USN	:	1	D	A	1	9	C	S	0	7	7

Sub. Code 18CS51

Dr. Ambedkar Institute of Technology, Bangalore – 560056

(An Autonomous Institution Affiliated to Visvesvaraya Technological University, Belgaum)

Fifth Semester B.E. Degree (Autonomous) Continuous Internal Evaluation – I (CIE – I)

Odd Semester 2021 – 2022

Date:24-11-2021	Subject Title: **Software Engineering**	Timings:01.30 pm to 02.30 pm
Day: Wednesday	Subject Code: **18CS51**	Time duration : 60 Minutes
Programme: BE/CSE		Max marks : 25
Semester: 5	**CIE – 1**	Faculty in-charge: MVP, JK

Q. No.		Note : Answer ALL the questions	Marks	CO	BTL* Cognitive Level
1.	a)	Recommend the suitable software life cycle model for the following systems and Justify your answer: Customer Relationship Management (CRM), Warehouse Management, Employee Payroll.	5	CO1	L4
	b)	With a neat diagram, illustrate the Extreme Programming process.	5	CO1	L3
2.	a)	Prepare a Software Requirement Specification (SRS) document for an Agricultural Information Management System which will be helpful for farmers.	5	CO2	L4
	b)	Identify various stakeholders for the following systems: (i) Coconut Plantation Management System. (ii) Jewellary Mart Automation System.	5	CO2	L4
		OR			
	c)	Develop a complete use cases for the following: (i) University Insurance Management System. (ii) Buying a Stock using an online brokerage account.	5	CO2	L4

3. Answer ALL the questions. 10 x ½ = 5

1	Functional requirements deals with _____.							
	A	System functions	B	Design	C	Evolution	D	Coding
2	UML stands for							
	A	Unified Modeling Language	B	Universal Motion Language	C	Unified Model Length	D	Universal Mobile Language
3	Which of the following is not a software process?							
	A	Specification	B	Design	C	Evolution	D	Legacy
4	Which of the following is not a type of software testing?							
	A	Unit	B	System	C	Evolution	D	Integration
5	Which of the following is not related to pair programming?							
	A	Common responsibility	B	Support refactoring	C	Informal review	D	Single developer
6	A _____ is a purposeful collection of interrelated components that work together to achieve some objective.							
	A	Software	B	Network	C	Application	D	System
7	Which of the following is not a phase in Unified Process model?							
	A	Construction	B	Transition	C	Inception	D	Perception
8	A _____ is a collection of activities, actions and tasks performed during product development.							
	A	Process	B	Framework	C	Model	D	Viewer
9	Which of the following deals with establishment of business goals?							
	A	Inception	B	Elicitation	C	Elaboration	D	Specification
10	_____ is an example of Behavior Model.							
	A	Process Diagram	B	State Diagram	C	Object Diagram	D	Context Diagram

BTL* - Bloom's Taxonomy Level

USN	:	1	D	A			C	S				Sub. Code	18CS51

Dr. Ambedkar Institute of Technology, Bangalore – 560056

(An Autonomous Institution Affiliated to Visvesvaraya Technological University, Belgaum)

Fifth Semester B.E. Degree (Autonomous) Continuous Internal Evaluation - 2 (CIE – 2)

Odd Semester 2021 – 2022

Date:27-12-2021	Subject Title: **Software Engineering**	Timings:01.30 pm to 02.30 pm
Day: Monday	Subject Code: **18CS51**	Time duration : 60 Minutes
Programme: BE/CSE		Max marks : 25
Semester: 5	**CIE – 2**	Faculty in-charge: MVP, JK

Q. No.		Note : Answer ALL the questions	Marks	CO	BTL* Cognitive Level
1.	a)	Propose several software quality guidelines and attributes for a good software design.	5	CO3	L3
	b)	Suggest various design patterns for the following : Strong Passwords, User Friendly Websites, Gaming Apps	5	CO3	L4
2.	a)	Develop a component level design for Hospital Management System.	5	CO3	L4
	b)	Briefly explain Scenario-based modeling with a suitable example.	5	CO2	L3
		OR			
	c)	Design an Activity Diagram for the following: (i) College Admission Process. (ii) Buying an Online Insurance.	5	CO2	L4

