

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2006

CH/PTCE 2K 501/PTEE 2K 402—SOFTWARE ENGINEERING

(Common to all branches and AR 2K 502)

Time: Three Hours

Maximum: 100 Marks

Answer all questions.

Part A

- 1. (a) Define the term software requirement? What problems arise when natural language is used for requirement definition?
 - (b) State the differences between Verification and Validation.
 - (c) Explain how formal languages can be used for formal software specification.
 - (d) Discuss the major activities involved in the software design process.
 - (e) Specify the importance of software safety and hazard analysis.
 - (f) List and briefly explain the activities involved in a business process re-engineering model.
 - (g) In brief, explain the features of COCOMO model.
 - (h) Explain the steps involved in Software Quality Assurance.

 $(8 \times 5 = 40 \text{ marks})$

Part B

2. (a) Discuss in detail the waterfall life-cycle model with its advantages and disadvantages.

(15 marks)

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- (b) (i) List the different classes of non-functional requirement.
 - (ii) Explain the basis of behavioural model and its characteristics.

(8 + 7 = 15 marks)

3. (a) Discuss in detail the differences between Object-oriented and Function-oriented design.

Or

(b) What are the major components of a real time executive system and explain their interactions with each other?

(15 marks)

4. (a) Discuss the features of clean room approach in software development in detail.

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(b) Explain the different types of software maintenance. How the software maintenance cost is evaluated?

(15 marks)

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5. (a) Identify the two objects in software configuration management. Explain the distinct features of those objects.

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(b) Discuss in detail about the estimation techniques in software development.

(15 marks)

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