## B 270

B.E./B.Tech.DEGREE EXAMINATION, NOVEMBER/DECEMBER 2005.

Sixth Semester

Computer Science and Engineering

CS 338 — SOFTWARE ENGINEERING

Three hours                                       Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

How do you estimate time required for a Software Development Project?

What do you mean by Spiral Model?

What are the constraints in selecting a language?

What are the Implementation standards? Explain one of them.

Distinguish between Product and Process Metrics?

How reliability is related to Safety?

What are the roles of the formal testing?

What do you mean by Testware?

What is the need of documentation?

Distinguish Black and White Box Testing.

PART B — (5 × 16 = 80 marks)

(i)    What is an Iterative Model? Explain its strengths and weaknesses?     (6)

(ii)   How do you schedule the project? Explain with the case study of Banking Software Development Project.                            (10)

12. (a) (i) What is the procedure for Real time and distributed system design? Explain.

(8)

(ii) What do you mean by performance of software?

(8)

Or

(b) (i) What are the various choices of software architecture available for the developer? According to you which is the best and why? (8)

(ii) What do you mean by modularity in the software development? Why it is needed? What are its strengths?

(8)

13. (a) (i) What purpose, function points serve for software development? Imagine a company ABC, wants to develop function points for the software development? How should it go about? Give the procedure.

(6)

(ii) A firm wants to be sure that a software in its 12 months in operation of software, there should not be any failure. If you are advisor of that company, what advise you will offer to that company to handle, such a situation.

(10)

Or

(b) (i) What are Product Metrices? Explain.

(6)

(ii) The availability of a software package is specified as 75% or better. The estimated time to debug any error is 10 days. Calculate the minimum mean time between failure which would satisfy the availability requirement. What would be the probability that the first failure occurs in 60 days or less?

(10)

14. (a) (i) What do you mean by Integration Testing? Give a case study of integration testing?

(8)

(ii) What do you mean by Cyclomatic Complexity? Give two example of Cyclomatic complexity.

(8)

Or

(b) (i) Distinguish between defects and errors.

(6)

(ii) The quadratic equation $Ax^2 + Bx + C = 0$ is to be solved. A software is to be developed. You are given just the executable code which accepts three numerical values A, B & C. Determine the set of test cases on which you can certify that the module is working as expected.

(10)

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(i) Explain the features of a popular CASE tool that you are aware of? (9)

(ii) How do you maintain software? Give examples. (7)

Or

(b) (i) When will be the company release software? What issues should be considered before release. Give examples. (8)

(ii) A company XYZ is already marketing a software called Hi-Fi 5.41.2. A bug is reported and a check is fixed for that with the length of 2 KB. After that what version of the software must be assigned. Justify your answer. (8)

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