

**D 27150**

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Name.....

Reg. No.....

**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 × 5 = 40 marks)

**Part B**

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

(15 marks)

*Or*

- (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)

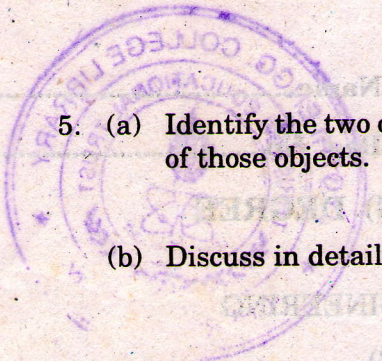
4. (a) Discuss the features of clean room approach in software development in detail.

*Or*

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

(15 marks)

**Turn over**



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

Or

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

(15 marks)

[4 × 15 = 60 marks]

Answer all questions

Part A

- (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 × 5 = 40 marks)

Part B

- 1. (a) Discuss in detail the waterfall life cycle model with its advantages and disadvantages. (15 marks)
- Or
- (b) List the different classes of non-functional requirement.
- (c) Explain the basis of behavioral model and its characteristics. (8 + 7 = 15 marks)
- 2. (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)
- 3. (a) Discuss the features of clean room approach in software development in detail. Or
- (b) Explain the different types of software maintenance. How the software maintenance cost is evaluated? (15 marks)

(15 marks)

Turn over