# CS 5150, Software Engineering

# Sample Test 1

40 minutes

## Instructions

*For the instructions, see the Tests page on the course web site. The instructions that were originally on this sample test do not apply to the current year.*

## Question 1

(a) Why is the pure Waterfall model of software development not recommended for large-sale software projects?

(b) An online information system is being developed using a modified version of the Waterfall model. It is likely to be based on Web technology.

i How much should the choice of technology be considered during the feasibility study?

ii In how much detail should the choice of technology be specified during the requirements phase of the project?

iii At what stage should the decision be made to use an Apache Web Server 2.0 with Tomcat 4.1?

## Question 2

Here is an activity graph with time estimates for each activity in weeks.



(a) For each activity in the graph, calculate the slack.

(b) What is the critical path?

(c) Suppose that an extra member of staff is available who can work on either activity BE or activity BC, but not both.

i If she works on activity BE, the time estimate for BE is reduced from 5 weeks to 3 weeks. How much would the elapsed time to complete the complete project be reduced?

ii If she works on activity BC, the time estimate for BC is reduced from 9 weeks to 6 weeks. How much would the elapsed time to complete the complete project be reduced?