SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
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QUESTION BANK (DESCRIPTIVE)

Subject with Code : Operating Systems(16CS512) **Course & Branch**: B.Tech – CSE
Year &Sem: II-B.Tech& II-Sem **Regulation:** R16

UNIT –I

Introduction to OS& System Structures

1. A) Define Operating System and explain the various types of Operating Systems? 5M
   B) Explain Functions of Operating Systems? 5M
2. A) Explain Operating System Structures? 5M
   B) Explain System Programs? 5M
3. Explain Computer System Organization? 10M
4. A) Explain Distributed Systems? 5M
   B) Explain difference between Uni programming and Multi Programming ? 5M
5. A) Explain Operating System Services. 5M
   B) Explain System calls. 5M
6. Explain about Computer System architecture? 10M
7. Explain Computing Environments? 10M
8. A) Write about Storage Management? 5M
   B) Explain Process Management? 5M
9. A) Explain difference between Multitasking and Multi Programmin? 5M
   B) Write about Memory management? 5M
10. Explain about different types of System calls ? 10M

UNIT –II

Process Management& Process Scheduling

1. A) Define Process? Explain process State diagram? 5M

   B) Explain about process schedulers? 5M

2. Explain Multi-Threading models. 10M

3. Explain CPU Scheduling Algorithms with examples? 10M

4. A) Explain about Scheduling Criteria. 4M

   B) Evaluate FCFS CPU Scheduling algorithm for given Problem 6M

Process	P1	P2	P3	P4
Process Time	24	3	5	6

5. Evaluate SJF CPU Scheduling algorithm for given Problem 10M

Process	P1	P2	P3	P4
Process Time	8	4	9	5
Arrival Time	0	1	2	3

6. Evaluate Round CPU Scheduling algorithm for given Problem 10M

   Time slice =3 ms.

Process	P1	P2	P3	P4
Process Time	10	5	18	6
Arrival Time	5	3	0	4

7. Write about Inter Process Communication? 10M

8. A) Explain about Operations on process? 5M

   B) Write about Threads? 5M

9. A) Write the difference between user level thread and kernel level thread? 5M

   B) Write about Single & Multithreaded Process? 5M

10. Define the following:

    A) Process. 3M

    B) Program. 3M

    C) Process Control Block. 4M

UNIT –III

Process Coordination& Deadlocks

1. What is critical section problem? Explain with example ? 10M
2. What is Semaphore? Expain producer consumer problem using semaphore? 10M
3. Define process synchronization and explain Peterson solution algorithms? 10M
4. What is Monitor? Expain with any example using monitor ? 10M
5. Explain the solution for Dining-Philosophers Problem 10M
6. A) What are the methods for handling deadlock. 6M
   B) write about deadlock and starvation? 4M
7. A) Explain about Deadlock Avoidance? 6M
   B) Explain how recovery from deadlock? 4M
8. Explain Dead lock detection (Banker's Algorithm) with Example? 10M
9. Write about Deadlock Prevention Methods? 10M
10. Discuss about the following
    A) Semaphore 5M
    B) Monitor 5M

UNIT –IV

Memory Management, Virtual Memory Management, File system

1. Discuss about page replacement algorithms with example	10M
2. A) What is MFT? Explain with Example	5M
B) What is MVT? Explain with Example	5M
3. A) What is Segmentation ? Explain with Example.	5M
B) Explain about Paging.?	5M
4. A) what is swapping with respect to memory management? explain	5M
B) What is file sharing and explain about it.	5M
5. Brief explains about free space management?	10M
6. Write short notes on	
A) Demand paging	3M
B) File sharing	3M
C) Page replacement	4M
7. Write short notes on	
A) File attributes	3M
B) File Operations	3M
C) Page fault	4M
8. Discuss about directory structures with examples	10M
9. A) Explain about file access methods	7M
B) What is thrashing. Explain.	3M
10. A)Explain Dynamic memory partition allocation with Example.	5M
B) What is contiguous memory allocation? Explain it.	5M

UNIT –V

Protection & Security

1. A) Define Protection Domain with Example.	5M
B) Explain about protection Matrix with Example.	5M
2. A) Discuss about cryptography process.	5M
B) Explain about Digital Signature.	5M
3. A) Define Protection & Security.	5M
B) Explain about Access Control List with Example.	5M
4. Write about Insider Attacks.	10M
5. Write short notes on	
A) Threats	5M
B) Intruders	5M
6. Explain about various Authentication Techniques.	10M
7. A) Write in detail about goals of protection.	5M
B) Explain based protection with example.	5M
8. A)What is access matrix?	5M
B) Explain the implementation of access matrix.	5M
9. A)Explain about Trusted Platform Model.	5M
B) Write short notes One-Way Functions	5M
10. what is secret key and public key cryptography ? Explain	10M