C.Sc. 538-2081 ✡

Candidates are required to give their answers in their own words as for as practicable.
The figures in the margin indicate full marks.

Section A

Long answer questions.
Attempt any TWO questions.   [2×10=20]

1. What is paging? Explain working mechanism of paging with suitable diagram? Also explain page table, page number, page offset.   [10]

2. What is system protection? What are the types of system protection? What is its goal? What are the basic principles of protection?   [10]

3. Consider the following snapshot of a system (given below). Answer the following questions using Banker's algorithm: [10]

   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?

Process	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				

Section B

Short answer questions:
Attempt all questions.   [5×5=25]

4. What is access matrix? Illustrate with suitable example. How it can be implemented?   [5]

5. What is Earliest Deadline First scheduling? Illustrate with suitable example.   [5]

6. What is latency and what are its types? Illustrate with suitable diagram.   [5]

7. What is multimedia operating system? What are its challenges?   [2+3]

8. What are the differences between multiprogramming operating system and multiprocessing operating system?   [5]

IOST,TU