

**R07****Code: R7320501**

B.Tech III Year II Semester (R07) Supplementary Examinations December/January 2015/2016

**OPERATING SYSTEMS**

(Computer Science &amp; Engineering)

(For 2008 Regular admitted batch only)

Time: 3 hours

Max. Marks: 80

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Discuss in detail the functions provided by the operating system.  
(b) What is the main function of a microkernel? What are its benefits?
- 2 (a) Describe the actions taken by a thread library to context switch between user-level threads.  
(b) What are independent processes and cooperating processes? What are the reasons for process cooperation?
- 3 (a) Give the structure of the process in Peterson's solution and prove that the solution is correct.  
(b) Briefly explain synchronization in Linux.
- 4 (a) Compare and contrast paging and segmentation.  
(b) How many page faults occur for the following reference string, with four page frames:  
1,2,3,4,5,3,4,1,6,7,8,7,8,9,7,8,9,5,4,5,4,2.  
(i) For FIFO page replacement algorithm.  
(ii) For LRU page replacement algorithm.
- 5 (a) "I/O is a major factor in system performance". Explain.  
(b) What is polling? What are its advantages and disadvantages?
- 6 (a) Give a detailed note on various directory structures mentioning their advantages and disadvantages.  
(b) Discuss about windows XP file system in detail.
- 7 (a) Write notes on disk attachment.  
(b) Explain RAID levels in detail.
- 8 (a) Discuss about the domain of protection.  
(b) Give a detailed note on user authentication.

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