3. Answer ALL the questions $10 \times \frac{1}{2} = 5$

1	_____ is measured using throughput and response time.							
	A	Reliability	B	Availability	C	Usability	D	Performance
2	_____ is developed to represent architectural design models.							
	A	FSM	B	Data dictionary	C	Pattern	D	ADL
3	Which of the following is not affected by system architecture?							
	A	Performance	B	Availability	C	Analysis	D	Safety
4	Which of the following is the most common manifestation of separation of concern?							
	A	Pattern	B	Abstraction	C	Modularity	D	Hiding
5	Indication of the relative interdependence among modules is							
	A	Coupling	B	Cohesion	C	Inheritance	D	Association
6	Metaphor used to document legacy architectural solutions is							
	A	Literature	B	Language	C	Decision	D	Blueprint
7	_____ coupling occurs when a component communicates or collaborates with infrastructure components.							
	A	Content	B	Control	C	External	D	Class
8	Which of the following is not a system organization model?							
	A	Component	B	Repository	C	Client-server	D	Layered
9	Which of the following is not a layer of the client-server model?							
	A	Servers	B	DBA	C	Clients	D	Network
10	_____ models describe the environment of a system.							
	A	Behavioral	B	Data	C	Object	D	Architectural

BTL* - Bloom's Taxonomy Level

USN	:	1	D	A	1	9	C	S	0	7	7

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Dr. Ambedkar Institute of Technology, Bangalore – 560056

(An Autonomous Institution Affiliated to Visvesvaraya Technological University, Belgaum)

Fifth Semester B.E. Degree (Autonomous) Continuous Internal Evaluation - 3 (CIE – 3)

Odd Semester 2021 – 2022

Date:27-01-2022	Subject Title: **Software Engineering**	Timings:01.30 pm to 02.30 pm
Day: Thursday	Subject Code: **18CS51**	Time duration : 60 Minutes
Programme: BE/CSE	Makeup CIE	Max marks : 25
Semester: 5	**CIE – 3**	Faculty in-charge: MVP, JK

Q. No.		Note : Answer ALL the questions	Marks	CO	BTL* Cognitive Level
1.	a)	Design various test cases for computer based census management system.	5	CO4	L4
	b)	Distinguish between white-box testing and black-box testing with suitable examples.	5	CO4	L3
2.	a)	"Effective software project management focuses on four P's". Justify this statement with suitable analogy.	5	CO5	L4
	b)	How to establish a software metrics program? Illustrate with various steps and goals.	5	CO5	L3
		OR			
	c)	Briefly explain various decomposition techniques used during software project estimations.	5	CO5	L2

3. Answer ALL the questions $10 \times \frac{1}{2} = 5$

1	_____ testing addresses the issues associated with the dual problems of verification and program construction.							
	A	Unit	B	Integration	C	System	D	Regression
2	_____ testing executes a system in a manner that demands resources in abnormal quantity, frequency, or volume.							
	A	Recovery	B	Security	C	Stress	D	Performance
3	Basis path testing is an example of							
	A	Gray-box testing	B	Black-box testing	C	White-box testing	D	Smoke testing
4	PDL stands for							
	A	Program description language	B	Program definition language	C	Program derivation language	D	Program design language
5	Which of the following represent the relationships between objects in graphs?							
	A	links	B	nodes	C	weights	D	regions
6	A _____ paradigm structures a team along a traditional hierarchy of authority.							
	A	closed	B	random	C	open	D	synchronous
7	Which of the following is a function of the number of actors and transactions implied by the use-case models?							
	A	FP	B	UCP	C	LOC	D	KLOC
8	_____ is the degree to which the software performs its required function.							
	A	Integrity	B	Correctness	C	Usability	D	Reliability
9	The average project spends ___ percent of its time on rework.							
	A	60	B	70	C	80	D	90
10	Which of the following is a dynamic multivariable model that assumes a specific distribution of effort over the life of a software development project?							
	A	COCOMO II	B	problem-based	C	process-based	D	software equation

BTL* - Bloom's Taxonomy Level

25/01/22

USN	1	D	A	1	9	C	S	0	7	7

18CS51

FIFTH Semester BE Degree Semester End Examination (SEE), FEB/MAR-2022

SOFTWARE ENGINEERING

[Time: 3 Hours] [Maximum Marks: 100]

Instructions to students:

(i) Answer FIVE FULL Questions as per the choice.
(ii) Any Missing Data can be assumed suitably.
(iii)Use BLACK ball point pen for text, figure, table, etc.

