Reg. No. :

Question Paper Code : 91406

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019
Sixth Semester
Computer Science and Engineering
CS6601 – DISTRIBUTED SYSTEMS
(Common to : Information Technology)
(Regulations 2013)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. List the challenges in the design of distributed systems.

2. Define pervasive networking.

3. What are the three important aspects of distributed systems that are modeled using fundamental models ?

4. What is marshalling ?

5. State any four characteristics of peer to peer systems.

6. What are the limitations of napster ?

7. Why does cascading aborts occur ?

8. What are the tasks of recovery manager ?

9. What is Load Sharing ?

10. "Thread is a lightweight process". Justify with an example.

PART – B   (5×13=65 Marks)

11. a) Explain in detail about the trends in distributed systems.   (13)

(OR)

b) Consider a World Wide Web (WWW) distributed application design. Describe the characteristics and challenges in the above design when considering resource sharing phenomenon.   (13)

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12. a) Discuss about overlay networks with Skype as an example. (13)

(OR)

b) Write in detail about publish subscribe networks with a suitable example. (13)

13. a) Explain how does Andrew file system ensure the cached copies of files are up-to-date when files are updated by several clients. (13)

(OR)

b) Explain in detail about the squirrel web caching service based on Pastry. (13)

14. a) Discuss in detail about the following distributed mutual exclusion algorithms
     1) The Central Server Algorithm
     2) Ring Based Algorithm. (13)

(OR)

b) Why is computer clock synchronization necessary ? Describe the design requirements for a system to synchronize the clocks in a distributed system. (13)

15. a) What is context switching ? Describe in detail about process migration. (13)

(OR)

b) Discuss in detail about the Load Balancing approach in a peer-peer system. (13)

PART – C   (1×15=15 Marks)

16. a) The Enterprise Java Beans architecture will be suitable to implement a massively multiplayer online games. If yes, give appropriate solutions. (15)

(OR)

b) Discuss whether message passing or DSM is preferable for fault-tolerant applications. (15)