

**BCA-07****B.C.A. Examination, June-2015**

Operating System - I

**BCA-07***Time : Three Hours**[Max. Marks : 100*

**Note:** The question paper is divided into three sections A, B and C. Write answers as per given instructions.

**Section-A**

(Very Short Answer Questions)

**Note:** Answer all questions. As per the nature of the question delimit your answer in one word, one sentence or maximum upto 30 words. Each question carries 2 marks.  $2 \times 10 = 20$

1. (i) What are the recourses of computer system?  
(ii) What is a process?  
(iii) What is a critical section?  
(iv) What is semaphore?  
(v) What is thrashing ?  
(vi) What is preemptive scheduling?

(1)

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- (vii) What are different types of user interface?
- (viii) Name various techniques of Disk scheduling?
- (ix) What is the difference between Shortest Job First (SJF) and Shortest Remaining time next (SRTN) scheduling?
- (x) What is the difference between Authentication and Authorization?

**Section-B**

(Short Answer Questions)

**Note:** Answer any four questions. Each answer should not exceed 200 words. Each question carries 10 marks.  
10×4=40

2. State and explain the reader-write problem, how they are solved.
3. Write and explain essential condition(s) for a deadlock to occur.
4. Explain following in process scheduling:
  - (a) Turnaround time
  - (b) Response Time
  - (c) Waiting time
  - (d) Burst time
5. What is the difference between internal fragment and external fragment?
6. What is the difference between Deadlock Avoidance and Deadlock Prevention?

(2)

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7. What is the difference between Long-term scheduling, and short term scheduling?
8. What is the difference between Swapping and Demand Paging.
9. Obtain the highest Hit ratio for following page request sequence, assuming 3 page frames (blocks) available in memory.  
1,2,3,4,6,3,4,2,3,4,2,5,2,3,1,2,4,5,3,4,5,3.

**Section-C**

(Long Answer Questions)

**Note:** Answer any two questions. You have to delimit your each answer maximum upto 500 words. Each question carries 20 marks.  
20×2=40

10. Draw and explain various states of a process, in process management.
11. What is deadlock? Explain the basic condition(s) required for deadlock to occur.
12. What is virtual memory? How this is implemented?
13. What is difference between paging and segmented memory management?

—x—

(3)

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