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May 2024 (ENDSEM) EXAM

F.Y.B. TECH. (SEMESTER - II)

COURSE NAME: Software Development Methodologies Branch: Information Technology COURSE CODE:IT12235

(PATTERN 2023)

Time: [1Hr. 30 Min] **[Max. Marks: 40]**

(*) Instructions to candidates:

1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed.**
3) **Use suitable data wherever required.**
4) **All questions are compulsory. Solve any one sub question from each Question 1 and 2 and any three sub questions each from Questions 3 and 4.**

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) Compare and contrast Agile and Waterfall methodologies, highlighting their differences in approach and flexibility.	[5]	1	2
	b) Illustrate the concept of iterative development in software development with an example.	[5]	1	2
Q2	a) How will you apply key principles of Kanban in a hypothetical software development project of your choice?	[5]	2	3
	b) Provide a step-by-step example of how Test-driven development (TDD) is applied in a simple software development scenario.	[5]	2	3
Q.3	a) Apply Lean development methodologies in a hypothetical project scenario for waste reduction, value delivery, and adaptability.	[5]	3	3
	b) Choose a software development scenario and discuss which approach between Lean Or Agile would be more suitable and why?	[5]	3	3
	c) Build a plan for implementing Continuous Delivery in a software development environment. Identify key components and practices that contribute to achieving Continuous Delivery.	[5]	3	3
	d) Identify potential challenges in integrating DevOps practices into an existing software development lifecycle and propose solutions for overcoming them.	[5]	3	3

Q.4	a) How does the Spiral Model differ from traditional linear development models like the Waterfall Model, especially concerning its approach to risk management and adaptability to changing requirements?	[5]	4	2
	b) Discuss the significance of traceability in the V-Model and how it contributes to project alignment, accountability, and overall quality assurance throughout the development lifecycle.	[5]	4	2
	c) Reflect on the evolution of software development lifecycle models over time, considering the factors driving the shift from traditional linear models to more iterative and adaptive approaches like the Spiral Model and RAD.	[5]	4	2
	d) Evaluate the advantages and disadvantages of the V-Model compared to other software development lifecycle models, emphasizing its structured approach and integrated testing phases.	[5]	4	2

Blooms Taxonomy Level: 1. Remember 2. Understanding 3. Applying 4. Analyzing 5. Evaluating