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ANNA UNIVERSITY :: CHENNAI

(UNIVERSITY DEPARTMENTS)

B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2013

Common to Computer Science and Engineering and Information Technology

FOURTH SEMESTER

CS9254 SOFTWARE ENGINEERING

(REGULATION 2008)

Time: 3 hours

Answer ALL Questions

Maximum: 100 marks

PART-A (10 x 2 = 20 Marks)

1. What is the need for identifying the various phases in software development?
2. Distinguish between Unified Process and UML.
3. How is domain analysis related to the concept of requirements patterns?
4. What does "win-win" mean in the context of negotiation during requirements engineering activity?
5. Why are models important in software engineering task?
6. What are the rules to be followed when creating the analysis model?
7. Give the significance of design patterns in software design.
8. How do we assess the quality of a software design?
9. How does the verification differ from validation?
10. What is the need for configuration management?

Part – B (5 x 16 = 80 marks)

11. i. Discuss the advantages and disadvantages of the different types of software process models. (12)
ii. Define a key practice in the Capability Maturity Model. Mention any two key practices. (4)
12. a. Explain the generic concepts and principles that apply to software life cycle models.

OR

- b. Illustrate the tasks involved in the requirements engineering.
13. a. Build a web-based order-processing system for a computer store and describe the data objects, relationships and attributes visible on the class diagram.

OR

b. Give the scenario-based modeling for the following case study.

Case Study: Passport provisioning system is to get the online registration form (with details such as name, date-of-birth, address etc.,) filled by the applicant whose testament is verified for its genuineness by the Passport Automation System with respect to the already existing information in the database. This forms the first and foremost step in the processing of passport application. After the first round of verification done by the system, the information is in turn forwarded to the regional administrator's (Ministry of External Affairs) office. The application is then processed manually based on the report given by the system, and any forfeiting identified can make the applicant liable to penalty as per the law. The system also provides the applicant the list of available dates for appointment to 'document verification' in the administrator's office, from which they can select one. The system forwards the necessary details to the police for its separate verification whose report is then presented to the administrator. The administrator will be provided with an option to display the current status of application to the applicant, which they can view in their online interface. After all the necessary criteria have been met, the original information is added to the database and the passport is sent to the applicant.

14. a. i. Illustrate the spiral process for user interface design. (10)
ii. Discuss on the need for minimizing coupling and maximizing cohesion in the design of software. (6)

OR

b. Explain the various test strategies for conventional software.

15. a. i. Assume that you work for an organization who develops database products for microcomputer systems. The organization is interested in quantifying its software development. Identify the appropriate metrics used for quality assessment and explain how these can be collected. (8)
ii. Describe the SEI Process Maturity Model. (8)

OR

- b. i. Explain how can you identify the risks involved in the software project? (8)
ii. Describe about the risk mitigation, monitoring and management. (8)