

R13**Code No: 115EM****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech III Year I Semester Examinations, February/March - 2016****SOFTWARE ENGINEERING****(Common to CSE, IT)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit.

Each question carries 10 marks and may have a, b, c as sub questions.

Part- A**(25 Marks)**

1. a) Distinguish between software process and project. [2]
- b) Discuss about changing nature of software. [3]
- c) What is meant by system requirements? [2]
- d) Explain about context models. [3]
- e) Write brief notes on data design. [2]
- f) Write about interface design evaluation. [3]
- g) What is meant by debugging? [2]
- h) What is meant by software measurement? [3]
- i) What is meant by software reliability? [2]
- j) Discuss the reactive risk strategy. [3]

Part- B**(50 Marks)**

2. State and explain various software myths. [10]
- OR**
3. Explain about specialized process models. [10]
 4. Explain clearly about software requirements document. [10]
- OR**
5. State and explain various aspects in requirements validation process. [10]
 6. Discuss about mapping dataflow into software architecture. [10]
- OR**
7. Explain about conducting component level design. [10]
 8. Discuss about metrics for design model and source code. [10]
- OR**
9. Explain clearly about metrics for software quality. [10]
 10. Explain about formal technical reviews. [10]
- OR**
11. Explain about risk projection and risk management. [10]

R13

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech III Year I Semester Examinations, March - 2017****SOFTWARE ENGINEERING****(Common to CSE, IT)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**(25 Marks)**

- What are the merits of incremental model? [2]
- b) What are the fundamental activities of a software process? [3]
- c) Differentiate ERD and DRD. [2]
- d) What are non functional requirements? [3]
- e) Define design process. [2]
- f) List the principles of a software design. [3]
- g) Distinguish between verification and validation. [2]
- h) Write about drivers and stubs. [3]
- i) Give a note on the various estimation techniques. [2]
- j) Define maintenance. What are the types of software maintenance? [3]

PART - B**(50 Marks)**

- 2.a) Define the term Software. Describe its various characteristics. [5+5]
- b) Elaborate on the changing nature of software in detail. [5+5]
- OR**
- 1.a) Explain software development life cycle. Discuss various activities during SDLC. [5+5]
- b) What are various myths about software? [5+5]
2. Give an overview of various system models. [10]
- OR**
- 5.a) Discuss about principal requirements engineering activities and their relationships. [5+5]
- b) Explain how a software requirements document is structured. [5+5]
- 6.a) Distinguish between coupling and cohesion? How do they effect software design? [5+5]
- b) For a Case study of your choice show the architectural and component design. [5+5]
- OR**
7. List and explain different kinds of architecture styles and patterns. [10]

Code No: 115EM

R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November - 2015

SOFTWARE ENGINEERING

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

- What is an agile process? Explain. [2]
- b) What is the difference between a UP Phase and a UP Workflow? [3]
- c) What is the intent of requirements validation? [2]
- d) What are the characteristics of good SRS document? [3]
- e) Differentiate between coupling and cohesion. [2]
- f) How do we assess the quality of software design? [3]
- g) What is Cyclomatic complexity? What is its purpose? [2]
- h) What are the metrics used for software maintenance? [3]
- i) What is software reliability? Define. [2]
- j) Can a program be correct and still not exhibit good quality? Explain. [3]

PART - B

(50 Marks)

- 2.a) What is the purpose of process assessment? Why has SPICE been developed as a standard process assessment?
- b) Explain Spiral model with a neat sketch. What can you say about the software that is being developed or maintained as you move outward along the spiral process flow? [5+5]

OR

- 3.a) What are the five generic process framework activities? Explain.
- b) Explain different levels of Capability Maturity model and list the KPA's of each level. [5+5]

- 4.a) What is the goal of requirements analysis phase? Give reasons why the requirements analysis phase is a difficult one.
- b) Briefly explain the models used for structured analysis. [5+5]

OR

- 5.a) Differentiate between functional and non-functional requirements with suitable examples.
- b) "Data Modeling can be viewed as a subset of OOA." Comment on this statement and justify your comments. [5+5]

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Code No: 115EM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November/December - 2018

SOFTWARE ENGINEERING

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**(25 Marks)**

- What are the merits of incremental model? [2]
- b) List the task regions in the spiral model. [3]
- c) What is feasibility study? [2]
- d) What are the differences between functional requirements and non-functional requirements? [3]
- e) List the guidelines for data design. [2]
- f) Name the commonly used architectural styles. [3]
- g) Write a short note on black box testing. [2]
- h) How to compute the cyclomatic complexity? [3]
- i) Differentiate between reactive risk and proactive risk strategies. [2]
- j) What is software reliability and how this parameter helps in managing software quality? [3]

PART - B**(50 Marks)**

- 2.a) What is legacy software? Explain briefly its impact in software engineering.
- b) Explain the following:
- i) Water fall model
- ii) Spiral Model. [5+5]
- OR**
- 3.a) Give an overview of unified process model.
- b) Write detailed notes on CMMI. [5+5]
- 4.a) Describe five desirable characteristics of a good software requirement specification document.
- b) Draw the complete DFD at least up to 2-levels for a library management system. [5+5]
- OR**
- 5.a) Compare ISO and SEI-CMM models.
- b) Who should be involved in a requirement review? Draw a process model showing how a requirements review might be organized. [5+5]

