



RF-4812

M. C. A. (Sem. III) (A.T.K.T.) Examination  
April / May - 2010  
Paper - 302 : Operating System

Time : 3 Hours]

[Total Marks : 70

Instructions :

नीचे दर्शाविए निशानीवाणी विगतो उत्तरवही पर अवश्य कभवी.  
Fillup strictly the details of signs on your answer book.

Name of the Examination :  
M. C. A. (SEM. - 3) (A.T.K.T.)

Name of the Subject :  
302 - OPERATING SYSTEM

Subject Code No. : 4 8 1 2 Section No. (1, 2,.....): NIL

Seat No. :

Student's Signature

- 1 Calculate the Turnaround time and Average Waiting time 8  
for the following jobs when scheduled using shortest  
Remaining Time Next algorithms.

| Job               | P1 | P2 | P3 | P4 | P5 |
|-------------------|----|----|----|----|----|
| Arrival Time      | 0  | 2  | 5  | 6  | 6  |
| Time of Execution | 5  | 2  | 1  | 10 | 4  |

- 2 Differentiate between the following (any five) 20
- (i) Real Time OS and Network OS
  - (ii) FCFS and Priority-Based Scheduling
  - (iii) Semaphores and Monitors
  - (iv) Swapping and Paging
  - (v) Deadlock and Starvation
  - (vi) Static and Dynamic Memory allocation
  - (vii) Chaining and Indexing in Disk-Space management.

- 3 Given the following Page Reference String for the process 7  
which is allocated four real pages. Describe the Page  
Replacement analysis for the process using either LRU  
algorithm.  
144, A1, 144, 263 144, 144, 168, 263, 144, A1, 168, 179, A1,  
A2, 263

- 4 Define the following terms (any five) **15**
- (i) Interprocess Communication
  - (ii) Thrashing
  - (iii) Memory-Compaction
  - (iv) Segmentation
  - (v) Sector Sparing
  - (vi) Blocking I/O
  - (vii) PCB
- 5 Write notes on the following (any four) : **20**
- (i) Context Switching
  - (ii) Paging
  - (iii) DMA
  - (iv) Mutual Exclusion
  - (v) Indexing in File Allocation
  - (vi) Characteristics of I/O devices.
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