

## (1) Consider the refere**07776-11M** ren below

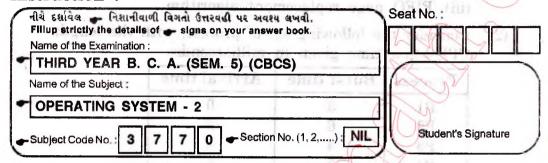
## Third Year B. C. A. (Sem. V) (CBCS) Examination October / November - 2015 Operating System - II

LRU page replacement algorithm

Time : 3 Hours | militagle | manage | 191 9929 | Em Total Marks : 70

3 Do as Dreected . (sury one)

## Instruction:



Answer in Short: (any seven) 1

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- (1) What is a role of file system? Write the name of some OS file system.
- Define CPU Scheduling. What is preemptive and non-**(2)** preemptive scheduling?
- What is Thrashing? **(3)**
- What is Critical section? How mutual exclusion can be **(4)** achieved?
- Explain pure demand paging. **(5)**
- What is compaction? How it can be performed? (6)
- (7)What is Belady's anomaly?
- (8)What is a solution of dynamic storage allocation problem?
- Do as Directed: (any three) 2

- Explain memory allocation scheme with fragmentation (1)in detail.
- Define deadlock. Explain deadlock prevention mechanism **(2)** in detail.

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- (3)Explain memory segmentation scheme.
- Explain disk space allocation schemes of file.

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[Contd...

3 Do as Directed: (any one)

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- (1) Consider the reference string given below:
  2, 3, 2, 1, 5, 2, 4, 5, 3, 2, 5, 2
  How many page faults will occur for the following replacement? Consider the memory is empty initially and having 3 frames. Which one is better and why?
  - (i) Optimal page replacement algorithm
  - (ii) LRU page replacement algorithm
  - (iii) FIFO page replacement algorithm
  - (2) Consider the following set of process, with the length CPU-burst time given in milliseconds:

| Process | Burst time | Arrival time |
|---------|------------|--------------|
| P1      | 3          | 0            |
| P2      | 6          | 2            |
| P3      | 4          | 4            |
| P4      | 5          | 6            |
| P5      | 2          | A. (8)       |

The processes are assumed to have arrived in following order: P1, P2, P3, P4, P5.

- (i) Draw Gantt charts to illustrate the execution of the process using:
  - FCFS scheduling
  - SRTF scheduling
  - Round Robin scheduling (Quantum = 4)
- (ii) Calculate turn around time and waiting time of each process in each scheduling algorithm.
- 4 Write short notes: (any three)

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- (a) Second Chance algorithm.
- (b) TLB
- (c) Acyclic Graph Directory
- (d) Deadlock Avoidance
- 5 Answer the following:

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(a) Explain producer consumer problem with a fatal race condition.

OR

OR

- (a) Explain the concept of Demand Paging in detail.
- (b) Write about File protection in detail.

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- WWW.V
- (b) Explain Multilevel feedback scheduling.

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