Important Questions	
COURSE: B. Tech R19	**YEAR:** II – II Semester
BRANCH: IT	**SUBJECT: OPERATING SYSTEMS**

UNIT – 1: Introduction to Operating Systems Concepts

1. a. Explain the operating system structure and its functions. pg no: 15
   b. With a neat sketch, List and explain Operating system Services. pg no: 8
2. What is an Operating System? What are different types of Operating Systems? pg no: 1 & 12
3. Describe different types of Operating system structures. pg no: 12
4. What is a System Call? Explain about different types of System Calls? pg no: 9
5. a. Explain the Dual-Mode operation of an operating system. pg no: 14 unit 1
   b. Explain the importance of Real-Time Embedded systems.

UNIT – 2: Process Management

1. a. What is a Process? Explain about various fields of Process Control Block?
   b. With a neat diagram, explain various state of a process?
2. a. Describe the differences among short term, medium term, and long term scheduling?
   b. Explain the following operations on processes: Process Creation and Process Termination
3. What are the advantages of Inter Process Communication? How communication takes place in a Shared memory environment? Explain.
4. a. Define a Thread? Give the benefits of multithreading. Differentiate process and Thread?
   b. Explain about different types of multithreading models?
5. a. What are the criteria for evaluating the CPU scheduling algorithms? Why do we need it?
   b. Explain Round Robin scheduling algorithm with an example?

UNIT – 3: Concurrency

1. What is a Critical-section Problem? Give the conditions that a solution to the critical section problem must satisfy?
2. Give the Peterson's solution to the Critical-Section Problem?
3. Give the hardware based solution to the Critical-Section Problem?
4. What is Dining Philosophers Problem? Discuss the solution to Dining Philosophers problem using Monitors?
5. What is Synchronization? Explain how semaphores can be used to deal with n-process critical section problem?
6. Discuss the solution for dining philosopher's problem using semaphores.

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