

SE comp sem IV (R-19) SH-2023  
QP code - 38918 16/12/23

Duration: 3hrs

[Max Marks:80]

- N.B. : (1) Question No 1 is Compulsory.  
(2) Attempt any three questions out of the remaining five.  
(3) All questions carry equal marks.  
(4) Assume suitable data, if required and state it clearly.

- Q. 1 Attempt any **FOUR** [20]  
a Explain Goals and objectives of OS [5]  
b Differentiate between Preemptive and Non-preemptive scheduling algorithms [5]  
c Explain Resource Allocation Graph with an example [5]  
d Write in detail about Memory Management Requirements [5]  
e Discuss File access methods [5]
- Q. 2 a Discuss Producer and Consumer problem with solution using Semaphore [10]  
b Explain different structures of Operating System [10]
- Q. 3 a What is the role of PCB? Explain the structure of PCB with its disadvantages. [10]  
b Explain Deadlock Avoidance algorithms with example. [10]
- Q. 4 a Explain Page Replacement Strategies with suitable examples [10]  
b Discuss in detail about Disk Scheduling Algorithms with an examples [10]
- Q. 5 a Explain Memory Allocation Strategies with suitable examples [10]  
b Explain Five state Process model with two suspended states [10]
- Q. 6 Write short notes on Following [20]  
a Concept of Multithreading [5]  
b Principles of Concurrency [5]  
c TLB [5]  
d File Directories [5]

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