

 <b>VIT-AP</b> UNIVERSITY	<b>Continuous Assessment Test - 1   Fall Semester (2025-26) - August 2025</b>	
	Maximum Marks: 50	Duration: 90 Minutes
Course Code: SWE1002	Course Title: Principles of Software Engineering	
Set No: 2	Exam Type : <b>Closed Book</b>	School: SCOPE
Date: 18/08/2025	Slot: A1	Session: FN
<b>Keeping mobile phone/smart watch, even in 'off' position is treated as exam malpractice</b>		
<b>General Instructions if any</b> 1. "fx series" - non Programmable calculator are permitted : NO 2. Reference tables permitted : NO		

Answer ALL Questions, Each Question Carries 10 Marks (5×10=50 Marks)

1. Your company is developing a safety critical medical software product. Management insists on frequent risk assessment and iterative development. Which process framework activities of software engineering will support in the above scenario. (10 M)
2. Explain why the spiral model is described as a combination of the iterative development process model and the sequential linear development model (waterfall model). In your explanation, highlight the model's focus on risk analysis, describe its phases, and illustrate it with a neat labelled diagram. (10 M)
3. In a defence software project, verification and validation activities must be performed concurrently with development to ensure reliability and compliance with strict quality standards. Which software process model is most appropriate for this scenario? Explain its structure, phases, and advantages, and illustrate your answer with a clear diagram. (10 M)
4. A mobile application that connects passengers(riders) with nearby drivers for on-demand transportation. The system manages the entire process from ride request to payment and ratings. Use above scenario to draw use case diagram. (10 M)
5. A customer browses the online store. They then add items to their cart. Once they are done shopping, they proceed to checkout. At this point, the system validates the customer's information and processes the payment. If the payment is successful, the order is confirmed, and the items are prepared for shipping. If the payment fails, the system provides an option to re-enter payment details. The customer can then either try again or cancel the order. Identify the key components and construct the sequence diagram. (10 M)

**QP MAPPING**

Q. No.	E/A/T	Module Number	Marks	BL	CO Mapped	PO Mapped	PEO Mapped	PSO Mapped
Q1	A	1	10	3	1	1,2	1,4	
Q2	E	1	10	2	1	1,2	1,4	
Q3	A	1	10	2	1	1,2	1,4	
Q4	E	2	10	3	2	1,2,3,8,9	1,2	
Q5	T	2	10	4	2	1,2,3,8,9	1,2	