

Code No: 126ZP

R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, April - 2018

DISTRIBUTED SYSTEMS
(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**(25 Marks)**

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|------|--|-----|
| 1.a) | Define and explain about the distributed systems. | [2] |
| b) | What is mean by resource sharing? Explain. | [3] |
| c) | Present a note on external synchronization. | [2] |
| d) | Write about election algorithm. | [3] |
| e) | Differentiate unicast and multicast communication. | [2] |
| f) | Write a short note on group communication. | [3] |
| g) | Discuss about distributed shared memory. | [2] |
| h) | What are the requirements of the distributed file systems? | [3] |
| i) | What is deadlock? Explain. | [2] |
| j) | Write about two phase locking. | [3] |

PART - B**(50 Marks)**

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| 2.a) | Explain about architectural elements. | |
| b) | Write a short notes on characteristics of distributed systems. | [5+5] |
| OR | | |
| 3. | Explain in brief about system models of distributed systems. | [10] |
| 4.a) | Discuss about distributed mutual exclusion. | |
| b) | Discuss about consensus and related problems. | [5+5] |
| OR | | |
| 5.a) | Explain about clocks, events and process states. | |
| b) | Discuss about global states. | [5+5] |
| 6.a) | Discuss about the API for the Internet protocols. | |
| b) | Explain about IPC in UNIX. | [5+5] |
| OR | | |
| 7.a) | Discuss about communication between distributed objects. | |
| b) | What is a Remote Procedure Call(RPC)? Explain. | [5+5] |

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- 8.a) Explain about Andrew file system.
- b) Explain about design and implementation issues of distributed shared memory. [5+5]

OR

AG 9. Explain the following. AG AG AG AG AG A
a) Directory services.
b) Release consistency in distributed shared memory. [5+5]

- 10.a) What is mean by atomic commit protocols? Explain.
- b) Discuss about timestamp ordering. [5+5]

OR

AG 11.a) Discuss about concurrency control in distributed transactions. AG AG A
b) Explain about flat and nested distributed transactions. [5+5]

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