

RAN-2111000306020086
T.Y.B.Sc. (Computer Science) (Sem.- VI) Examination March - 2026
Operating System (Paper - 606)
Time: 2 Hours]
[Total Marks: 50

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book (2) Answer all the questions. (3) Figures in the right indicates full marks (4) Illustrate your answer with necessary example, if required.	Seat No.: Student's Signature
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Q.1. Answer the following questions. (Any Seven) [14]

1. What is Semaphore?
2. Write any two objectives of Operating System.
3. Define Directory.
4. Differentiate Paging and Segmentation.
5. What is Resource Allocation Graph?
6. What is Turnaround Time?
7. What is Process Control Block (PCB)?
8. Define System Call.

Q.2. Answer the following questions. [Any Three] [12]

1. Explain Multiprogramming, Multiprocessing and Multitasking in detail.
2. Explain DMA, Programmed I/O and Interrupt Driven I/O with comparison.
3. Explain Page Replacement Algorithms: FIFO and LRU with examples.
4. Describe Deadlock Avoidance and Deadlock Recovery methods.

Q.3. Answer the following questions. [Any Three] [12]

1. What is file? Explain Access methods of file.
2. Explain Inverted page table.
3. Explain Disk Space Management techniques in detail.
4. Explain Virtual Memory and Demand Paging in detail.

Q.4. Answer the following questions. [Any Two] [12]

1. Explain Acyclic directory structure in detail.
2. Explain Round robin scheduling algorithm with proper example.
3. Given the disk access sequence:
34, 78, 115, 10, 165, 48, 90, 175, 60, 20
Disk has cylinders numbered from **0 to 199**.
Initial head position is **100**.
Compute total arm movement using: SSTF and SCAN Algorithm.