REG.NO.:

PRP 323 (20)

VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

School of Computer Science and Engineering
CONTINUOUS ASSESSMENT TEST - II
FALL SEMESTER 2024-2025

SLOT:C2

Programme Name & Branch	**: B.Tech (BBS)**
Course Code and Course Name	**: CBS1005 & Software Engineering Methodologies**
Faculty Name(s)	**: Dr. R. Manjula**
Class Number(s)	**: VL2024250103935**
Date of Examination	**:**
Exam Duration	**: 90 minutes** **Maximum Marks: 50**

General instruction(s):

a. Answer All Questions
b. M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyze, 5 – Evaluate, 6 – Create)
c. Course Outcomes
   3. Specify the business requirements through appropriate system analysis and design.
   4. Adapt good programming and documentation standards
   5. Implement and demonstrate any business system software from specification to validation and verification

Q. No	Question	M	CO	BL
1.	a. Explain any four software quality metrics for process and product. How these values will be helpful for software engineers b. What are the Software quality factors you may consider for enhancing the usability of an user interface design	4 6	3	1
2.	a. Design an UML class diagram to capture the following situation: "Every student is enrolled in a course. Each student may be enrolled in a set of units. Some units are core units for one or more courses and some units are elective units for one or more courses" **(5 Marks)** b. Identify the actors and also design an sequence diagram for the following scenario to register a patient in a hospital management system: **(2+3 Marks)** The administrator enters the patients name, address, date of birth and emergency contact details into the system. If the patients has only public health insurance, the administrator enters the patient's Medicare number, and the system verifies this with government health database. If the patient also has private health insurance, then the administrator enters also the patient's private health insurance details, and the system verifies these details with the private health insurance system. When these details are verified as correct, the system saves the patient's details and confirms the registration.	10	4	2
3	**Match the following** 1. Data coupling — a. Functional strength of a module 2. Stamp coupling — b. Most desirable form of cohesion 3. Common coupling — c. Operations are part of single functional task and are placed in same procedures. 4. Content coupling — d. Module design is used to maximize coupling and minimize cohesion 5. Cohesion — e. Information hiding	10	4	1

	6. Functional cohesion	f. Module A and Module B have shared data			
	7. Functional cohesion	g. Dependency between modules is based on the fact they communicate by only passing of data			
	8. Encapsulation	h. If all tasks must be executed in the same time-span, what type of cohesion is being exhibited			
	9. Cohesion is the extension of	i. When the control is passed from one module to the middle of another			
	10. Temporal cohesion	j. When complete data structure is passed from one module to another			
4.	a) A program specification state that following for an input field. The program shall accept an input value of 4 digit integer equal or greater than 2000 and less than or equal 8000. Determine the test cases using Equivalence class portioning and Boundary value analysis b) Write a short note on Mobile based testing		4 6	5	3

5.	a. Consider the code snipped given below and identify the minimum number of statement coverage test case required to achieve 100% test coverage.
	
	b. Consider the following lines of code and compute the cyclomatic complexity and write the corresponding level of complexity
	
	1. While (x < 100){
	2. If (a[x] % 2 == 0){
	3. Result = 1;
	Else {
	4. Result = 0;
	5. }
	6. Switch(result){
	Case 1:
	7. printf(even};
	Case 0:
	8. printf(odd);
	Default:
	9. printf(unexpected)
	}
	10. x++;
	11. }
			6
			
			4
				5	4

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