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Total Number of Pages: 2

M.TECH
P1CSBC05

1st Semester Regular Examination 2016-17

ADVANCED OPERATING SYSTEM

BRANCH: CSE

Time: 3 Hours

Max Marks: 100

Q.CODE: Y858

**Answer Question No.1 which is compulsory and any FOUR from the rest.
The figures in the right-hand margin indicate marks.**

Q1 Answer the following questions: *Short answer type* **(2 x 10)**

- a) Differentiate between workstation and processor pool model.
- b) What do you mean by vector clock?
- c) Enlist drawbacks of deadlock avoidance.
- d) Write and explain different types of processor failure.
- e) Define token based algorithm.
- f) Distinguish between blocking and non-blocking send and receive primitive of message passing system.
- g) Write Synchronization delay and response time of process in mutual execution algorithm.
- h) What is caching?
- i) What is the application of read-replication algorithm?
- j) Compare symmetric and asymmetric multiprocessor system.

Q2 a) Discuss the various issues while designing distributed operating system. **(10)**

b) Explain the necessity of Lamport's logical clock in a distributed operating system. Show its implementation with an example. **(10)**

Q3 a) What is non-token based algorithm? Explain Ricart-Agrawala algorithm with an example. **(10)**

b) How mutual exclusion can be achieved through Raymond's Tree based algorithm in distributed system? Discuss. **(10)**

Q4 a) What are the different types of agreement problems? Explain Byzantine agreement for three processors. **(10)**

b) What are the necessary conditions for deadlock? Explain Ho-Ramamoorthy algorithm for centralized approach. **(10)**

210 Q5 a) Explain the mechanism of implementing RPC. 210 210 (10) 210
b) Explain how the commit and voting protocol can be used to design fault (10)
tolerant system.

210 Q6 a) What is distributed file system? Explain any five design issues. (10)
b) Discuss the architecture of Distributed Shared Memory(DSM)? Explain (10)
the full replication algorithm for implementing DSM.
210 Write Notes 210 210 210 210 210 210

210 Q7 a) Suzuki Kasami algorithm (10)
b) Load Balancing versus Load sharing. (10)

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