30. a. How does a class diagram differ from the sequence diagram? Give the procedures to be followed while designing the above mentioned diagrams.

(OR)

b. Illustrate the four basic design principles applicable to component level design.

31. a. Write short notes on
(i) Structured coding techniques (8 Marks)
(ii) Coding styles (4 Marks)

(OR)

b.i. Differentiate alpha and beta testing.

ii. Describe the various test strategies for conventional software.

32. a. Explain reverse engineering process with neat diagram.

(OR)

b. Illustrate the necessity of document restricting and explain the strategies.

* * * * *

Reg. No.														

B.Tech. DEGREE EXAMINATION, NOVEMBER 2018
3rd to 7th Semester

15SE202 – SOFTWARE ENGINEERING PRINCIPLES
(For the candidates admitted during the academic year 2015 – 2016 to 2017-2018)

Note:
(i) **Part - A** should be answered in OMR sheet within first 45 minutes and OMR sheet should be handed over to hall invigilator at the end of 45th minute.
(ii) **Part - B** and **Part - C** should be answered in answer booklet.

Time: Three Hours Max. Marks: 100

PART – A (20 × 1 = 20 Marks)
Answer **ALL** Questions

1. SDLC stands for _____
(A) Software development life cycle (B) System development life cycle
(C) Software design life cycle (D) System design life cycle

2. Which model can be selected if user is involved in all the phases of SDLC?
(A) Waterfall model (B) Prototyping model
(C) RAD model (D) Both prototyping and RAD model

3. Which one of the following is not a phase of prototyping model?
(A) Quick design (B) Coding
(C) Prototype refinement (D) Engineer product

4. Agile software development is based on
(A) Incremental development (B) Iterative development
(C) Linear development (D) Both incremental and iterative development

5. How many phases are there in scrum?
(A) Two (B) Three
(C) Four (D) Scrum is an agile method which means it does not have phases

6. Select the developer_specific requirement
(A) Portability (B) Maintainability
(C) Availability (D) Both portability and maintainability

7. The user system requirements are the parts of which document
(A) SDD (B) SRS
(C) DDD (D) SRD

8. Which one of the most important stake holder form the following?
(A) Entry level personnel (B) Middle level stakeholder
(C) Managers (D) Users of the software

9. _____ and _____ are the two issues of requirement analysis.
(A) Performance, design (B) Stakeholder, developer
(C) Functional, non-functional (D) Security, design

10. The importance of software design can be summarized in a single word which is
(A) Efficiency (B) Accuracy
(C) Quality (D) Complexity

11. Coupling is a qualitative indication of the degree to which a module
(A) Can be written more compactly (B) Focuses on just one thing
(C) Is able to complete its function in a timely manner (D) Is connected to other modules and the outside world

12. Which of the property of software modularity is incorrect with respect to benefit software modularity?
(A) Modules are robust (B) Module can use other modules
(C) Modules can be separately compiled and stored in a library (D) Modules are mostly dependent

13. Consider the following statement "The data set will contain an end of file character". What characteristics of SRS is being depicted here?
(A) Consistent (B) Non verifiable
(C) Correct (D) Ambiguous

14. Which granularity level of testing checks the behavior of module corporation?
(A) Unit testing (B) Integration testing
(C) Acceptance testing (D) Regression testing

15. Which of the following is a black box testing strategy?
(A) All statements coverage (B) Control structure coverage
(C) Cause-effect graphs (D) All paths coverage

16. In which test design, each input is tested at both ends of its valid range and just outside its valid range?
(A) Boundary value testing (B) Equivalence class partitioning
(C) Boundary value testing and equivalence class partitioning (D) Decision tables

17. In reverse engineering, what refers to the level of detail that is provided at an abstraction level?
(A) Interactivity (B) Completeness
(C) Abstraction level (D) Directionality

18. The core of reverse engineering is an activity called
(A) Restructure code (B) Directionality
(C) Extract abstractions (D) Interactivity

19. What have become de rigueur for computer-based products and systems of every type?
(A) GUIs (B) Candidate keys
(C) Object model (D) Class model

20. Forward engineering is also known as
(A) Extract abstractions (B) Renovation
(C) Reclamation (D) Both renovation and reclamation

PART – B (5 × 4 = 20 Marks)
Answer **ANY FIVE** Questions

21. Describe process framework. Are umbrella activities applied evenly across the process or not? Justify and illustrate with a neat sketch.

22. Identify which agile methodology emphasizes the self-organizing teams. Be descriptive with neat diagram.

23. Illustrate the basic guidelines required for collaborative requirements gathering.

24. Discuss the role of user interface design in the software design process.

25. How do systems interoperate with one another? Define the activity involved in design.

26. Differentiate black box and white box strategies.

27. Describe software reengineering process model.

PART – C (5 × 12 = 60 Marks)
Answer **ALL** Questions

28. a.i. Compare the relative advantages of using the waterfall model and spiral model for software development. Explain with the help of few suitable examples, the type of problems for which you would adapt the waterfall model of software development and type of problems for which you would adapt the spiral model. (8 Marks)

ii. If you were developing a security-critical system, how would you integrate the security requirements engineering and assurance processes in to the model? (4 Marks)

(OR)

b. Identify which model would it be appropriate for the following projects and justify merits and demerits with diagrams
(i) An incremental compiler for Java
(ii) A clinical-record-keeping systems for dentists
(iii) A word processing package
(iv) A guidance system for an interplanetary probe

29. a. The banking system "ABC" bank support their customers to create account in bank, deposit amount, withdraw amount and provide educational loan. Analyze the scenario and develop an use case diagram, describe the notations used in Use-case diagram.

(OR)

b. Compare and contrast different modeling strategies with suitable examples.