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Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**(25 Marks)**

- What is legacy software? Explain. [2]
- b) What are the advantages of unified process? [3]
- c) Write the purpose of context model. [2]
- d) What is the significance of feasibility study? [3]
- e) What is the use of interface analysis? Explain. [2]
- f) What do you mean by software design quality? Explain. [3]
- g) Differentiate between verification and validation. [2]
- h) What is regression testing? Give example. [3]
- i) Define software reliability. [2]
- j) What is the importance of software reviews? [3]

PART - B**(50 Marks)**

- 2.a) Discuss about the changing nature of software
- b) Explain spiral model with its merits and demerits. [5+5]

OR

- 3.a) Discuss in brief about different software myths and their consequences.
- b) Explain CMMI model with a neat sketch. [5+5]

- 2.a) Differentiate between functional and non-functional requirements.
- b) List and explain the object models in brief. [5+5]

OR

- 5.a) What are the activities of requirements elicitation and analysis? Explain.
- b) Discuss about different structured methods used in software development. [5+5]

- 6.a) Explain the process of mapping dataflow into software architecture.
- b) List the golden rules of user interface design. [5+5]

OR

- 7.a) Discuss about pattern based software design in detail.
- b) Define and explain about different types of cohesion. [5+5]

R15

Code No: 125EM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, May - 2018

SOFTWARE ENGINEERING

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**(25 Marks)**

- What is Software Development Life Cycle? [2]
- b) Mention some of the factors to be considered during System modelling. [3]
- c) What is meant by Requirement management? [2]
- d) Differentiate between data flow diagram and state transition diagram. [3]
- e) List the principles of a software design. [2]
- f) What are the quality parameters considered for effective modular design? [3]
- g) What is the role of cyclomatic complexity in software testing? [2]
- h) Define black box testing strategy? [3]
- i) Distinguish between reactive and proactive risk management. [2]
- j) Write short note on RMMM. [3]

PART - B**(50 Marks)**

- 2.a) What are the advantages of layered technology? [5+5]
- b) Give CMMI levels and explain. [5+5]
- OR**
- 3.a) How does system engineering differ from software engineering? Also write brief notes on computer based system and system engineering hierarchy. [5+5]
- b) Explain in detail Evolutionary process model. [5+5]
- 4.a) Why is traceability an important aspect of requirement management? Why context system models are useful for requirements validation? [5+5]
- b) Explain about the cardinality and modality with suitable example. [5+5]
- OR**
3. Give an overview of various steps in requirements engineering process. [10]
- 6.a) Write about architectural styles and patterns. [5+5]
- b) Explain interface analysis and interface design steps. [5+5]
- OR**
- 7.a) How a component is designed based on function ? Explain. [5+5]
- b) What are the golden rules for user interface design? Explain. [5+5]

R15**Code No: 125EM****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year I Semester Examinations, May/June - 2019****SOFTWARE ENGINEERING****(Common to CSE, IT)****Time: 3 hours****Max. Marks: 75**

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PART - A**(25 Marks)**

1. a) Define software engineering. [2]
- b) List evolutionary process models. [3]
- c) Differentiate between user requirement and system requirement. [2]
- d) List the various types of feasibility studies. [3]
- e) What are the goals of the design process? [2]
- f) Define software architecture. [3]
- g) What is meant by smoke testing? [2]
- h) List the metrics for source code. [3]
- i) Give the different categories of risks. [2]
- j) What is meant by software review? [3]

PART - B**(50 Marks)**

2. Discuss managers myths about software development and their effect on the practitioners performance as well as on overall outcome. [10]

OR

3. What is software process? What is need of software process improvement? Discuss capability maturity models. [10]

4. "The functional requirements specification of a system should be both complete and consistent". Substantiate this statement with relevant examples. [10]

OR

5. a) Draw a context level model for a web-based food- ordering system such as "Swiggy".
- b) Discuss the main characteristics of data model for requirement engineering. [5+5]

6. How to translate the analysis model into the design model? Explain with an example scenario. [10]

OR

7. a) Explain how to map data flow into a software architecture?
- b) Explain the design of class based components. [5+5]

R15

Code No: 125EM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November/December - 2017

SOFTWARE ENGINEERING

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

- Distinguish between Software products and Software services. [2]
- b) Explain Software Crisis. [3]
 - c) Define an Interface. [2]
 - d) Explain about data models. [3]
 - e) What are the golden rules for User Interface Design? [2]
 - f) Explain the Design concept coupling. [3]
 - g) Define Testing. [2]
 - h) List the metrics for Design model. [3]
 - i) Define Risk Refinement. [2]
 - j) Define Software reliability. [3]

PART - B

(50 Marks)

- 2.a) What is a Legacy Software? Explain.
 - b) Explain the Software Process Framework. [5+5]
- OR**
- 3.a) Explain the various software myths.
 - b) Explain the working of specialized process models. [5+5]
- 4.a) Explain the structure of Software Requirements document.
 - b) What are the feasibility studies for requirements engineering process? [5+5]
- OR**
- 5. Explain the following system models:
 - a) Object Models
 - b) Structured methods. [5+5]