

**B.E. (Computer Engineering)
SOFTWARE ARCHITECTURE**

(2008 Course) (Semester - I) (410444 D) (Elective - I(d))

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) Answers to the two sections should be written in separate answer books.*
- 2) From section-I, Answer (Q1 or Q2) and (Q3 or Q4) and (Q5 or Q6).*
- 3) From section-II, Answer (Q7 or Q8) and (Q9 or Q10) and (Q11 or Q12).*
- 4) Neat diagrams must be drawn wherever necessary.*
- 5) Figures to the right indicate full marks.*
- 6) Assume suitable data if necessary.*

SECTION - I

- Q1) a)** Describe software Architecture? Explain the importance of software Architecture in software development. **[9]**
- b) How software architecture are influenced by the following. **[9]**
- i) Stakeholders.
 - ii) Developing organizations.

OR

- Q2) a)** Explain the Architecture Business cycle. **[9]**
- b) Analyze the following concepts. **[9]**
- i) Connectors and Components.
 - ii) Architectural structure modules:(decompose, classes)

- Q3) a)** Interpret the following concepts of :- **[8]**
- i) 24/7 availability of a system.
 - ii) Transaction management.
- b) Explain quality attributes of web application. **[8]**

OR

- Q4)** a) Explain testability tactics. [8]
b) Explain the Template (Source, stimulus, response) for discussing Quality Attributes Scenarios, with an example for any Availability scenario of your choice. [8]

- Q5)** a) Describe Abstract factory pattern with respect to intent, application and solution. [8]
b) Give the structure of object and class adapter pattern. [8]

OR

- Q6)** a) Explain when proxy pattern can be applied. Give the solution of proxy pattern using UML diagram. [8]
b) How do you ensure about the single instance of a Maze game application. [8]

SECTION - II

- Q7)** a) Differentiate Web Container and Web Server? [4]
b) Explain following web server side concepts through simple examples [12]
i) CGI.
ii) Application Server.
iii) Legacy applications.
iv) Web Server.

OR

- Q8)** a) Describe JDBC? Write different steps to connect to database and execute query using JDBC with an example. [8]
b) Explain with neat diagram J2EE Architecture. Discuss how it supports MVC Architecture. [8]
- Q9)** a) Discuss RPC? Assess the pro and cons of RPC as middleware? [8]
b) Explain n-tier web architecture. [8]

OR

- Q10)** a) Compare XML and HTML. [4]
b) Illustrate 3 tier architecture? What are the J2EE technologies supporting client tier. [6]
c) Sketch and explain AJAX web application model. [6]

Q11) Explain brief: [18]

- a) ACTIVE X control.
- b) Middleware.
- c) JDBC.
- d) JSF.

OR

- Q12)** a) How does a web application manage sessions? [9]
b) Explain Java web services. Relate SOA & Web services? [9]

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