

P1568

[3764]-423

B.E. (Information Technology)
SOFTWARE ARCHITECTURE
(414451) (2003 Course) (Elective - II)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates :

- 1) *Figures to the right indicate full marks.*
- 2) *Answers to the two sections should be written in separate answer books.*
- 3) *From Section – I, Answer (Q. 1 or Q. 2) and (Q. 3 or Q. 4) and (Q. 5 or Q. 6).*
- 4) *From Section – II, Answer (Q. 7 or Q. 8) and (Q. 9 or Q. 10) and (Q. 11 or Q. 12)*
- 5) *Make suitable assumptions wherever relevant and appropriate.*

SECTION - I

- Q1)** a) What do you mean by robust software architecture? [4]
b) Software architecture is often compared with building architecture. What are the strengths and weaknesses of this comparison? [8]
c) "Object Inheritance is white box reuse". Justify. [6]

OR

- Q2)** a) What documentation would you need to do performance analysis of an architecture? [4]
b) Explain with suitable example : [8]
i) Architecture is high-level design.
ii) Architecture is the overall structure of the system.
iii) Behavior of each software element is part of the architecture.
iv) Architecture has components & connectors.
c) Explain : Architecture is the vehicle for stakeholder communication.[6]

- Q3)** a) Discuss Architectural structures and views. [4]
b) What are ALLOCATION structures? [4]

- c) Discuss Architectural patterns, reference models and reference architecture. [4]
- d) What is MTTF & MTTR? [4]

OR

- Q4)** a) What is quality attribute? What are the types of quality attributes. [8]
- b) Explain the following terms with examples : [8]
- i) Voting tactic.
 - ii) Non Repudiation.
 - iii) Artifact in scenario.
 - iv) Conceptual integrity.

- Q5)** a) Define design patterns. Discuss the characteristic of design pattern.[4]
- b) Give the definition, uses and structure of "Proxy" pattern. [6]
- c) What are design patterns and anti-patterns? Explain significance of each with reference to software quality. [6]

OR

- Q6)** a) What is the difference between Abstract Factory pattern & Factory pattern? Explain with suitable example. [8]
- b) Give the structure diagram for FACADE pattern. Explain the structure with example. [8]

SECTION - II

- Q7)** a) What is JDBC? What are stored procedures? What are the steps required to execute a query in JDBC? What is cold backup, hot backup, warm backup recovery? [10]
- b) Write short note on : [8]
- i) JAVA on client side.
 - ii) JXTA.

OR

- Q8)** a) What is the difference between Java Bean and EJB? What is EJB container? [6]
- b) In context of EJB what do you understand by : [6]
- i) Session beans.
 - ii) Entity beans.
 - iii) Message beans.

- c) What is ACID? What is reentrant? Are session beans reentrant? Are entity beans reentrant? [6]

- Q9)** a) What are the difference between Web Container and Web Server? [4]
b) What do you mean by N-tier architecture? Explain briefly with suitable diagram. [6]
c) What is the use of CSS in XML document? How will you create CSS for a particular XML file? What are the different kinds of parsers used in XML? [6]

OR

Q10) Explain with example : [16]

- a) XHTML.
- b) XSLT.
- c) AJAX.
- d) JSP page navigation.

Q11) a) What are the life cycle methods of Applet? Explain them. [4]

b) Write short note (Any two) : [8]

- i) DLL services.
- ii) COM/DCOM.
- iii) Distributed Object.

c) Compare components & web services. [4]

OR

Q12) a) What are .NET assemblies? What do they use? [6]

b) Discuss concept : [6]

- i) Windows Registry.
- ii) Query Interface.

c) What is CLR? [4]

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