MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

EXAMINATION: MID TERM   **MONTH and YEAR: March 2025**

Course: B. Tech.	Semester: IV	Subject Code: CSE 225
Subject Name: Software Engineering		Maximum Marks: 20
Duration: 90 Minutes	Date: 21/03/2025	Time: 03:30 PM to 05:00 PM

Note: *Attempt all questions.*

Q. No.	Questions	Marks	COs
1	(a) This model of SDLC has four quadrants. Name the model. Draw and explain the model giving the task carried out in each quadrant. What unique thing does it handle? (b) When can we use RAD model? What are its core limitations? (c) Which model is not suitable for accommodating any changes?	2+1+1	CO1
2	(a) During the software requirement analysis, the analyst faces three main problems in documenting requirements. Name the three problems by giving an example to explain them. (b) Think of a smart home automation system being developed to control lights, temperature, and security devices. How would the characteristics of a good SRS document ensure smooth integration with various devices and user-friendly interfaces for homeowners.	2+2	CO2
3	Determine the function point measure of the size of the following supermarket software. A supermarket needs to develop the following software to encourage regular customers. For this, the customer needs to supply his/her residence address, telephone number, and the driving license number. Each customer who registers for this scheme is assigned a unique customer number (CN) by the computer. Based on the generated CN, a clerk manually prepares a customer identity card after getting the market manager's signature on it. A customer can present his customer identity card to the checkout staff when he makes any purchase. In this case, the value of his purchase is credited against his CN. At the end of each year, the supermarket intends to award surprise gifts to 10 customers who make the highest total purchase over the year. Also, it intends to award a 22-caret gold coin to every customer whose purchase exceeded 10,000. The entries against the CN are reset on the last day of every year after the prize winners' lists are generated. Assume that various project characteristics determining the complexity of software development to be average.	4	CO1,2
4	Suppose that a certain semi-detached software product for business application costs 50,000 to buy off-the-shelf and that its size is 40 KLOC. If in-house developers cost 6000 per programmer month (including overheads), would it be more cost effective to buy the product or build it? Which elements of the cost are not included in the COCOMO estimation model? What additional factors should be considered in making the buy/build decision?	4	CO2
5	(a) Imagine you are working on a software development project for a mobile app with a team of developers. One developer is focusing on the user interface, while another is handling the backend. How would pairwise programming (or pair programming) be implemented in this scenario? (b) Give an example of a project for which the agile model would be suitable and one project for which the agile model would not be appropriate.	2+2	CO1

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