

ITS413 – Quiz 5

Name: _____

ID: _____ Mark: _____ (out of 10)

Question 1 [2 marks]

A Voice over IP application samples the input voice signal at a frequency of 8kHz, with each sample represented by 6 bits.

- a) At what rate, in bits per second, is the voice data generated at? [0.5 mark]

Consider the overhead of VoIP. Assume the VoIP application generates packets that each contain 40 Bytes of voice data. Each packet has an additional 20 byte IP header, and 8 bytes of UDP header and 12 byte RTP header.

- b) What network throughput is required to deliver the voice data to the destination at the same rate at which it is generated at the source? [1.5 marks]

Question 2 [6 marks]

Fill in the blank spaces (1 mark each)

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- a) Video applications can tolerate some _____, whereas web browsing applications cannot.
- b) _____ are often used to reduce the effects of network jitter in streaming applications.
- c) A IP voice call (such as using Skype) is an example of _____ communications, whereas Youtube is an example of _____ communications.
- d) In RTP, _____ can be used to convert from one data rate to another during a multimedia session.
- e) For an IPTV access network, _____ is better than _____ because it delivers optical fibre closer to the user's home.
- f) A common signaling protocol used in IP networks is _____ .

