

University of ...  
Faculty of Engineering and Technology

Department of Computer Engineering

Course Code: CEF 311

Course Title: Operating Systems

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1<sup>st</sup> Semester 2012

Test 1

Instructions: Answer any five questions. Marks (points) are allocated as shown and are an indication to the extent to which questions are to be answered.

1. a) Give the main components of a computer system and their functions. 10 marks  
b) The activities of the processor can generally be grouped into 4. Give the groups. 10 marks
2. What is an Operating System, its history and the principal versions? A modern OS is multitasking and multi-user. What mechanisms propagate these? 20 marks
3. What is a process and its characteristics? How does the OS manage processes? 20 marks
4. What <sup>threads</sup> treats does a computer system face and how are they countered by the OS? 10 marks  
b) What are threads and how can they be classified? Give the advantage and disadvantages of each class? 10 marks
5. What is concurrency? How do processes interact and the challenges faced by their interactions. How can mutual exclusion be enforced? 20 marks
6. Give the events that lead to the creation and termination of a process. To create a process a number of steps are followed. Give these steps. 20 marks