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VELAGAPUDI RAMAKRISHNA
SIDDHARTHA ENGINEERING COLLEGE
(AUTONOMOUS)

III/IV B.Tech. DEGREE EXAMINATION, MARCH, 2021

Fifth Semester

INFORMATION TECHNOLOGY

17IT3501 SOFTWARE ENGINEERING

Time: 3 hours

Max. Marks: 70

Part-A is compulsory

Answer One Question from each Unit of Part-B

Answer to any single question or its part shall be written at one place only

PART-A

10 x 1 = 10M

1.
 - a. Define software myth.
 - b. Interpret the word 'Agile'.
 - c. Define user and system requirement.
 - d. What is the importance of activity diagram?
 - e. List the FURPS quality attributes.
 - f. What is refactoring?
 - g. Distinguish between cohesion and coupling.
 - h. What is alpha and beta testing?
 - i. Define the term testability.
 - j. What is smoke testing?

PART-B**4 x 15 = 60M****UNIT-I**

2. a. Discuss importance of ethics in software engineering. **4M**
- b. Discuss about Agile process. **6M**
- c. Explain the levels of CMMI. **5M**

(or)

3. a. Explain the importance of evolutionary process models. Elaborate the activities performed in a process model, with a neat sketch. **8M**
- b. Discuss about Agile process models. **7M**

UNIT-II

4. a. Write a detailed note on elicitation of requirements. **8M**
- b. Classify the non-functional requirements and explain the categories. **7M**

(or)

5. a. Explain the importance of developing use cases in requirements engineering with an example. **7M**
- b. What is a software requirements document? Explain its purpose and structure. **8M**

UNIT-III

6. a. Give the taxonomy of architectural styles, with neat sketch of each. **8M**
- b. Explain the interaction diagrams with an example. **7M**

(or)

7. a. Explain the things of the conceptual model of UML. **7M**
- b. What are various design concepts which helps to get a better design? Explain. **8M**

UNIT-IV

8. a. Elaborate on validation testing. **8M**
- b. Explain in detail about basis path testing. **7M**

(or)

9. a. Explain the series of different tests involved in system testing. **8M**
- b. Briefly discuss about control structure testing. **7M**

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VELAGAPUDI RAMAKRISHNA
SIDDHARTHA ENGINEERING COLLEGE
(AUTONOMOUS)

III/IV B.Tech. DEGREE EXAMINATION, NOVEMBER, 2019

Fifth Semester

INFORMATION TECHNOLOGY

17IT3501 SOFTWARE ENGINEERING

Time: 3 hours

Max. Marks: 70

Part-A is compulsory

Answer One Question from each Unit of Part-B

Answer to any single question or its part shall be written at one place only

PART-A

10 x 1 = 10M

1.
 - a. Define software engineering.
 - b. Why agile models are more preferable than conventional models?
 - c. List the metrics for specifying non-functional requirements.
 - d. Justify the statement 'why requirements engineering is important'?
 - e. What is a use case scenario?
 - f. Define modularity.
 - g. What is regression testing?
 - h. What is black box testing?
 - i. State the purpose of CMMI?
 - j. List the diagrams to model dynamic behaviour of the system.

PART-B**4 x 15 = 60M****UNIT-I**

2. a. Differentiate between the characteristics of software and hardware with its failure curve. **7M**
- b. Illustrate with a neat sketch the unified process model. **8M**

(or)

3. a. Explain different myths observed in software process. **8M**
- b. Elaborate the characteristics and principles in agile process. **7M**

UNIT-II

4. a. Classify the non-functional requirements and explain each of them. **8M**
- b. Elaborate on the elements of requirements analysis model. **7M**

(or)

5. a. Enumerate and explain the structure of SRS document. **7M**
- b. List and explain different requirements engineering tasks. **8M**

UNIT-III

6. a. What are different design concepts to be followed to make a good design? Explain in detail. **8M**

- b. Explain the state chart diagram and illustrate with an example.

