

(Please write your Exam Roll No.)

END TERM EXAMINATION

FIFTH SEMESTER [B.TECH/M.TECH] DECEMBER 2013 – JANUARY 2014

Paper Code: IT-317

Time: 3 Hours

Subject: Operating System

Maximum Marks: 60

Note: Attempt any five questions in all. Q.No.1 is compulsory..

(5*4=20)

Q1. Explain briefly

- Differentiate between context switching and Process switching.
- Differentiate between time sharing and real time system.
- Differentiate between preemptive and non-preemptive scheduling.
- Differentiate between deadlock and starvation.

Q1. Why is operating system known as a 'Resource Manager'? Explain each resource in detail.(10)

Q2.

- Describe the inter process communication between processes. (5)
- How page faults are handled in demand paging? (5)

Q3. List out various file allocation methods. Explain and give their relative advantages and disadvantages. (10)

Q4. With an example explain FCFS and Shortest Job first (SJF) CPU scheduling algorithms. (10)

Q5. Consider the following snapshot of a system: (10)

Processes	Allocation	Max	Available
	A B C D	A B C D	A B C D
P0	0 0 1 2	0 0 1 2	1 5 2 0
P1	1 0 0 0	1 7 5 0	
P2	1 3 5 4	2 3 5 6	
P3	0 6 3 2	0 6 5 2	
P4	0 0 1 4	0 6 5 6	

Answer the following questions using the banker's algorithm:

(a) What is the content of the matrix Need?

(b) Is the system in a safe state?

(c) If a request from process P1 arrives for (0, 4, 2, 0), can the request be granted immediately?

Q6. Discuss the Windows operating system and DOS operating system based on resource management in detail. (10)

Q7. Discuss SCAN and FCFS disk scheduling using an example. (10)

Q8. Write short notes on any two-

(5*2=10)

- Semaphores
- Thrashing
- File access methods.

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