

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

B.M.S COLLEGE FOR WOMEN
BENGALURU – 560004

III SEMESTER END EXAMINATION – JAN/FEB-2024

B.C.A. - OPERATING SYSTEM
(NEP Scheme 2021-22 onwards F+R)

Course Code: BCA3DSC07
Duration: 2 ½ Hours

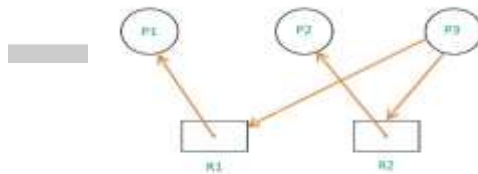
QP Code: 3030
Max. Marks: 60

SECTION – A

I. Answer any TEN questions.

(10X2=20)

1. Define system call. Name two system calls.
2. Write about PCB and its use.
3. Define Job queue and Ready Queue.
4. Write about fork().
5. What is seek time?
6. Describe Race condition.
7. Differentiate logical and physical address.
8. Mention any two file access methods.
9. What is disk formatting?
10. Describe virtual memory.
11. What is absolute code and relocatable code?
12. Consider the RAG check for dead lock

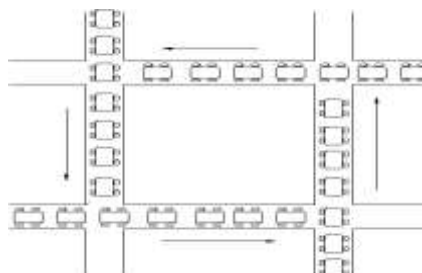


SECTION - B

II. Answer any SIX questions.

(6X5=30)

13. What are the services provided by the Operating system?
14. Write a short note on semaphores and its types.
15. Consider a traffic depicted in figure



- What is the situation called and what are the reasons?
16. Write a note on types of virtual machines.
 17. Explain contiguous file allocation methods
 18. Describe Distributed operating system and its advantages.
 19. What is the need for Inter-Process communication? Mention its two types
 20. Discuss dining philosopher's problem.

SECTION - C

II. Answer any ONE question.

(1X10=10)

21. Consider the page reference string 8,0,1,0,2,3,0,3,2,4,0,3,2,3 with 4-page frames. Find the number of page faults using LRU and optimal page replacement.
22. Consider a CPU Scheduling algorithm with 5 processes

Process	Priority	Burst Time	Arrival Time
P1	1	4	0
P2	2	3	0
P3	1	7	6
P4	3	2	11
P5	2	4	12

- a. Draw the Gantt chart illustrating the execution of process using SJR and priority with non-preemption (higher number highest priority).
 - b. Calculate the average waiting time and turnaround time.
23. Explain banker's algorithm with an example.

