FACULTY OF ENGINEERING & TECHNOLOGY
UNIVERSITY OF LUCKNOW
Mid-Term Examination - 2
B. Tech. CSE (AI) SEMESTER – VI, 2023-24

Student's Name & Roll No. .....

Subject Code: AI-602	**Subject: Operating System**
Time: 1 Hrs.	**Max. Marks: 20**
Instruction: Attempt all sections.	**Branch: CSE (AI)**

SECTION A

1. Attempt all parts **(1X5 = 5)**

a) Define RAID.
b) What is directory?
c) Define virtual memory.
d) What is the main function of memory management unit?
e) Differentiate between internal and external fragmentation.

SECTION B

Answer any THREE questions. **(5X3 = 15)**

2. Discuss any two directory structures.
3. What is demand paging? Also, discuss in detail about the phenomena of thrashing.
4. Consider the following page reference string: **1, 2, 7, 2, 3, 1, 2, 5, 3, 4, 6, 7, 7, 1, 0, 5, 4, 6, 2, 3, 0.** How many page faults would occur for FIFO page replacement algorithm, assuming three frames (initially empty)? Also, discuss Belady's anomaly.
5. A hard disk having 500 cylinders numbered from 0 to 499. The drive is currently serving the request at cylinder 145, and the previous request as at cylinder 135. The status of the queue is as follows: **89, 150, 94, 180, 97, 153, 105, 178, 16.** What is the total distance (in cylinder) that the disk arm moves to satisfy the entire pending request for SCAN and LOOK disk-scheduling algorithms?