with diagram.  Describe activities covered by the software project management with example. (Or) Explain the various software development life cycle activities as outlined by ISO 12207 with a neat diagram.	6	4	1
5.	Explain with an example the difference between methods and methodologies followed in software project development?	8	4	2
6.	With an example explain different categorize of the project	6	4	2
7.	List the different types of stakeholders responsible for successful completion of software project?		4	1
8.	Explain the procedure of setting an objective for successful completion of software project?	6	4	1
9.	When a software is considered as successful or failure? Explain both with examples.	6	4	1
10.	What is the role of management in execution of	6	4	1



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	software project development?			
11.	Explain with a necessity block diagram how a Project Management Lifecycle(PMLC) drives a software development lifecycle?	8	4	2
12.	Differentiate Traditional Vs Modern Project Management?	6	4	1
13.	Explain the different Cost Based Evaluation Techniques to evaluate projects? Calculate the ROI for each project given table.[Any table can be given].	10	4	3
14.	Calculate the ROI for a software project development, where the net profit is 60,000 and the total investment is 300,000.	6	4	2
15.	Explain decision trees with examples	8	5	1
16.	Explain the following i. Technical assessment ii.Cash flow forecasting	6	4	2

**MODULE 5—Software Quality**

1.	Define Software Quality? Explain the role of software quality in project management. Or How can software quality be incorporated into project planning? Or Describe the relationship between software quality and project planning with neat diagram	8- 10	5	2
2.				
3.	What are the various quality methods used to measure the quality of the software? Explain any 2 models in brief.	10	5	2
4.	Explain in detail about cost-benefit evaluation techniques and its methods with examples.	10	5	2
5.	Explain risk evaluation with suitable diagram	10	5	2
6.	What are Product and process metrics ? Explain product versus process quality management?	10	5	2
7.				
8.				



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