BE-SEM VIII (R-2007) Comp. Dec 2015

Distributed computing

QP Code : 2931

Total Marks : **100 marks** 3 hrs.

Note :

1.Question 1 is compulsory

2. Attempt any 4 out of the remaining questions.

Q1.

a) Comparison of NOS and DOS. (05)

b) Explain the issues in designing Distributed Systems (05)

c) Explain RPC Model for communication in a Distributed system. (10)

Q2.

a) Explain Absolute as well as Causal ordering semantics for group communication in a distributed system, with an example for each. (10)

b) Explain the need for coordinator selection in a distributed system. Explain one of the strategies for the same, in detail. (10)

Q3.

a) Explain implementation of sequential consistency model for "Replicated and Migrating" block for distributed shared memory. (10)

b) What do you understand by clock synchronization? Explain Lamport's Mechanism (10)

Q 4.

a) What is phantom reads problem. Explain any one algorithm for distributed deadlock detection. (10)

b) What are data centric and client centric consistency models. Explain one model (10)

Q5)

a) List desirable features of a good distributed file system. How are modifications propagated in file caching schemes? (10)

b) Compare Load sharing to task assignment and Load balancing strategies for scheduling processes in a distributed system. (10)

Q6)

a) Explain Address Space transfer mechanisms in process migration in a distributed System. (10)

b) Explain stateless and stateful server implementation justifying advantages disadvantage of each (10)

Q7) Write short note on any 4 (20)

a) Issues in designing DSM.

b) Naming Service

c) Distributed Transactions

d) Desirable feature of a good Naming System

e) Lightweight RPC and Call back RPC.

B.E Computer VIII (R-2007). 16/12/15

Software Architecture.

QP Code : 2697

(3 Hours) [Total Marks 100]

N.B.:
1. **Question No.1 is Compulsory.**
2. **Attempt any four out of remaining Questions.**
3. **Figures to the right indicate full marks.**

Q1. Attempt any **four** from the following questions.
- a) Compare and contrast stream connector and linkage connector. [05]
- b) What is reference architecture? How does it differ from ordinary software architecture? [05]
- c) Differentiate architectural erosion and architectural drift [05]
- d) What is a difference between view and viewpoint? [05]
- e) Differentiate software architecture and software design. [05]

Q2. a) What is SOA and web services? [10]
- b) What is architectural pattern? Explain any one pattern in detail with example. [10]

Q3 a) Compare and contrast event-based and client-server based data distribution connector.
- b) What is stakeholder-driven modelling? [05]
- c) Explain basic features of xADL. [05]

Q4. a) List various architectural styles. What are the differences between architectural styles and Architectural patterns. [10]
- b) Explain simulation base framework [05]
- c) Explain 4+1 view in UML? [05]

Q5. a) What is REST? Explain its architecture. [10]
- b) What is perspective and descriptive architecture [10]

Q6. a) Explain in brief the guidlines of a good Software architecture for achieving NFP (no-functional property) goals. [10]
- b) Explain with an example software System Mobility and Architecture [10]

Q7. Write short notes on **[Any TWO]** [20]
- i) C2 style Architecture
- ii) ATAM
- iii) Domain specific software architecture

QP-Con. 11427-15.