			Marks	CO	RBT Level
1.	a)	With a neat diagram, illustrate the Extreme Programming process.	[06 Marks]	CO1	L3
	b)	Recommend the suitable software life cycle model for the following systems and Justify your answer: Enterprise Resource Planning (ERP), Logistics Management, Payroll System.	[06 Marks]	CO1	L4
	c)	Describe the essence of software engineering practice.	[04 Marks]	CO1	L2
	d)	Distinguish between personal software process and team software process.	[04 Marks]	CO1	L3
		OR			
2.	a)	With a neat diagram, describe the overall flow of the Scrum process.	[05 Marks]	CO1	L2
	b)	Provide three examples of software projects that would be amenable to the component based model. Explain your answer with justification.	[06 Marks]	CO1	L4
	c)	List various prescriptive process models. Explain any three models in detail.	[09 Marks]	CO1	L2
3.	a)	Design complete use case diagrams for the following activities: (i) Unified Payment System (ii) Jewellary Mart Automation System (iii) Student Course Registration System	[09 Marks]	CO2	L4
	b)	Briefly explain Requirements Analysis Process.	[07 Marks]	CO2	L2
	c)	Write various functional and non-functional requirements for the Retail Chain Management System.	[04 Marks]	CO2	L2
		OR			
4.	a)	Prepare an IEEE standard Software Requirements Specification document for a Smart City Information Management System.	[08 Marks]	CO2	L4
	b)	Define requirements engineering. List and explain seven distinct tasks of requirements engineering.	[08 Marks]	CO2	L2
	c)	Design Activity Diagrams for the following: (i) Online Shopping (ii) Ticket vending machine	[04 Marks]	CO2	L4
5.	a)	Suggest various design patterns for the following : Strong application passwords, Smart Web Pages, Banking App	[06 Marks]	CO3	L4

	b)	Briefly explain the taxonomy of architectural styles with suitable examples.	[08 Marks]	CO3	L3
	c)	Describe basic design principles applicable to Component level design.	[06 Marks]	CO3	L2
		OR			
6.	a)	Develop a component level design for Digital Library Management System.	[08 Marks]	CO3	L4
	b)	Design architectural context diagram for the following systems: (i) Hospitality Management System (ii) E-commerce website	[04 Marks]	CO3	L4
	c)	Briefly describe each of the four elements of the design model.	[08 Marks]	CO3	L2
7.	a)	Distinguish between white-box testing and black-box testing.	[06 Marks]	CO4	L3
	b)	What is meant by System Testing? Describe various types of System Testing.	[06 Marks]	CO4	L2
	c)	Explain Basis path testing in detail.	[08 Marks]	CO4	L2
		OR			
8.	a)	Design various test cases for digital advertisement agency management system.	[05 Marks]	CO4	L4
	b)	Explain a strategic approach to software testing.	[07 Marks]	CO4	L2
	c)	Illustrate graph based testing methods and boundary value analysis with suitable real time examples.	[08 Marks]	CO4	L3
9.	a)	"Effective software project management focuses on four P's". Justify this statement with suitable analogy.	[08 Marks]	CO5	L4
	b)	List and explain various project resources.	[04 Marks]	CO5	L2
	c)	Briefly explain any four software metrics used for software measurement.	[08 Marks]	CO5	L2
		OR			
10.	a)	Briefly explain various decomposition techniques used during software project estimations.	[06 Marks]	CO5	L2
	b)	Illustrate the roles of software teams and team leaders in software project management.	[06 Marks]	CO5	L3
	c)	How to establish a software metrics program? Illustrate with various steps and goals.	[08 Marks]	CO5	L3

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