

Total No. of Questions : 12]

SEAT No. :

P706

[4458]-767

[Total No. of Pages : 3

**B.E. (Computer) (Semester - I)
SOFTWARE ARCHITECTURE
(2008 Course) (Elective -I(d))**

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Figures to right indicate full marks.*
- 2) *Answers to Two sections should be written in separate answer books.*
- 3) *From Section - I, Answer (Q1 or Q2) And (Q3 or Q4) And (Q5 or Q6).*
- 4) *From Section - II, Answer (Q7 or Q8) And (Q9 or Q10) And (Q11 or Q12).*
- 5) *Make suitable assumptions wherever appropriate and relevant.*

SECTION - I

- Q1)** a) When and why will a Software Architect choose following technology choices for any system, Justify with examples. [6]
- i) JAVA
 - ii) Visual Basic
- b) Draw a diagram for 4+1 view architecture. Give a definition for software architecture and explain the definition. [6]
- c) What do you understand by following concepts. [6]
- i) Connectors and components.
 - ii) Architectural structure modules: (decompose, classes)

OR

- Q2)** a) What is a deployment diagram. What kind of architectural decisions/ scenarios does a deployment diagram depict? Show the following two tier web application scenario using a deployment diagram. Scenario: Browser based client using HTTP to access static web pages. [6]
- b) Write short notes on architecture stakeholders. [6]
- c) Consider Civil Engineering/Architects profession of designing and constructing residential /office buildings. What is the difference between the role of architect and civil engineer. Similarly a software architect also helps build software with quality like security, performance etc. What is the difference between roles played by programmer and an architect. Explain with examples how software architect and architecture contributes to any software System's quality. [6]

P.T.O.

- Q3)** a) List out some common user friendly features and security threats related to a social networking site like facebook. [4]
- b) What is importance of availability of a system. How is availability of a system achieved through various availability tactics. [6]
- c) Illustrate with suitable example modifiability, security, performance, availability requirement for a typical railway reservation system. [6]

OR

- Q4)** Explain and illustrate the following concepts (in context of quality attribute/tactics) with examples, in brief. [16]
- a) Authorization versus authentication.
- b) UNDO command in microsoft word.
- c) Dynamic, interactive websites.
- d) Testability, userfriendliness.

- Q5)** a) What is a proxy pattern? What is remote proxy pattern? Show how remote proxy helps in marshaling/ un-marshaling. Draw a class/sequence diagram to show how remote proxy pattern works. [8]
- b) What are design patterns? Discuss intent and applications of chain of responsibility, command, mediator patterns. [8]

OR

- Q6)** IN CONTEXT OF OBSERVOR PATTERN answer the following. [16]
- a) How does action listener (event listener) in java work.
- b) What is publish subscribe?
- c) What are roles of subject and observer?
- d) Give a non-software example of observer pattern.

SECTION - II

- Q7)** a) What is XSLT, XML DOM parsers? [5]
- b) Briefly state the three type of EJBs. [5]
- c) Compare and contrast J2SE and J2EE. [4]
- d) What is JDBC-ODBC driver, prepared statement in JDBC? [4]

OR

- Q8)** a) What is role of middle-ware in 3 tier applications ? [6]
b) With respect to RMI, what do you understand by RMIC, RMI registry?[6]
c) Write short notes on J2EE. [6]

- Q9)** Explain following Web Client side concepts through simple examples. [16]
a) Features of typical web browsers.
b) Java applet security (Hint sandbox).
c) HTML forms and JavaScript validations.
d) Java applets, with an example code/application.

OR

- Q10)** Briefly describe need, role, use of following technologies. [16]
a) AJAX
b) DOM tree
c) Rich internet applications
d) DHTML

- Q11)** a) Consider an online DVD store application, show what concerns/ functionality of the online web based DVD store, will you distribute to presentation, business, data layers in 3 tier architecture. Make suitable assumptions about the features / scope of online DVD store. [4]
b) What is XML, SOAP? [4]
c) What is STRUTS and what are its advantages? [4]
d) What are web-services and service oriented architecture? [4]

OR

- Q12)** a) Compare servlets and JSP for server side web development. [4]
b) What are JSP tags, explain with examples. [4]
c) How does a web application manage sessions? [4]
d) Draw a diagram and explain MVC architecture and what are roles of JSP and servlets in the MVC model? [4]