7M**(or)**

7. a. Explain the relationships in the conceptual model of UML with suitable examples. **7M**
- b. Explain the common modelling techniques in class diagram with a real time example. **8M**

UNIT-IV

8. a. Elaborate on integration testing with its techniques. **8M**
- b. What is equivalence partitioning? Explain its significance in black box testing. **7M**

(or)

9. a. Describe the debugging process and define the strategies of debugging. **8M**
- b. What is boundary value analysis? With suitable example, explain its importance in testing. **7M**

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VELAGAPUDI RAMAKRISHNA
SIDDHARTHA ENGINEERING COLLEGE
(AUTONOMOUS)

III/IV B.Tech. DEGREE EXAMINATION, OCTOBER, 2020

Fifth Semester

INFORMATION TECHNOLOGY

17IT3501 SOFTWARE ENGINEERING

Time: 3 hours

Max. Marks: 70

Part-A is compulsory

Answer One Question from each Unit of Part-B

Answer to any single question or its part shall be written at one place only

PART-A

10 x 1 = 10M

1.
 - a. Write out the reasons for the failure of water Fall Model.
 - b. What are the fundamental activities of a software process?
 - c. What is meant by requirement validation?
 - d. What are the characteristics of SRS?
 - e. List two principles of good design.
 - f. What are the various types of coupling?
 - g. What is an Architectural design?
 - h. What is design quality?
 - i. What is the difference between testing and debugging?
 - j. What are the various types of system testing?

PART-B**4 x 15 = 60M****UNIT-I**

2. a. Explain in detail about the Capability Maturity Model Integration? **8M**
- b. Explain about the evolutionary process model. **7M**

(or)

3. a. State and explain various software myths. **8M**
- b. Define Software. Explain various characteristics of software. **7M**

UNIT-II

4. a. Compare and contrast functional and non functional requirements. **9M**
- b. Explain how to build analysis model? **6M**

(or)

5. a. Discuss about **9M**
- i) User Requirements
- ii) Requirement engineering process
- iii) Use cases
- b. Explain SRS Document in detail. **6M**

UNIT-III

6. a. Explain class diagram and object diagram with the help of an example. **8M**
- b. Discuss about data modelling in detail. **7M**

(or)

7. a. Discuss about the following **10M**
- i) Activity diagrams
- ii) Interaction diagrams
- b. Explain with neat diagram architectural design. **5M**

UNIT-IV

8. a. What is black box testing? What is boundary value Analysis? Explain the technique specifying rules and its usage with the help of an example. **9M**
- b. Write about the following **6M**
- i) Validation testing
- ii) Control structure testing

(or)

9. a. Describe about the Strategic approach to Software Testing. **7M**
- b. Demonstrate the art of debugging in detail. **8M**

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VELAGAPUDI RAMAKRISHNA

SIDDHARTHA ENGINEERING COLLEGE

(AUTONOMOUS)

III/IV B.Tech. DEGREE EXAMINATION, JANUARY, 2022

Fifth Semester

INFORMATION TECHNOLOGY

17IT3501 SOFTWARE ENGINEERING

Time: 3 hours

Max. Marks: 70

Part-A is compulsory

Answer One Question from each Unit of Part - B

Answer to any single question or its part shall be written at one place only

PART-A

10 x 1 = 10M

1.
 - a. Distinguish between software process and project.
 - b. List the different phases in waterfall model.
 - c. What is meant by System requirement?
 - d. Define the term Stakeholder.
 - e. What is use case? Give example scenario.
 - f. What is user interface design?
 - g. Define cohesion.
 - h. Define coupling
 - i. Distinguish between verification and validation.
 - j. What is black box testing?



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PART-B

4 x 15 = 60M

UNIT-I

2. a. Explain software development life cycle. Discuss various activities during SDLC. **8M**

- b. What are various myths about software? **7M**

(or)

3. a. Give an overview of unified process model. **8M**

- b. Write detailed notes on CMMI. **7M**

UNIT-II

4. a. Describe five desirable characteristics of a good software requirement specification document. **8M**

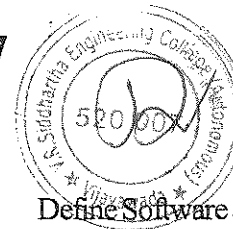
- b. Differentiate between functional and non-functional requirements. **7M**

(or)

5. a. What is the goal of requirements analysis phase? Give reasons why the requirements analysis phase is a difficult one. **7M**

- b. Who should be involved in a requirement review? Draw a process model showing how a requirements review might be organized. **8M**

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UNIT-III

6. Define Software architecture. Explain why it may be necessary to design the system architecture before the specifications. Compare function oriented and object oriented designs. **15M**

(or)

7. What is system modeling? Explain the process of creating models and the factors that should be considered when building models. **15M**

UNIT-IV

8. What is equivalence class partitioning? List the rules used to define valid and invalid equivalence classes. Explain the technique using examples. **15M**

(or)

9. a. What is the need of software testing? what are its main objectives and principles. **8M**

- b. Explain how black box testing differs from white box testing. **7M**

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