[5155] - 271

M.E. (Computer Engineering)
SOFTWARE DESIGN AND ARCHITECTURE
(2013 Pattern) (Semester - II)

Time : 3 Hour]   *[Max. Marks : 50*

Instructions to the candidates :
1) *Solve question number 1 or 2, 3 or 4 and 5 or 6.*
2) *Neat diagram must be drawn whenever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume suitable data, if necessary.*

Q1) a) Write in short the applicability, structure and implementation of :- **[8]**

   i) Abstract factory

   ii) Singleton

   b) Discuss the major phases of the software design process and illustrate the characteristics of an exceptional designer. **[8]**

OR

Q2) a) Explain design patterns? How they are documented using a template? Explain the way they are documented with examples to illustrate from Observer pattern. **[8]**

   b) Describe the design viewpoints for software design notation. **[8]**

Q3) a) Illustrate the mapping quality factors to quality criteria for assessing design quality? List different quality attributes. **[8]**

   b) Differentiate between reference architectural and an architectural pattern in terms of organizational planning and architectural analysis? Explain with suitable example. **[8]**

OR

Q4) a) Explain the concept of systematic reuse and its particular implementation using product lines? **[8]**

   b) Explain Execution architecture view and Code architecture view. **[8]**

Q5) a) Explain the concepts of Hiearchical architecture and Distributed Architecture. Evaluate the benefits and limitations of both. **[9]**

b) Write short notes on :- **[9]**

    i)   Model Driven Architecture (MDA)

    ii)   Customer Relationship Management (CRM)

<div align="center">OR</div>

Q6) a) Describe Quantity archrtype pattern and Rule archetype pattern with example. **[9]**

b) Explain the concepts of any three archetype patterns. **[9]**

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