# ITS 413 – QUIZ 0

Last name: _____       First name: _____


ID: _____       Total Marks: _____

out of 20

- Write your name and ID in the space provided at the top of the sheet.

- Answer the questions on this sheet(s) only, using the space given.


**Question 1** [7 marks]

Draw the Open Systems Interconnection (OSI) reference model (that is, protocol stack) and write the name of each layer in the stack.


**Question 2** [3 marks]

One reason for sending small packets (for example, a payload of 64 bytes) in data networks is to minimise the delay. What is a disadvantage of sending small packets? Explain your answer (hint: you may explain with an example of what happens with a small packet and what happens with a large packet).

Disadvantage [1 mark]:


Explanation [2 marks]:

**Question 3** [3 marks]

Indicate whether each statement is True or False (circle correct answer):

    a) A router sends a packet after determining what link the packet should be sent on.  T / F

    b) A modem encodes a set of bits into an analogue signal. T / F

    c) In a data network with many users generating varying amounts of traffic, circuit-switching is more efficient than packet-switching. T / F

**Question 4** [6 marks]

Selecting from the eight protocols below, for each sentence write the protocol that most accurately completes the sentence.

The protocols you can select from are:

    1. Transmission Control Protocol (TCP)

    2. Open Shortest Path First (OSPF)

    3. Domain Name System (DNS)

    4. Internet Protocol (IP)

    5. Carrier Sense Multiple Access (CSMA)

    6. Address Resolution Protocol (ARP)

    7. HyperText Transfer Protocol (HTTP)

    8. User Datagram Protocol (UDP)

Complete these sentences with the above protocols (write the acronym, for example: TCP):

_____ maps human-readable addresses to Internet Protocol (IP) addresses.

_____ aims to provide equal access to nodes contending for a channel.

_____ provides flow control in the Internet.

_____ maps Internet Protocol (IP) addresses to hardware addresses (used at MAC layer).

_____ distributes routing information in networks.

_____ provides a reliable stream-oriented service.

**Question 5** [1 mark]

This quiz was (circle one answer only and be honest!):

    1. Too hard, because I have never taken a computer networks or data communications course.

    2. Too hard, because I cannot remember anything about computer networks.

    3. Hard, because there were too many questions for 10 minutes.

    4. Hard but ok, because I have covered some of this in previous courses.

    5. Too easy!