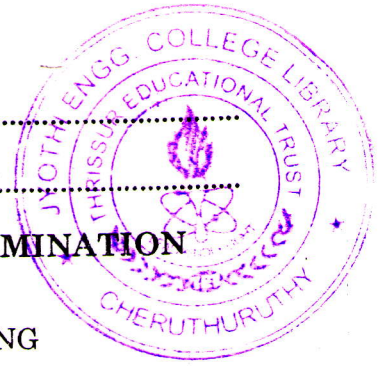


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Name.....

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**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
DECEMBER 2007**

CH/PTCE 2K 501/PT EE 2K 402—SOFTWARE ENGINEERING

(Common to all branches + AR 2K 502 except BM 2 K 501)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

- I. (a) What is the aim of software engineering ? What does the discipline of software engineering ? Discuss.
- (b) List the important issues which an SRS document must address.
- (c) Explain the concept of abstraction in object-oriented software design.
- (d) Represent the main components of a window management system in a schematic diagram and briefly explain their roles.
- (e) Most software development organisations formulate their own coding standards that suit them most. Why ?
- (f) Discuss the requirements of clean room software development.
- (g) Distinguish between functional format and project format of software development organisation structure.
- (h) "Software configuration management is crucial to the success of large software development projects". State reasons.

(8 × 5 = 40 marks)

- II. (a) (i) What is meant by the life cycle phase of a software ? Why is it necessary for the software development team to identify a suitable life cycle model ? (8 marks)
- (ii) Explain the main phases in the spiral model of software development. (7 marks)

Or

- (b) (i) Explain the terms, 'goal', 'maintainability', 'adaptability' and 'portability' with respect to an SRS document. (8 marks)
- (ii) Differentiate between structured analysis and structured design in the context of function-oriented design. (7 marks)

- III. (a) (i) Name the basic features that a programming language needs to support in order to be useful for object-oriented development. (8 marks)
- (ii) Discuss why several software packages support a command language-based interface in addition to a menu-based user interface. (7 marks)

Or

Turn over

- (b) (i) Explain why a design approach based on the information hiding principle is likely to lead to a reusable and maintainable design. Illustrate with a suitable example.

(8 marks)

- (ii) Briefly discuss the architecture of the X window system.

(7 marks)

- IV. (a) (i) Explain how unit testing of a program is carried out with the help of driver and stub modules.

(8 marks)

- (ii) Design a black box test that suits for a program that solves simultaneous equations of upto 100 variables.

(7 marks)

Or

- (b) What is a module dependency graph ? Discuss the different approaches to integration testing.

(15 marks)

- V. (a) (i) Mention any *four* important skills and traits of a good software engineer. (8 marks)

- (ii) How does the capability maturity model classify software development industry?

(7 marks)

Or

- (b) (i) What are the traits of a quality software product? Explain the principal activities of a modern quality system.

(8 marks)

- (ii) How will you measure the productivity of a software development team ? Explain.

(7 marks)

[4 × 15 = 60 marks]