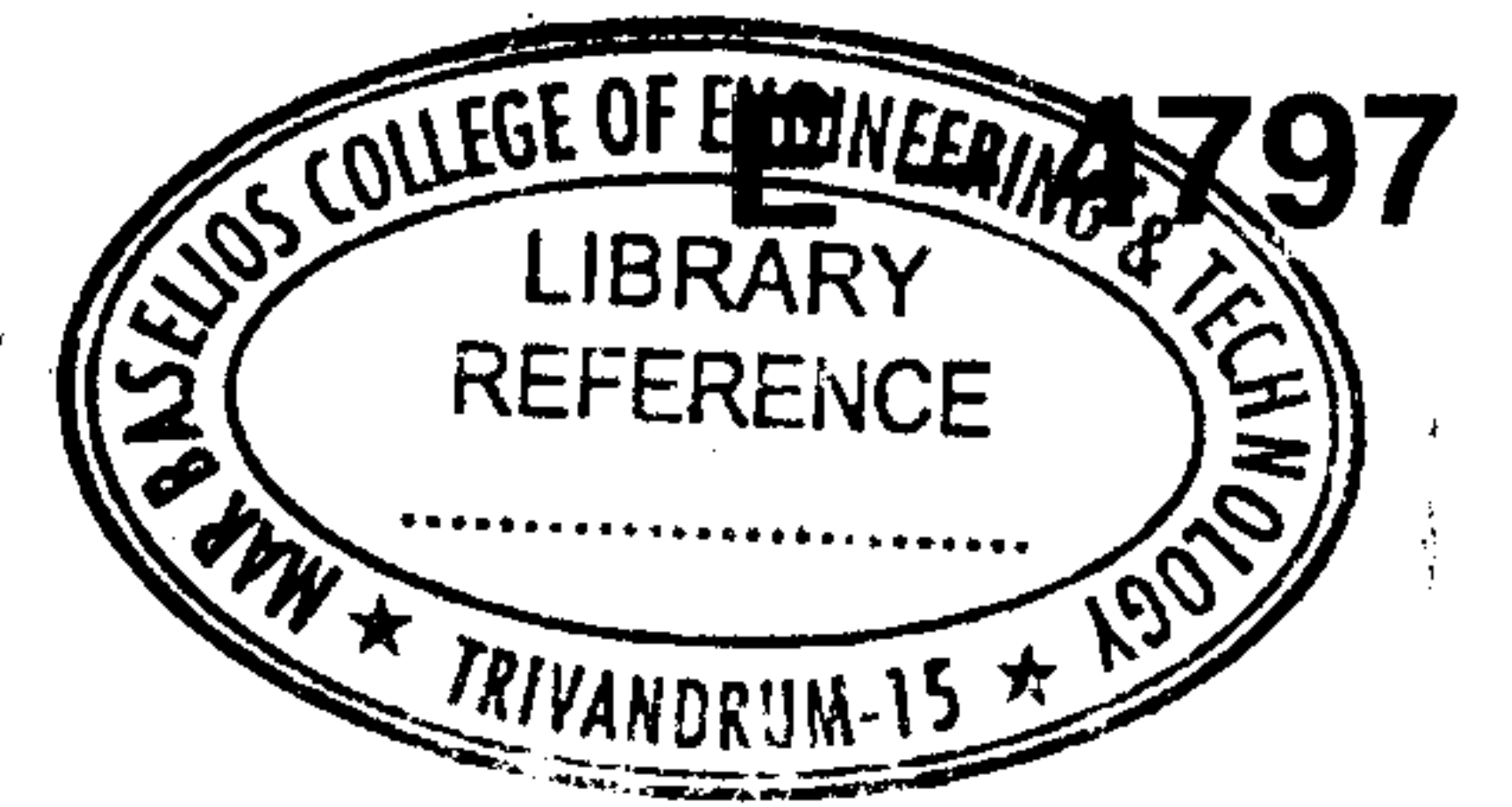




(Pages : 2)



Reg. No. :

Name :

**Fourth Semester B.Tech. Degree Examination, September 2018
(2008 Scheme)
08.406 : OPERATING SYSTEMS (R)**

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **4** marks.

1. Differentiate soft real and soft real time systems.
2. State any four functions of an Operating System.
3. Differentiate logical file system and physical file system.
4. Write short notes on file system reliability.
5. Define memory hierarchy.
6. Write a note on demand paging.
7. Differentiate fixed and variable partition memory.
8. What do you mean by protection domain ?
9. Explain how one time passwords are used to check the authenticity of a user.
10. What are the points to be considered in selecting a disk scheduling algorithm ?
(10×4=40 Marks)

PART – B

Answer **any one full** question from **each** Module :

Module – I

11. a) Explain the different classes of computers. **10**
- b) Explain contiguous and linked file allocation methods. **10**

OR

12. a) Describe the file system of UNIX. **10**
- b) Explain the features of multiprocessor and distributed operating system. **10**

P.T.O.



Module – II

13. a) Consider the following page reference string :

1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 7, 6, 3, 2, 1, 2, 3, 6

Assuming four frames how many page faults will occur for the following replacement algorithms :

1) LRU

2) Optimal

3) FIFO.

15

b) Write short note on space allocation policies.

5

OR

14. a) Define virtual memory and explain how the logical address is mapped to the physical address in a paging system.

10

b) Write a note on the evolution of memory architecture.

10

Module – III

15. a) Consider the following snapshot of a system. Find whether the system is in a safe state using Banker's algorithm. If so find the safe sequence.

10

	Allocation	Max	Available
	ABCD	ABCD	ABCD
P0	0012	0012	1520
P1	1000	1750	
P2	1354	2356	
P3	0632	0652	
P4	0014	0656	

b) Explain the following system threats :

10

i) Worms

ii) Viruses.

OR

16. a) Write a brief note on language based protection.

10

b) State the need for disk storage and disk scheduling and briefly explain SCAN and CSCAN disk scheduling techniques with the help of illustrations.

10

(3×20=60 Marks)