

311301

Jan. 2022

BCA - III SEMESTER

Introduction to Operating System (BCA-17-201)

Time : 90 Minutes]

[Max. Marks : 25

Instructions :

1. *It is compulsory to answer all the questions (1 mark each) of Part-A in short.*
2. *Answer any three questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

1. (a) Explain the role of bootstrap program. (1)
- (b) What is throughput? (1)
- (c) Differentiate Program and Processes. (1)
- (d) Why deadlock occurs? (1)
- (e) What is Semaphore? (1)
- (f) Define the term Seek Time. (1)
- (g) What is Thrashing? (1)
- (h) What is Segmentation? (1)

- (i) List out the major attributes of a file. (1)
- (j) Name a method to control external fragmentation. (1)

PART-B

- 2. Differentiate Monolithic, Microkernel and Exo-Kernel architecture of OS. (5)
- 3. (a) What are the necessary and sufficient conditions to check the deadlock? (2)
 (b) Explain Paging in brief. (3)
- 4. Schedule the following scenario using Round-Robin Scheduling with time quantum = 2 and calculate average waiting time.

Process	Arrival time	Execution time
P1	0	3
P2	2	3
P3	3	2
P4	5	4
P5	6	5

(5)

- 5. Compare the performance of FIFO page replacement for the following demand sequence if number of frames = 3 and 4, also check for be-lady's anomaly.

Demand	5	0	2	1	0	3	0	2	4	3	0	3	2	1	3	0	1	5
Sequence																		

(5)

- 6. Differentiate Scan and C-Scan disk scheduling with appropriate example. (5)

