

Mid-West University
Examinations Management Office
 End-Semester Examinations -2080

Bachelor level/ B.E. Computer/6th Semester
 Time: 3 hours
Subject: Operating System (CO520)

Full Marks: 50
 Pass Marks: 25

- Attempt all the questions
- Figures in the margin indicate full marks.
- Assume suitable values, with a stipulation, if necessary.
- Candidates are required to answer the questions in their own words as far as possible.

1. Explain real time operating system in detail. [5]
2. Compare program with process with example. Explain PCB with the help of block diagram. [2+3]
3. Define deadlock. What are the necessary conditions for deadlock? Explain how deadlock is handled? [1+2+2]
4. What is context switching? Explain the working of IPC. [1+4]
5. Define Kernel in OS. Consider the following matrices and calculate. [1+2+2]
 - a) Need Matrix
 - b) Is the system in safe state?

Use Bankers Algorithm.

Proce ss	Allocation				Maximum Required				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	2	0	6	5	2				

6. Mention the criterion of scheduling. Consider the following processes. [1+2+2]

Processes	Arrival Time()	Burst Time
P1	0	5
P2	1	4
P3	2	2
P4	4	1

Given: Time Quantum: 2ms

Consider each time in millisecond.

Calculate [Use Round Robin Scheduling Algorithm]

- a) AWT
 - b) ATAT
7. What are the requirements for memory management? Classify Memory Allocation Technique. Explain fixed size and variable length partitioning. [1+1+3]
 8. What is segmentation? Explain virtual memory with example. [1+4]
 9. What are the attributes of file? Explain about distributed operating system. [2+3]
 10. Write short notes on (any two); [2.5+2.5]
 - a) Interrupt driven I/O
 - b) Disk Operating System
 - c) RPC & ATM
 - d) UNIX & LINUX OS

The End