



### 3.2.2 Circuit Switching, Packet Switching and Routers

Oct/NOV 2002

10. State three rules which would be part of a protocol used for sending data between two processors, explaining why each is necessary. [6]

Oct/NOV 2005

5. (b) Data is transmitted from one computer to another by using packet switching.

- (i) Explain how packet switching works. [3]
- (ii) Give one advantage and one disadvantage of using packet switching rather than circuit switching. [2]

Oct/NOV 2006

7. The communications system used by the company uses circuit switching for the transmission of data between head office and the copywriters.

(a) Explain the difference between circuit switching and packet switching, giving an advantage of each method. [4]

May/June 2010. P11

4. (b) (i) Explain what is meant by the terms packet switching and circuit switching. [5]

(ii) State one advantage and one disadvantage of using packet switching. [2]

May/June 2010. P13

4 (b) (ii) State one advantage and one disadvantage of using circuit switching rather than packet switching. [2]

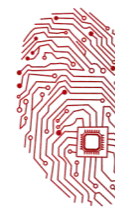
May/June 2012. P11/12

8 (b) Explain the difference between packet switching and circuit switching. Give one advantage and one disadvantage of each. [6]

Oct/Nov 2015. P11/P13

3 Six statements and eight computing terms are shown below.  
Draw a line from each statement to its correct computing term.



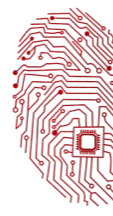


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Statement	Computing term
Data transmission in which all the bits are sent simultaneously using a communications path for each bit	Broadband
Uni-directional communication where data are sent in the form of analogue signals; this system allows multiple transmissions at the same time	Data compression
A method of checking for the successful transmission of a sequence of bits	Circuit switching
Encoding of data to take up less storage space and therefore use less bandwidth when carrying out data transmission	Baseband
Encoding of data to take up less storage space and therefore use less bandwidth when carrying out data transmission	Parallel
Bi-directional communication where data are sent as digital signals; the communication uses a single channel which utilises the entire bandwidth of the media	Protocol
Set of rules or instructions to govern the transmission or exchange of data	Parity
	Packet switching

[6]





### 3.2.2 Circuit Switching, Packet Switching and Routers

#### Computer Science (9608)

Oct/Nov 2015.P31/P32

3 An email is sent from one email server to another using packet switching.

- (a) State **two items** that are contained in an email packet apart from the data. [2]
- (b) Explain the role of routers in sending an email from one email server to another. [3]
- (c) Sending an email message is an appropriate use of packet switching. Explain why this is the case. [2]
- (d) Packet switching is not always an appropriate solution. Name an alternative communication method of transferring data in a digital network. [1]
- (e) Name an application for which the method identified in **part (d)** is an appropriate solution. Justify your choice. [3]

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3 (a) Explain what is meant by circuit switching. [2]

(b) There are many applications in which digital data are transferred across a network. Video conferencing is one of these.

For this application, circuit switching is preferable to the use of packet switching.

Explain why this is so. [6]

(c) A web page is transferred from a web server to a home computer using the Internet.

Explain how the web page is transferred using packet switching. [3]

