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## 5.4. B. E. A. Sem. - 3



Seat No. : \_

1504

## **DD-102**

December-2022

B.C.A., Sem.-III

CC-204: Fundamentals of Operating System

(New)

Time: 2:30 Hours] [Max.	Marks: 70
1. (A) What is Operating System Software? Explain different types of C Systems.	Operating 7
(B) Discuss in detail: Relocatable Dynamic Partitions.	W Aj 7.
OR	
(A) Explain Paged Memory allocation in detail.	7. (8) 7
(B) System requests pages in following order:	7
1/23/414+234121431 miles of memory felling of his	n (AF
With memory of 3 page frames, do trace analysis using the following	ng page
replacement policies. The product available and man world a middle and the middle	N (8)
1. FIFO 2. LRU	9 10
Also find the success rates and failure rates and number of page faults.	
and explain different second and modular	4, (4): 5
(A) Explain Job Scheduler and Process Scheduler in detail.	7
(B) Explain: Process Control Block in detail with diagram.	7
OR Sandamine devices tales and sandamine will	(A)
(A) What is a Process ? Explain the different process states and proces	s state
transition in detail with diagram.	7
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(B) Given the following details

The sotion nig details t		
JOB NUMBER	CPU CYCLE	
A	8 1	
В	7	
С	13	
D	3	

All the processes has arrived at same time. Draw a timeline for each of the following scheduling algorithm. Also calculate the average turnaround time and average waiting time using,

(a) FCFS (b) SJN (c) Round Robin [Time slice = 4ms]

- 3. (A) What are the conditions for deadlock to occur? How can deadlocks be prevented?
  - (B) What is Starvation? Discuss: Dinning Philosopher's Probiem.

OR

- (A) What is parallel processing? Explain the master-slave and symmetric configurations.
- (B) What is semaphore? How can we achieve synchronization using semaphore in producer and consumer problem?

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- 4. (A) State and explain different access verification module.
  - (B) Explain: Non-contiguous and Indexed storage allocation methods.

OF

- (A) How communication among devices takes place?
- (B) State and explain different types of system devices. Also explain FCFS device handler seek strategy.

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Attempt any 7: to these printings solved at which the A file manager keeps track of where each file is stored. [True/False] Offset is also known as distance. [True/False] An I/O bound process spends more time doing computation. [True/False] (3) Bankers Algorithm is used to avoid deadlock. [True/False] Problem of busy waiting is removed with Wait and Signal. [True/False] Shared devices are combination of dedicated and virtual devices. [True/False] Which table contains location of a page frame and the free/busy status of the page frame? Job table : reaction and all beathers and dust a grinolical and moral [11] (a) Memory map table (b) Page map table (c) 2077 LUISION (10) Segmented map table (d) A scheduling strategy that interrupts the processing of a job and transfers the CPU to another job is called Preemptive scheduling policy Non-preemptive scheduling policy **(b)** Schedulers (c) None of the above (d) A process is thrashing if: It spends more time paging than executing. (a) It spends less time paging than executing. **(b)** When there is excessive amount of page swapping. (c)

None of the above

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	le of
(10) All deadlocks involve conflicting need	300
(a) resources	
(b) programs	The state of the state of the state of
(c) users	
(d) computers	
(11) Mutex stands for	
(a) Mutual exception	La estadore de table
(b) Mutual execution	
(c) Mutual running	
(d) Mutual exclusion	the same of the
(12) From the following which is a method is	for data compression ?
(a) Front end compression	older our country on
(b) Repeated characters	please come? (c)
(c) Repeated terms	Akie Cym Ladwin 2 (a)
(d) All of the above	
A description of	Lyber and make or
The state of the s	Constitution Company (a)
9110	q Simfatoniae - Lead patur
	wales and the
	. Woden in angle to
	Chapter is the mental and the
- Politico y no	of getga, amic areas time,
4	of specific test interpolars the
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