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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

MID SEMESTER EXAMINATION-2015

B.Tech VIII Sem / M.Tech II Semester

COURSE CODE:10M11CI212 MAX. MARKS: 30

COURSE NAME: Advanced Operating Systems

COURSE CREDITS: 03 MAX. TIME: 2 HRS

Note: All questions are compulsory.

Section A **(Marks: 6)**

1.

(a) Explain how the communication takes place when your home computer communicates with the webmail server at your institution to read and send mails

(b) Why is it difficult to synchronize things in distributed systems?

(c) How can the scalability problems in X protocol be tackled?

(d) With examples describe Access, Location and Migration transparency in a distributed system.

(e) List the difference between a name server and a directory server with examples

(f) What problems have to be solved while passing data values between different machines with operating systems?

Section B **(Marks: 9)**

1. In a structured overlay network, messages are routed according to the topology of the overlay. What are the advantages and disadvantages of this approach?
2. What are Client and Server Stubs and how are they used in remote procedure calls? Explain in detail how a remote procedure call is executed
3. How is Publish subscribe communication Paradigm different from request reply communication Paradigm?

Section C **(Marks: 15)**

1. The Domain Name System (DNS) is a large, successful distributed system. Its principal service is to map keys (such as host names) to values.

(i) What are the major components of the DNS and how do they interact? [3 marks]

(ii) Why does DNS impose a limit on the key length? [2 marks]

2. (i) Explain how DNS can be used to implement a home based approach to locating mobile hosts [3 marks]

(ii) How is a mounting point looked up in most UNIX systems [2 marks]

3. List out the general design issues for a multithreaded servers [5 marks]