Register No.:    …………………………    Name:    …………………………………………………………

# SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**FIFTH SEMESTER B.TECH DEGREE EXAMINATION (Regular), DECEMBER 2023**

**(2020 SCHEME)**

**Course Code :**    **20CST381**

**Course Name:**    **Concepts In Software Engineering**

**Max. Marks  :    100**        **Duration: 3 Hours**

*Special instructions like use of data book, statistical tables, etc (to be filled by the question paper setter) if any*

## PART A
### *(Answer all questions. Each question carries 3 marks)*

1. Explain why professional software that is developed for a customer is not simply the programmes that are developed and delivered.
2. What are the differences between an incremental development model and Prototyping model?
3. Explain Personas, Scenarios, User stories and Feature identification?
4. Explain the requirement elicitation process.
5. What is Post-Mortem Evaluations in software implimentation.
6. Explain DevOps principles.
7. What are the Risks in Software Engineering?
8. Explain Agile Software Management.
9. What are the critical success factors of SPI?
10. Explain Software Measurement and Metrics?

## PART B
### *(Answer one full question from each module, each question carries 14 marks)*

### MODULE I

11. a) How does agile approaches help software developers to capture and define the user requirement effectively? (6)

     b) State agile manifesto principles. (8)

### OR

12. a) Demonstrate waterfall and incremental model with diagram. (8)

     b) Suppose you were to plan to undertake the development of a product with a large number of technical as well as customer related risks, which software process model would you adopt. Justify your answer. (6)

## MODULE II

13.  a)  Illustrate the requirement engineering process.                    (8)
     b)  Outline the concept of traceability matrix and requirement
         validation.                                                        (6)

### OR

14.  a)  What are the Design concepts in Software Engineering?              (7)
     b)  Demonstrate software Architectural styles with diagrams.           (7)

## MODULE III

15.  a)  What are structural and behavioral testing methodologies in
         software testing?                                                  (7)
     b)  Explain Software testing strategies.                               (7)

### OR

16.  a)  Explain software evolution process.                                (7)
     b)  How Formal Technical reviews are conducted by software
         engineers?                                                         (7)

## MODULE IV

17.  a)  How risk management is done in Software Project Management?        (6)
     b)  Explain COCOMO cost estimation model.                              (8)

### OR

18.  a)  Explain the factors that affect on team working.                   (7)
     b)  Describe SCRUM Frame work.                                         (7)

## MODULE V

19.  a)  What are the elements of Software Process Improvement (SPI)
         framework.                                                         (6)
     b)  How Software Quality elements of SQA can be achieved?              (8)

### OR

20.  a)  Explain the Software Quality Assurance.                            (6)
     b)  Explain Software Quality Dilemma with an example.                  (8)

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