

Code: 9A15401

B.Tech II Year II Semester (R09) Supplementary Examinations May/June 2017

**OPERATING SYSTEMS**

(Computer Science &amp; Systems Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Explain MS-DOS layer structure with a neat diagram.  
(b) Explain the following: (i) System calls. (ii) Protection and security.
- 2 (a) Define process. Draw the process state diagram and explain.  
(b) Explain the criteria for evaluation of CPU Scheduling algorithms.
- 3 (a) What is a monitor? Give the schematic view of a monitor with conditional variables and explain.  
(b) Explain in detail Timestamp-Based protocol.
- 4 (a) Why are segmentation and paging sometimes combined into one scheme? Explain.  
(b) Discuss situations under which the most frequently used page replacement algorithm generates fewer page faults than the least recently used page replacement algorithm. Also discuss under what circumstance the opposite holds.
- 5 Explain the Banker's algorithm with the help of an example.
- 6 (a) Discuss the merits and demerits of supporting links to files that cross mount point.  
(b) Draw the schematic view of a virtual file system and explain.
- 7 What is mirroring and striping in RAID. How it is made possible in different RAID levels?
- 8 (a) How fire walling can be used to protect systems and networks?  
(b) What are the security classifications in systems?

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