

Code No: 5258AK

R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M. Tech I Semester Examinations, February - 2017
SOFTWARE ARCHITECTURE AND DESIGN PATTERNS
(Computer Science and Engineering)

Time: 3hrs

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

5 × 5 Marks = 25

- 1.a) What are architecture qualities? Explain. [5]
- b) Write steps for implementing the CBAM. [5]
- c) What are four essential elements of design patterns? Explain. [5]
- d) Explain collaborations of Observer. [5]
- e) How the web e-commerce architecture achieves quality goals? [5]

PART - B

5 × 10 Marks = 50

- 2.a) What are attribute-driven design steps? Explain.
- b) Define architectural pattern, reference pattern and reference architecture. [5+5]

OR

- 3.a) Describe documentation across views.
- b) Why is software architecture important? Explain. [5+5]

- 4.a) What three things need to be considered in product line systems? Explain.
- b) Write questionnaire to improve the design process. [5+5]

OR

5. Explain in detail about the ATAM. [10]

6. Explain the following:
 - a) Organizing the catalog of design patterns.
 - b) Structure of Bridge. [5+5]

OR

- 7.a) How to select a design pattern? Explain.
- b) Write the sample code of Prototype. [5+5]

8. Write consequences of the following patterns:
 - a) Interpreter
 - b) Strategy [5+5]

OR

9. Explain implementation of the following patterns:
 - a) Mediator
 - b) Visitor [5+5]

10. Describe architecture for the A-7E Avionics system. [10]

OR

11. Explain requirements and qualities of the following:
 - a) Air Traffic Control
 - b) WWW [5+5]