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Question Paper Code	12762
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M.E. / M.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Second Semester

M.E - Computer Science and Engineering (with Specialization in Networks)

20PCNEL205 - ADVANCED SOFTWARE ENGINEERING

Regulations - 2020

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

	<i>Marks</i>	<i>K- Level</i>	<i>CO</i>
1. List out the Challenges for Software Engineers.	2	K1	CO1
2. Identify the human factors considered for an agile software development.	2	K2	CO1
3. Define software prototyping.	2	K1	CO3
4. What are the characteristics of SRS?	2	K1	CO3
5. Define Modularity.	2	K2	CO4
6. What is coupling and list the various types of coupling?	2	K1	CO4
7. What are the objectives of testing?	2	K1	CO5
8. What are the various testing activities?	2	K1	CO5
9. What are the advantages of DevOps?	2	K1	CO6
10. List out the various cloud service models.	2	K1	CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Define Software Process. List all generic process frameworks and explain umbrella activities in detail. 13 K2 CO1
- OR**
- b) i) Illustrate about agility and cost of change. 6 K2 CO1
- ii) What are the pros and cons of using mathematical approach for software development? 7 K2 CO1
12. a) Draw Use Case and Data Flow diagrams for a “Restaurant System”. The activities of the Restaurant system are listed below. Receive the Customer food Orders, Produce the customer ordered foods, Serve the customer with their ordered foods, Collect Payment from customers, Store customer payment details, Order Raw Materials for food products, Pay for Raw Materials for food products, Pay for Raw Materials and Pay for Labor. 13 K4 CO3

OR

- b) What is requirements elicitation? Briefly describe the various activities performed in requirements elicitation phase with an example of a watch system that facilitates set time and alarm. 13 K4 CO3
13. a) i) Generalize on the concept of user interface design and list the characteristics of a good user interface design. 7 K2 CO4
 ii) Illustrate in detail about any four architectural styles. 6 K2 CO4
- OR**
- b) Demonstrate in detail about architectural design patterns. 13 K2 CO4
14. a) What is black box testing? Explain the different types of black box testing strategies. Explain by considering suitable examples. 13 K2 CO5
- OR**
- b) i) Write elaborately on unit testing. How do you develop test suites? 8 K2 CO5
 ii) What is cyclomatic complexity and what are the ways to compute it? 5 K2 CO5
15. a) Automation in DevOps is a result of Utilization of Cloud Computing. Justify the statement. 9 K5 CO6
 a) Enlist the purpose of DevOps with use cases. 4 K2 CO6
- OR**
- b) Write a detailed note on various delivery models of cloud computing. Support with full stack diagram. 13 K2 CO6
- PART - C (1 × 15 = 15 Marks)
16. a) Define Risk. Explain the needs and activities of risk management. 15 K5 CO2
- OR**
- b) Elaborate on the series of tasks of a software configuration management process. 15 K5 CO2