

(3 Hours)

[ Total Marks : 80

- N.B. : (1) Question 1 is **compulsory**  
(2) Answer any **four** questions from remaining **six**  
(3) **Sub questions** should be answered **together**

1. (a) What are election algorithms? Explain in detail with the diagram. 10  
(b) What is cloud computing? Describe cloud computing architecture. 10
2. (a) Explain the advantages of creating new process versus creating multiple threads with in a process. Discuss various thread models. 8  
(b) Explain group communication. Discuss the implementation of casual ordering semantics in CBCAST protocol of ISIS system. 7
3. (a) Explain full concept of preemptive process migration .What is different address space transfer mechanisms used in process migration? 8  
(b) Compare RPC and RMI implementation. Explain with the help of diagram implementation of RPC mechanism. 7
4. Compare the following (any **three**) 15  
(a) Blocking and non-blocking primitive of IPC  
(b) Connection oriented and connection less programming  
(c) Grid versus Cloud computing  
(d) Workstation and workstation server model
5. (a) Externally synchronized clocks are not internally synchronized but converse is not true. Justify. 8  
(b) How DFS is different from traditional file system? Discuss briefly the classes of file models. 7
6. (a) Explain strong consistency models. How they differ from weak consistency models. 8  
(b) What are the issues in data security in cloud computing? How data can be protected in cloud? 7
7. Write short note on following (any **three**): 15  
(a) Multidatagram messaging  
(b) Drifting of computer clocks  
(c) Client server architecture  
(d) Ajax  
(e) Map reduce