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

Subject with Code :FUNDAMENTALS OF OPERATING SYSTEMS (17IT601) **Course & Branch**: B.Tech – CSIT
Year &Sem: II- B.Tech & II-Sem **Regulation:** R16

UNIT –I

OPERATING SYSTEMS OVERVIEW , SYSTEM STRUCTURES , PROCESSES

1. Explain Operating System Structure?	12M
2. Write About Operating Systems Operations?	12M
3. Classify Operating System Services?	12M
4. a.Write Short Notes On System Call?	6M
b.Write Briefy On Types Of System Call	6M
5. Briefly Write About Types Of System Calls?	12M
6. Write About System Programs?	12M
7. Explain Structure Of Operating System?	12M
8. Explain Operations On Processes?	12M
9. a.Explain Inter Process Communication(IPC)?	6M
b.Justify Message Passing And Shared Memory	6M
10.a.Define Process State Diagram?	6M
b. Process Scheduling?	6M

UNIT-II

THREADS , PROCESS SYNCHRONIZATION , CPU SCHEDULING

1. Write about multicore programming?	12M
2. Briefly explain multithreading models?	12M
3. Classify thread libraries?	12M
4. a.Critical section problem?	6M

b.critical problem solution	6M
5.write short notes on monitors?	12M
6.Explain (a) reader, writer problem	3M
(b)dining philosopher problem	6M
(c)bounded buffer problem	3M
7.a.what is semaphore?	6M
b.write about Implementation of semaphore	6M
8. Justify Peterson's solution?	12M
9. a.Explain thread scheduling?	5M
b.contention scope and pthread scheduling?	7M
10.Explain scheduling algorithms?	12M

UNIT-III

MEMORY MANAGEMENT , VIRTUAL MEMORY , DEADLOCKS

1.What is contiguous memory allocation?	12M
2.Discuss segmentation basic concept and hardware?	12M
3.Explain paging?	12M
4 a.Give example for FIFO page replacement?	6M
b.Optimal Page replacement example	6M
5.What is allocation of frames,explain ?	12M
6.Explain structure of page table?	12M
7 a.What is Thrashing?	4M
b.Discuss cause of thrashing and working set model	8M
8.Explain memory mapped files?	12M
9.Write short notes on	
a.Mutual Exclusion	3M
b.Hold and Wait	3M
c.No Preemption	3M
d.circular wait	3M
10.a.Write about deadlock avoidance ?	5M

b.Bankers algorithm?	7M

UNIT-IV

MASS-STORAGE STRUCTURE , FILE SYSTEM INTERFACE , FILE SYSTEM IMPLEMENTATION

1.a.Write short notes on Disk Structure?	6M
b.write short notes on Disk Attachment?	6M
2.Give Example for various disk scheduling?	12M
3.Discuss swap-space management?	12M
4.Define the following	
a. what is File?	3M
b .File attributes?	3M
c. File operations	3M
d. File types?	3M
e.File structure?	3M
5.Write various kinds of file access method ?	12M
6.Explain briefly about Directory and disk structure?	12M
7.a.write notes on File system mounting?	6M
b. Brief about File sharing?	6M
8.a.What is File System Structure?	6M
b.What is File System Implementation	6M
9.Explain Directory Implementation?	12M
10.what are the various kind of allocation methods and explain	12M

UNIT-V

I/O SYSTEMS , PROTECTION , SECURITY

1. a Explain I/O hardware?	6M
b .Explain application I/O interface?	6M

2	a.Explain kernel I/O subsystem?	6M
	b.tranforming I/O subsystem?	6M
3.	a.what is protection and goals	6M
	b. what is domain of protection	6M
4	a.Explain security problem?	6M
	b.what is program threats?	6M
5	a.Explain access matrix?	6M
	b.Access matrix implementation	6M
6.	a Explain security defences ?	6M
	b.computer security classifications?	6M
7.	classify capability based systems?	12M
8	.Explain cryptography as a security tool?	12M
9.	Explain user authentication?	12M
10.	Brief about firewalling to protect systems and networks?	12M