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B.Tech. IV-Sem (Main & Back) Exam; June-July 2016 Computer Science & Engineering 4CS4A Software Engineering Common with CS, IT	

Time: 3 Hours

Maximum Marks: 80

Min. Passing Marks (Main & Back): 26

Min. Passing Marks (Old Back): 24

**Instructions to Candidates:-**

*Attempt any five questions, selecting one question from each unit. All Questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.*

*Units of quantities used/ calculated must be stated clearly.*

*Use of following supporting material is permitted during examination.*

*(Mentioned in form No.205)*

1. NIL

2. NIL

**UNIT-I**

- Q.1 (a) Define system Engineering? Explain System Development Life Cycle Phases. [3+5=8]
- (b) Explain System Analysis & Computer system Engineering. [8]

**OR**

- Q.1 (a) Discuss problem that occur while developing a system and suggest possible solution. [8]
- (b) Explain the three key elements of Software Engineering. Define Software Engineering. [8]

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UNIT-II

- Q.2 (a) Explain Spiral Model in detail. Also differentiate between Prototype Model and Water Fall Model. [5+3=8]
- (b) Discuss the merits & demerits of various Model of software Engineering Models? [8]

OR

- Q.2 (a) Explain all the phases of Software Development Life cycle? [8]
- (b) Explain the Prototype Model? Under what circumstances is it beneficial to construct a prototype model? [5+3=8]

UNIT-III

- Q.3 (a) Explain the requirement management phase of the requirement Engineering. [8]
- (b) Write short note on:
- (i) QFD (Quality, Function, Deployment) and Use - Cases
  - (ii) FSM (Finite State Machine)
  - (iii) Software requirement Specification
  - (iv) Data Dictionary

OR

- Q.3 (a) Explain Major elements of DFD's and CFD's. [8]
- (b) Explain the behavior modeling as a part of Structured Analysis of Software Development. [8]

UNIT-IV

- Q.4 (a) Distinguish between Cohesion and Coupling. Explain with both Cohesion & Coupling Spectrums. [8]
- (b) Describe Effective Modular design in Brief. [8]

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OR

- Q.4 (a) Explain Problem Partitioning and Abstraction as the Major aspects of design Fundamentals. [8]
- (b) Explain the Software Design Process [8]

UNIT-V

- Q.5 (a) Define Unified Approach? Explain UML with all its diagram and advantages. [2+6=8]
- (b) Explain Object Oriented Analysis and its Approach and Explain class and Object Relationship Model. [4+4=8]

OR

- Q.5 Consider a student Information System as an Example. Explain the following UML diagrams in details, with the help of neat sketches.
- (a) Use Case diagram
  - (b) Class, Object diagram
  - (c) Sequence diagram
  - (d) Deployment diagram

[4+4+4+4=16]

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