R20

B.Tech II Year II Semester (R20) Regular Examinations August/September 2022
SOFTWARE ENGINEERING
(Common to IT, CSE, CSE (IoT) and CSE (DS))

Time: 3 hours
Max. Marks: 70

PART – A
(Compulsory Question)
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1		Answer the following: (10 X 02 = 20 Marks)	
	(a)	Why LOC is not a better metric to estimate a software?	2M
	(b)	Differentiate software engineering methods, tools and procedures.	2M
	(c)	List the characteristics of good System Requirements Specification (SRS).	2M
	(d)	Write the steps involved in requirements gathering.	2M
	(e)	List the principles of software design.	2M
	(f)	Draw the zero-level data flow diagram of an ATM system.	2M
	(g)	Distinguish between Alpha and Beta testing.	2M
	(h)	What is meant by regression testing?	2M
	(i)	How the CASE tools are classified?	2M
	(j)	Define software reverse engineering.	2M

PART – B
(Answer all the questions: 05 X 10 = 50 Marks)

2	Describe at least one scenario where 'RAD model would be applicable than not the waterfall model'.	10M
	OR	
3	Describe in detail COCOMO model for software cost estimation.	10M
4	Discuss the distinct tasks involved in requirement engineering process.	10M
	OR	
5	How to handle complex requirements using decision tables and decision trees?	10M
6	Discuss about user interface design of a software with an example and neat sketch.	10M
	OR	
7	What is structured design? Illustrate the structured design process from DFD to structured chart with a case study.	10M
8	Identify the purpose of regression testing. What are the two main activities of regression testing?	10M
	OR	
9	Demonstrate the difference between black-box and white-box testing and suggest how they can be used in the defect testing process.	10M
10	Write short notes on SEI Capability Maturity Model (CMM).	10M
	OR	
11	Discuss in detail CASE support in software life cycle model.	10M

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B.Tech II Year II Semester (R20) Regular & Supplementary Examinations August/September 2023

SOFTWARE ENGINEERING
(Common to IT, CSE, CSE (IOT), CSE (DS), and CSE (Cyber Security))

Time: 3 hours   Max. Marks: 70

PART – A
(Compulsory Question)
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1   Answer the following: (10 X 02 = 20 Marks)
   (a)   Distinguish between process and methods.   2M
   (b)   Describe Earned Value Analysis.   2M
   (c)   What do Software Myths mean?   2M
   (d)   Define non-functional requirements with example.   2M
   (e)   Distinguish between good and bad designs.   2M
   (f)   Write about interface design evaluation.   2M
   (g)   What is the purpose of Cyclomatic Complexity?   2M
   (h)   What is meant by debugging?   2M
   (i)   What is the purpose of timeline chart?   2M
   (j)   How the CASE tools are classified?   2M

PART – B
(Answer all the questions: 05 X 10 = 50 Marks)

2 (a)   Explain component based software development model with a neat sketch   5M
   (b)   Describe about agile modeling in detail.   5M
OR
3 (a)   Explain in detail about the COCOMO II model for software estimation.   5M
   (b)   Discuss the steps involved in project planning.   5M

4 (a)   What is the purpose of the interaction model for a Web App? Explain.   5M
   (b)   Discuss in detail the method of Requirement elicitation with an example.   5M
OR
5   Explain in detail about formal system development techniques.   10M

6 (a)   What is the purpose of data flow diagrams? Draw a level -0 DFD and level-1 DFD for a library   5M
         management system.
   (b)   Describe the characteristics of good User Interface.   5M
OR
7 (a)   Distinguish between Cohesion and Coupling. How do they effect software design?   5M
   (b)   What are different categories of interfaces? Explain.   5M

8 (a)   What do you mean by system testing? Explain in detail.   5M
   (b)   Explain boundary value analysis with example.   5M
OR
9 (a)   Explain the testing objectives and its principles.   5M
   (b)   What are the attributes of the good test? Explain the test case design.   5M

10 (a)   Write short notes on ISO 9000 quality standards.   5M
   (b)   Illustrate in detail about Software reverse engineering process.   5M
OR
11   Discuss briefly on software maintenance activities and how do you estimate the cost involved.   10M

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R20

B.Tech II Year II Semester (R20) Supplementary Examinations February 2023
SOFTWARE ENGINEERING
(Common to IT, CSE, CSE(IoT) and CSE(DS))

Time: 3 hours
Max. Marks: 70

PART – A
(Compulsory Question)
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1   Answer the following: (10 X 02 = 20 Marks)
  (a)   Define agile process. Give any two agile principles.   2M
  (b)   If you have to develop a word processing software product, what process model will you   2M
      choose? Justify your answer.
  (c)   Identify the notations for requirements specifications.   2M
  (d)   Define software myths.   2M
  (e)   What is the use of fan in and fan out?   2M
  (f)   Write the user interface design steps?   2M
  (g)   Outline the need for system testing.   2M
  (h)   What are the testing principles the software engineer must apply while performing the software   2M
      testing?
  (i)   Write a note on Personal Software Process (PSP).   2M
  (j)   List the process maturity levels in SEI Capability Maturity Model (CMM).   2M

PART – B
(Answer all the questions: 05 X 10 = 50 Marks)

2   Compare the Waterfall, Prototyping and Spiral model. List the features of each model,   10M
    advantages and disadvantages and a type of application where the model will be acceptable.
OR
3   Which process model is good for risk management? Explain the model. Describe how the   10M
    model is used to layout the objectives, risks and plans for quality improvement.

4   What is SRS? Explain in detail the various components of an SRS.   10M
OR
5   Brief about axiomatic specification and algebraic specification.   10M

6   Outline clearly the concepts and types of coupling and cohesion with examples of each.   10M
OR
7   Explain the steps involved in conducting component level design when it is applied for object-   10M
    oriented system.

8   Elaborate path testing and regression testing with an example.   10M
OR
9   What is black box testing? Explain the different types of black box testing strategies. Explain by   10M
    considering suitable examples.

10   Explain the various CASE tools for project management and how they are useful in achieving   10M
    the objectives.
OR
11   Write short notes on Six sigma.   10M

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