

**FACULTY OF INFORMATICS****B.E. 4/4 (IT) I – Semester (Suppl.) Examination, June / July 2015****Subject : Distributed Systems (Elective – II)****Time : 3 hours****Max. Marks : 75****Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.****PART – A (25 Marks)**

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| 1 Define distributed systems. Why is middleware very important?                          | 3 |
| 2 Describe precisely what is meant by a scalable system.                                 | 2 |
| 3 What are the main applications of message-passing interface?                           | 2 |
| 4 How are synchronous and asynchronous transmissions different for data streams?         | 3 |
| 5 Distinguish between stateful and stateless servers.                                    | 2 |
| 6 What is a “mount point”? How is mounting achieved in a name space?                     | 3 |
| 7 What is the importance of interoperable object reference in CORBA systems.             | 2 |
| 8 How is security addressed in Globe system?   | 3 |
| 9 What is the importance of low-latency communication in distributed multimedia systems? | 2 |
| 10 What is “Fair scheduling” in distributed multimedia systems?                          | 3 |

**PART – B (50 Marks)**

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| 11 a) Explain what is meant by transparency. Give examples of different types of transparency.                     | 5  |
| b) What is vertical distribution and horizontal distribution in design of multitiered client-server architectures? | 5  |
| 12 a) Distinguish between persistent and transient communication.  | 5  |
| b) What is the role of message broker in message queuing systems?  | 5  |
| 13 a) Explain how client-to-server binding can be done using a daemon and using a superserver.                     | 5  |
| b) Explain about iterative name resolution mechanism.  | 5  |
| 14 Distinguish between CORBA, DCOM and GLOBE based on naming, synchronization and replication features.            | 10 |
| 15 a) What are the typical characteristics of multimedia data?   | 4  |
| b) Explain how bandwidth reservation and statistical multiplexing are useful in admission control.                 | 6  |
| 16 a) Explain about agent technology and use of agents in distributed systems.                                     | 5  |
| b) Explain the use of have based approaches in supporting mobile entities.   | 5  |
| 17 Write short notes on :  |    |
| a) Client-to-server binding in DCE   | 5  |
| b) Real time scheduling for resource management in distributed multimedia systems.                                 | 5  |

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