Course Code: 20CI0613 **R20**

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR (AUTONOMOUS)
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: SOFTWARE PROCESS & PROJECT MANAGEMENT (20CI0613)
Course & Branch: B.Tech & COMPUTER SCIENCE & INFORMATION TECHNOLOGY
Year & Sem :IV & I **Regulation: R20**

UNIT –I
SOFTWARE PROCESS MATURITY

1	**a)**	How do The Initial Process and The Repeatable Process differ in the software development?	[L2][CO1]	**[5M]**
	b)	How does The Defined Process differ from The Managed Process?	[L2][CO1]	**[5M]**
2		Define the Software Process Assessment in detail?	[L6][CO1]	**[10M]**
3		Explain the Software Maturity Framework and its significance in software development processes.	[L2][CO1]	**[10M]**
4		Define Principles of Software Process Change? Explain the Six basic principles of Software Process Change?	[L1][CO1]	**[10M]**
5		Explain the fundamental principles of the Personal Software Process (PSP) and its significance for individual software developers.	[L2][CO1]	**[10M]**
6		What are different Process reference models and explain in detail?	[L3][CO1]	**[10M]**
7		Compare and contrast the Capability Maturity Model (CMM) with the Capability Maturity Model Integration (CMMI).	[L3][CO1]	**[10M]**
8	**a)**	Explain the role of continuous improvement in The Optimizing Process and its significance in advancing software development process maturity.	[L2][CO1]	**[5M]**
	b)	How does TSP differ PSP, and what advantages does it offer for team-based projects?	[L2][CO1]	**[5M]**
9		Describe the key objectives and principles of the People Capability Maturity Model (PCCM) in addressing human and organizational aspects of software development.	[L3][CO1]	**[10M]**
10	**a)**	Explain structure of PSP in detail?	[L4][CO1]	**[5M]**
	b)	Explain structure of TSP in detail?	[L4][CO1]	**[5M]**

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UNIT –II
SOFTWARE PROJECT MANAGEMENT
RENAISSANCE & LIFE – CYCLE PHASES
AND PROCESS ARTIFACTS

1		Explain the Principles of Conventional Software Management ?	[L2][CO2]	**[10M]**
2		Define Waterfall Model in detail? Illustrate Five necessary improvements for waterfall model?	[L2][CO2]	**[10M]**
3	**a)**	How has the Understanding of Software Economics evolved over time?	[L2][CO2]	**[5M]**
	b)	Explain the Advantages and Disadvantages of Waterfall model.	[L2][CO2]	**[5M]**
4	**a)**	Explain practice the conventional software management approach?	[L4][CO2]	**[10M]**
	b)	What are the distinguishing features between the old way and the new way in software project management?	[L4][CO2]	**[10M]**
5		Explain the engineering and production stages in the software development life cycle?	[L3][CO2]	**[10M]**
6	**a)**	What is the primary focus of the Inception phase in the software development life cycle?	[L6][CO2]	**[5M]**
	b)	Explain the Elaboration phase in detail.	[L6][CO2]	**[5M]**
7	**a)**	Explain the Construction phase and how does the construction phase contribute to the actual development of the software product?	[L3][CO2]	**[5M]**
	b)	What is the significance of the transition phase in the software development life cycle?	[L3][CO2]	**[5M]**
8	**a)**	What role do artifact sets play in the software development life cycle?	[L5][CO2]	**[5M]**
	b)	How do management artifacts aid project managers in decision-making?	[L5][CO2]	**[5M]**
9	**a)**	What are the key differences between engineering artifacts and pragmatic artifacts?	[L3][CO2]	**[5M]**
	b)	How do engineering artifacts contribute to the technical aspects of software development?	[L3][CO2]	**[5M]**
10		Explain the model-based software architectures and its significances in the software development life cycle?	[L4][CO2]	**[10M]**

