Question Paper Code : 87509

M.C.A. DEGREE EXAMINATION, FEBRUARY 2012.

Second Semester

DMC 1923 — SOFTWARE ENGINEERING

(Regulation 2009)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 x 2 = 20 marks)

1. How does a phased life cycle model assist software management?

2. Under what circumstance would you recommend that prototyping should be used as a means of validating system requirements?

3. If some existing modules are to be used in building a new system, what will you use? A top-down or bottom up approach? Why?

4. Why is it required to have structural partitioning as one of the important design concept?

5. If the cost of the project is to be determined based on the resources available with the customer, what would be the appropriate method?

6. How do software process metrics differ from software project metrics?

7. What is scenario-based testing?

8. Which testing approaches are commonly used to test client/server systems?

9. List the activities of software configuration management.

10. List out the problems which may arise due to the introduction of CASE tools in an organization.
PART B — (5 x 16 = 80 marks)

11. (a) Explain in detail about Spiral model of the software process and discuss the development scenario in which the spiral model is well adopted.

Or

(b) A petrol (gas) pump system includes a credit card reader, where customer swipes the card through the reader and then specifies the amount of fuel required. The fuel is required and customer's account debited accordingly.

Assume that you have to develop software for the above scenario. Perform a risk analysis of the software to be developed and provide appropriate mitigation and monitoring measures. The analysis must include all types of risks.

12. (a) Explain the different types of software architectures.

Or

(b) Give an account for the four design models required for a complete specification of a design and explain how each is created.

13. (a) Describe the five activities associated with the software measurement process.

Or

(b) Explain the metrics for software quality with relevance to Halstead and McCabe's Complexity Metric.

14. (a) Discuss different types of Integration testing and system testing.

Or

(b) Explain in detail the different types of testing strategies.

15. (a) Explain change control process in detail.

Or

(b) What is meant by CASE? What are the building blocks of CASE tools? What are the functions performed by the repository in an integrated CASE environment. Describe the importance of dependency tracking in an integrated CASE environment. Describe the role of each layer in the architectural model for CASE tool integration framework.