

**UNIVERSITY COLLEGE TATI (UC TATI)****FINAL EXAMINATION QUESTION BOOKLET**

COURSE CODE	: BCS2433
COURSE	: SOFTWARE ENGINEERING
SEMESTER/SESSION	: 1-2023/2024
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 4 PRINTED PAGES INCLUDING COVER PAGE

QUESTION 1

- a) Define the terms below: (4 marks)
- i. Software
 - ii. Software Engineering
- b) Give **TWO (2)** differentiations between system engineering and software engineering. (6 marks)
- c) Give **FOUR (4)** attributes of Good Software. (4 marks)
- d) Define Software process and **FOUR (4)** generic activities in all software process. (6 marks)

QUESTION 2

- a) Define test cases in Software Engineering? (2 marks)
- b) Explain about stage below:
- i. Software Validation. (3 marks)
 - ii. Software Design and Implementation (3 marks)
- c) Describe **TWO (2)** advantages and **TWO (2)** disadvantages of Waterfall model. (4 marks)
- d) Illustrate the comparison between Agile and Waterfall model. (8 marks)

QUESTION 3

- a) List **THREE (3)** techniques to gather the requirements information. (3 marks)
- b) Discuss about the use of Feasibility Study in Software Engineering. (3 marks)
- c) Give **THREE (3)** problems with Requirements analysis process. (6 marks)

- d) Compare the **FOUR (4)** differences between functional and non-functional requirements. (8 marks)

QUESTION 4

- a) System Re-engineering is about restructuring or rewriting a part or all of a legacy system without changing its functionality. Give **TWO (2)** advantages of Re-engineering. (4 marks)
- b) Describe **THREE (3)** main stakeholder of UCTATI academic portal system. (6 marks)
- c) The school is considering a new system that will speed up the registration process. As a system analyst, you have been ask to develop a plan for fact-finding of the process.
- i. Give **TWO (2)** possible techniques that you might be use. (4 marks)
- ii. Describe **THREE (3)** advantages for each technique in (i). (6 marks)

QUESTION 5

- a) Draw a sequence diagram that describes the main success scenario of the Withdraw Money using a Visa Card use case. (10 marks)
- b) Consider the following library management system: Every book has a barcode and a book number, and every borrower has a card bearing a barcode. When a borrower wishes to check out a book, the librarian scans the bar code on the book and on the borrower's card. Similarly, when a book is returned, it is again scanned by the librarian. Librarians can add books to the library collection or remove them. Borrowers can go to a terminal and search the catalogue of books by author, by title, or by

subject area. Finally, if a borrower wants a book that is currently checked out, the librarian can place a hold on the book so that when it is returned it will be held for the borrower who requested it.

- i. Draw a use case diagram for the above mentioned scenario of a library management system. Clearly identify **FIVE (5)** possible use cases and **TWO (2)** actors. (7 marks)
- ii. List **THREE (3)** use case in this case study. (3 marks)

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