

U.G. 6th Semester Examination - 2021**BCA****Course Code : BBCADSHT5****Course Title : Advance Operating System**

Full Marks : 40

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **ten** questions: 1×10=10
- What is advanced operating system?
 - What is mutual exclusion?
 - What are various thread data structures?
 - Write the names of any two clock synchronization algorithms.
 - Define semaphore.
 - What is RPC?
 - Name any two grid monitoring software.
 - What do you mean by buffering?

- Define Load Balancing.
 - Define consistent cut.
 - What is Real Time system?
 - What is memory coherence?
 - Define Process Synchronization.
 - Write two names of any recovery algorithms.
 - What is thrashing?
2. Answer any **five** questions: 2×5=10
- Define thrashing and mention its disadvantages.
 - What is clock synchronization in distributed system?
 - What are the desirable features of good global scheduling algorithm?
 - Differentiate between Tightly Coupled and Loosely Coupled system.
 - What is loosely coupled and tightly coupled system?
 - What is the difference between Network and Distributed operating system?
 - Mention the issues of load distributing.
 - List the advantages of Distributed Shared Memory.

3. Answer any **two** questions: $5 \times 2 = 10$
- a) Discuss various atomic hardware instructions implementation to achieve process synchronization. 5
 - b) Explain majority based dynamic voting protocol with suitable example. 5
 - c) Explain how an Edge-Chasing algorithm can be used for deadlock detection in distributed systems. 5
4. Answer any **one** question: $10 \times 1 = 10$
- a)
 - i) Discuss about various data structure used for memory management in operating system.
 - ii) Write a short note on "SIGCLD Semantics". $7 + 3 = 10$
 - b) Discuss concurrent and cooperating processes using the producer consumer problem. $5 + 5 = 10$
 - c)
 - i) Define global atomicity. Give an example.
 - ii) Explain the function and use of priority calling algorithms. $3 + 7 = 10$
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