

CR-5604

B. C. A. (First Year) Examination, March-April 2019

(Gr.-II)

Paper : BCA-14

OPERATING SYSTEM & SYSTEM SOFTWARE

Time Allowed : Three hours

Maximum Marks : 40

*Note : Attempt questions of all three sections as directed.
Distribution of marks is given with question.*

Section-'A'

(Objective Type Questions) 5×1=5

Note : Attempt all questions. Each question carries equal mark.

CR-5604

PTO

1. Choose the correct answer :

- (i) The interval from the time of submission of process to the time of completion is termed as :
 - (a) Waiting time
 - (b) Turnaround time
 - (c) Response time
 - (d) Throughput

- (ii) Which of the following is the deadlock avoidance algorithm?
 - (a) Banker's algorithm
 - (b) Round-Robin algorithm
 - (c) Elevator algorithm
 - (d) Karn's algorithm <http://www.a2zsubjects.com>

- (iii) The idea of overlays is to :
 - (a) Enable a process to be larger than the amount of memory allocation to it
 - (b) Keep in memory only those instructions and data that one needed at any given time

CR-5604

Section-'B'

(Short Answer Type Questions) 5×2=10

Note : Attempt all questions. Each question carries equal marks.

- (c) Both of above
- (d) None of the above
- (iv) Is the concept in which a process is copied into main memory from the secondary memory accordingly to the requirement :
 - (a) Paging
 - (b) Demand paging
 - (c) Segmentation
 - (d) Swapping
- (v) In information is recorded magnetically on platters :
 - (a) Magnetic disks
 - (b) Electrical disks
 - (c) Assemblies
 - (d) cylinders

- 2. How buffering can improve the performance of computer system?

Or

Write down the advantages of parallel system.

- 3. Define the problems of synchronization.

Or

What do you mean by Context-Switching?

- 4. Write short note on dynamic loading.

Or

Differentiate between internal and external fragmentation.

- 5. What is thrashing and how it can be handled?

Or

Define global versus local allocation.

6. Briefly discuss the hash table implementation of directory structure.

Or

What is FAT? Explain.

Section-'C'

(Long Answer Type Questions) 5×5=25

Note : Attempt all questions. Each question carries equal marks.

7. Using the given information about the processes. Calculate average waiting time and average turnaround time of each process under following scheduling algorithms :

- (a) First come first served
- (b) Shortest job first
- (c) Round Robin (with time slice of 4 units)

Process	Burst Time	Priority	Arrival Time
P ₁	19	3	0
P ₂	15	2	3
P ₃	10	1	12

P ₄	6	4	12
P ₅	3	3	15

Or

✓ What is Operating System? Discuss it's need and functions. Explain various its services.

2 8. What are the various deadlock conditions? Explain in detail. Also write banker's algorithm.

Or

Explain briefly the components of process.

9. What is Paging? Explain hardware support for paging. How it is different from segmentation.

Or

Explain : http://www.a2zsubjects.com

- (a) Address binding
- (b) Logical versus Physical address space

10. Define the role of page fault rate in least recently used algorithm. Explain it.

Or

[7]

What is the role of software and hardware in the security of system? How the system be protected from unauthorized use and virus.

11. Write short note on :

- (a) File Allocation methods
- (b) File Access methods

Or

What is Disk Scheduling? Discuss the following algorithm in brief giving their advantages and disadvantages

- (a) SSTF
- (b) C-Scan

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