Name: ……………………………………………….. ( ) Class: ……… Date: …………………..

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| **2.2** | **Data Communications** | **Networks** |

1. Give two advantages of a computer network.

1 …………………………………………………………………………………………………………………………………………………

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2 …………………………………………………………………………………………………………………………………………………

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1. There are risks involved when computers are networked. Describe two of these risks.

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2 …………………………………………………………………………………………………………………………………………………

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1. There are three primary network types – LAN, MAN and WAN. Give one feature of each type of network.

LAN ………….…………………………………………………………………………………………………………………………………  
  
……………………………………………………………………………………………………………………………………………………

MAN ………..…………………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………………………………

WAN ………..…………………………………………………………………………………………………………………………………

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1. Classify each of the following networks according to geographic size.
2. The computers of different public libraries located in various parts of Singapore are networked together.

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1. A school has four computer labs located at each of the different floor levels. The computers are all networked together.

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(c) The computers of a multi-national company with offices in Asia, Europe and Australia are networked together.

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1. A company decides to network its computers wirelessly using Wi-Fi protocol.
2. What is the transmission medium?

……………………………………………………………………………………………………………………………………………

(b) Give one advantage and one disadvantage of a wireless network compared to a wired network.

Advantage……………………………………………………………………………………………………………………………  
  
……………………………………………………………………………………………………………………………………………  
  
……………………………………………………………………………………………………………………………………………  
  
Disadvantage………………………………………………………………………………………………………………………  
  
……………………………………………………………………………………………………………………………………………  
  
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1. Give one advantage and one disadvantage of client-server networks compared to P2P networks.

Advantage……………………………………………………………………………………………………………………………………  
  
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……………………………………………………………………………………………………………………………………………………  
  
Disadvantage………………………………………………………………………………………………………………………………  
  
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1. What is the most commonly used wired protocol for local and metropolitan area networks?

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1. Spot Printers is a printing company with twenty staff in their office. On their network, the staff access shared storage, printing and resources from a system of company-wide servers.

Which network model (client-server or P2P) best describes the network used by Spot Printers? Explain briefly how this network works.

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1. What is the function of a Service Set Identifier (SSID)?
2. Control multiple Wireless Access Points
3. Identify a Wireless Access Point and all devices attached to it
4. Identify each device on a wired network
5. Identify the protocol used in a wired network ( )
6. Which of the following is an example of a valid Media Access Control (MAC) address on a Network Interface Card (NIC)?
7. 192.168.1.32
8. FG:13:1B:N0:23:44
9. 00:1B:2F:12:4C:66
10. 01:15:2E:10:2B:48:5A ( )
11. Imagine that you are the network administrator of a small office connected to an Internet Service Provider (ISP) via a router that you have configured. Your office’s corporate email is stored on the ISP’s email server. Within the office, there are two other servers for file and print sharing. Which devices are you responsible for keeping up-to-date to avoid security vulnerabilities?

Tick those that apply.

|  |  |
| --- | --- |
|  | Desktop computers |
|  | Router |
|  | Email server |
|  | File and print servers |

1. The word ‘tea’ is being sent across the Internet. Assuming that an even parity system is used here, state if there were errors in the transmission for each character.

|  |  |  |
| --- | --- | --- |
| **ASCII character** | **Data received at destination** | **Is there an error?** |
| t | 01110100 |  |
| e | 11100101 |  |
| a | 11100001 |  |