ITS 413 – QUIZ 6

First name: _____   Last name: _____

ID: _____   Total Marks: _____

out of 10

- When asked to *describe* or *explain* something, your answer must be clear, concise and unambiguous. Usually about 1 to 4 sentences.

Question 1 [3 marks]

Explain how a super-peer architecture like that used in the Fasttrack P2P network provides advantages offered by both fully-distributed networks (e.g. Gnutella) and centralised networks (e.g. Naptster).

Question 2 [2 marks]

a) If a system using Chord Distributed Hash Tables (DHTs) allows up to 256 nodes, how many unique key values are possible?

b) If a resource maps to a key K in Chord, but no corresponding node K exists, what does Chord do?

Question 3 [3 marks]

In Chord routes are maintained to only a selection of other nodes (e.g. 1, 2, 4, 8, … positions aways). Explain an advantage and disadvantage of instead maintaining routes to nodes 2, 4, 6, 8, … positions away.

Question 4 [1 mark]

Napster's performance is of order 1 for both latency (time to get search result) and number of messages sent. Whereas Gnutella is of order log(n) for latency and order n for messages sent (where n is the number of peers). What is a disadvantage of Napster compared to Gnutella?

Question 5 [1 mark]

A default value of the number of permanent peers (C) in Gnutella is 4. What is a disadvantage of increasing this value?