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UNIT –III
WORKFLOWS AND CHECKPOINTS OF PROCESS & PROCESS PLANNING

1		Describe a typical software process workflow, highlighting key stages and activities?	[L2][CO2]	**[10M]**
2		Explain Iteration's workflow in detail?	[L4][CO3]	**[10M]**
3	**a)**	What is the significance of software process workflows in the development life cycle?	[L2][CO2]	**[5M]**
	b)	What distinguishes Minor milestones from Major milestones in the software development process?	[L2][CO2]	**[5M]**
4	**a)**	Why are Periodic status assessments crucial in software project management?	[L4][CO2]	**[5M]**
	b)	Why are major milestones important in the software development process?	[L4][CO2]	**[5M]**
5		Can you provide examples of major and minor milestones and their role in project management?	[L3][CO2]	**[10M]**
6	**a)**	What is the purpose of a Work Breakdown Structure (WBS) in process planning?	[L6][CO2]	**[5M]**
	b)	Provide examples of elements that might be included in a software development WBS?	[L6][CO2]	**[5M]**
7	**a)**	Why are planning guidelines important in the early stages of project planning?	[L3][CO2]	**[5M]**
	b)	How do planning guidelines help establish a structured and effective project plan?	[L3][CO2]	**[5M]**
8	**a)**	What role does the cost and schedule estimating process play in project planning?	[L5][CO2]	**[5M]**
	b)	How can organizations improve the accuracy of cost and schedule estimates during project planning?	[L5][CO2]	**[5M]**
9	**a)**	How does the iteration planning process contribute to the iterative and incremental development model?	[L3][CO2]	**[5M]**
	b)	Can you provide examples of tools or methodologies used in iteration planning?	[L3][CO2]	**[5M]**
10		Explain the pragmatic planning in the software development?	[L4][CO2]	**[10M]**

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UNIT –IV
PROJECT ORGANIZATIONS & PROJECT CONTROL AND PROCESS INSTRUMENTATION

1		How does the organizational structure of a line-of-business entity impact project management practices?	[L2][CO2]	**[10M]**
2		Explain the line-of-business organization and provide examples of industries or sectors where line-of-business organizations are commonly found?	[L4][CO3]	**[10M]**
3	**a)**	How do project organizations differ from traditional line-of-business structures?	[L2][CO2]	**[5M]**
	b)	What are the key advantages and challenges associated with project organizations?	[L2][CO2]	**[5M]**
4	**a)**	How does process automation contribute to efficiency and consistency in project management?	[L4][CO2]	**[5M]**
	b)	What role does process automation play in project organizations?	[L4][CO2]	**[5M]**
5		How have organizations evolved over time in response to changes in project management practices?	[L3][CO2]	**[10M]**
6		Explain about the seven-core metrics related to project control?	[L4][CO2]	**[10M]**
7	**a)**	How do management indicators differ from the seven-core metrics in project management?	[L3][CO2]	**[5M]**
	b)	Why are quality indicators important in project control and process instrumentation?	[L3][CO2]	**[5M]**
8	**a)**	What defines pragmatic software metrics, and how do they differ from traditional metrics?	[L5][CO2]	**[5M]**
	b)	Share examples of specific pragmatic software metrics and their application in real-world projects?	[L5][CO2]	**[5M]**
9	**a)**	How does automation contribute to the collection and analysis of project metrics?	[L3][CO2]	**[5M]**
	b)	What are the key benefits and challenges associated with metrics automation?	[L3][CO2]	**[5M]**
10		What is the significance of life-cycle expectations in project control and process instrumentation?	[L4][CO2]	**[10M]**

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UNIT- V

1		Explain about The Command Center Processing and Display System-Replacement (CCPDS-R) project?	[L2][CO2]	**[10M]**
2		What are the major lessons learned from the CCPDS-R case study?	[L4][CO3]	**[10M]**
3	**a)**	Describe overview of the objectives and scope of the CCPDS-R project?	[L2][CO2]	**[5M]**
	b)	What were the key challenges faced by the CCPDS-R project?	[L2][CO2]	**[5M]**
4	**a)**	How were traditional project management practices applied in the CCPDS-R case study?	[L4][CO2]	**[5M]**
	b)	Explain the specific project management methodologies used in CCPDS-R?	[L4][CO2]	**[5M]**
5		How have project profiles evolved in modern software project management practices?	[L3][CO2]	**[10M]**
6		What characterizes next-generation software economics in the project management?	[L4][CO2]	**[10M]**
7	**a)**	How do modern software project management practices handle process transitions?	[L3][CO2]	**[5M]**
	b)	What challenges might organizations face during the transition to modern project management practices, and how are they addressed?	[L3][CO2]	**[5M]**
8	**a)**	How has the adoption of Agile and DevOps influenced modern software project management?	[L5][CO2]	**[5M]**
	b)	What are the key benefits and challenges associated with implementing Agile and DevOps methodologies?	[L5][CO2]	**[5M]**
9	**a)**	How has the use of cloud technologies and collaboration tools impacted project management practices?	[L3][CO2]	**[5M]**
	b)	Explain the specific tools or platforms that have become instrumental in modern project management?	[L3][CO2]	**[5M]**
10		How does the concept of continuous improvement manifest in modern software project management?	[L4][CO2]	**[10M]**

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