



## UNIVERSITY COLLEGE TATI (UC TATI)

### FINAL EXAMINATION QUESTION BOOKLET

COURSE CODE : DCT2133

COURSE : SOFTWARE ENGINEERING  
TECHNIQUE

SEMESTER/SESSION : 1 – 2024/2025

DURATION : 3 HOURS

#### Instructions:

1. This booklet contains 5 questions. Answer **ALL** questions.
2. All answers should be written in answer booklet.
3. Write legibly and draw sketches wherever required.
4. If in doubt, raise your hands and ask the invigilator.

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO**

**THIS BOOKLET CONTAINS 3 PRINTED PAGES INCLUDING COVER PAGE**

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**QUESTION 1**

- a) Describe software process model. List **FOUR (4)** software process models. (6 marks)
- b) Explain the main weakness of traditional software process model. (2 marks)
- c) Explain **FOUR (4)** main activities in software process. (8 marks)
- d) Explain the requirement specification. Give **TWO (2)** importance of requirements specification document. (4 marks)

**QUESTION 2**

- a) Explain **THREE (3)** processes in requirement engineering in order to produce System Requirements Document. (6 marks)
- b) Assume that you are going to develop a Library Information System. Write **THREE (3)** possible functional requirements and **THREE (3)** possible non-functional requirements. (12 marks)
- c) Explain what could happen if the requirements not properly validated? (2 marks)

**QUESTION 3**

- a) Describe the software architecture design. Provide **TWO (2)** advantages of software architecture design. (6 marks)
- b) Model View Controller (MVC) pattern is the most frequently used industry standard web development framework. List **TWO (2)** MVC frameworks that available in the market. (2 marks)

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- c) Describe the client server architecture. Give **TWO (2)** applications / information systems that suitable to implement this type of architecture. (4 marks)
  - d) Assume that you are going to develop Food Ordering System and planning to implement the layered architecture. Draw the architecture for the system which consists of **FOUR (4)** main layers and their components. (8 marks)

#### QUESTION 4

- a) Explain between software design and implementation process. (4 marks)
- b) Describe **THREE (3)** main issues in implementation. (6 marks)
- c) Using your experiences in registering the courses using Student Portal, draw the sequence diagram. To get maximum marks, you must include at least **THREE (3)** objects and **SEVEN (7)** interactions in your diagram. (10 marks)

#### QUESTION 5

- a) Define the software evolution. (2 marks)
- b) Explain **THREE (3)** types of software maintenance. (6 marks)
- c) List **FOUR (4)** factors that affecting the maintenance cost. (4 marks)
- d) Legacy system lies into **FOUR (4)** categories. Explain each category and the strategic option should be taken. (8 marks)

-----End of question-----

