Dept. Comp. Science	**Midterm Distributed Sys.**
Vrije Universiteit	**25.10.2005**

1a Give an example of a 3-tiered client-server architecture. *5pt*

1b Despite the fact that multi-tiered architectures do not really solve any problems inherent to distributed systems, they have one practical advantage. What is this advantage? *5pt*

2a What is the difference between synchronous and isochronous transmission mode? *5pt*

2b What is meant by stream synchronization? *5pt*

3a What is the difference between an iterative and a concurrent server? *5pt*

3b Explain how you would organize an object server so that it can *simultaneously* support the iterative and concurrent way of handling requests (for different objects). *5pt*

4a Explain how Lamport's way of adjusting logical clocks works. Be precise! *5pt*

4b Explain how Lamport timestamps can be used to realize totally ordered multicasting. *10pt*

Grading: *The final grade is calculated by accumulating the scores per question (maximum: 45 points), and adding 5 bonus points. The maximum total is therefore 50 points.*