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**Avinashilingam Institute for Home Science and Higher Education for Women**  
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD)  
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B  
Coimbatore - 641 043, Tamil Nadu, India

**Continuous Internal Assessment Test- II October 2025**  
**Semester III**

**Class: II UG**  
**Major: Computer Applications**

**Time: 2 Hrs**  
**Maximum Marks:60**

**23BCAC05 Operating Systems**

**Course Outcomes:**

1. Recall the concepts of file management.
2. Apply security aspects in appropriate situations.
3. Apply knowledge gained through processor scheduling to other applications.
4. Analyze features and limitations of operating systems.
5. Explore various other operating systems.

**Part-A**

**Choose the correct answer**

**6x1=6**

1. Multiprocessors are classified as CO3K2  
a) SIMD                      b) MIMD                      c) SISD                      d) MISD
2. A Hypercube system is an example of a multiprocessor system with CO3K3  
a) a centralized memory                      b) a distributed memory architecture  
c) a simple common bus                      d) a very limited number of processors
3. If deadlocks occur frequently in a system, the deadlock detection algorithm should be invoked CO4K2  
a) Rarely                      b) At fixed intervals or after a certain period of time  
c) Only once at the beginning of the system                      d) After every resource request
4. The Banker's algorithm is used for CO4K1  
a) Deadlock Prevention                      b) Deadlock Recovery  
c) Deadlock Detection                      d) Deadlock Avoidance
5. Which file allocation method uses a single contiguous block of disk space for each file? CO5K2  
a) Linked allocation                      b) Indexed allocation  
c) Contiguous allocation                      d) Partioned allocation
6. What is the core of the Linux operating system? CO5K2  
a) The Kernel                      b) The Terminal                      c) The Shell                      d) The Command Line

**Part-B**  
**Answer ALL Questions**  
**Answer should not exceed 400 words or two pages**

**3x6=18**

- |   |       |
|---|-------|
| 7. a. Write short notes on array processors.                    | CO3K1 |
| (Or)  |       |
| 7. b. Discuss about tightly coupled and loosely coupled system. | CO3K2 |
| 8. a. What are the four necessary conditions for deadlock?      | CO4K3 |
| (Or)  |       |
| 8. b. Describe deadlock prevention.                             | CO4K2 |
| 9. a. Write notes on user authentication.                       | CO5K2 |
| (Or)  |       |
| 9. b. Discuss on access control list.                           | CO5K2 |

**Part-C**  
**Answer ALL Questions**  
**Answer should not exceed 800 words or four pages**

**3x12=36**

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|---|-------|
| 10. a. Explain the processor interconnection schemes.           | CO3K3 |
| (Or)  |       |
| 10. b. Illustrate multiprocessor operating system organization. | CO3K2 |
| 11. a. Explain Banker's Algorithm in detail.                    | CO4K4 |
| (Or)  |       |
| 11. b. Describe file organization in detail.                    | CO4K2 |
| 12. a. Discuss about Linux operating system.                    | CO5K3 |
| (Or)  |       |
| 12. b. Elucidate on Windows operating system.                   | CO5K3 |

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**Staff in-charge: S.Anitha**  
**Number of copies (SF Campus-II) :50**