THEORY TESTS

INFORMATION TECHNOLOGY – GRADE 11

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**QUESTION 1**

Write down the term, best described by the statements below :

* 1. Networking technology that allows high-speed wireless connectivity over a range of 20-50 km
	2. Contains the firmware , containing the start-up instructions of a computer
	3. A location where wireless network connectivity is provided to the public and paying subscribers
	4. The total amount of data that can be transferred from one point to another in a given period of time

1.5 Gaining access to someone else’s internet connection, without paying for it,

 through an unsecured WiFi network

  **[5]**

**QUESTION 2**

*Desktop computers are used in the administrative office by the employees of a local*

*shopping mall.*

2.1 *The desktop computers are modular in design.*

2.1.1 What is meant by the term *modular design*? (1)

2.1.2 State TWO advantages of modular design. (2)

2.1.3 Explain the purpose of each of the following components found on the

 motherboard of modern computers:

(a) SATA connectors (1)

(b) ZIF socket (1)

2.2.*All computer systems have an operating system.*

 2.2.1 What is the purpose of an operating system ? (1)

 2.2.2 State TWO functions of an operating system (2)

 2.2.3 Briefly explain EACH of the following processing techniques:

 a) Multitasking (2)

 b) Multithreading (2)

2.3 Give TWO reasons why the amount of RAM in a computer is limited and is

 normally less than the amount of secondary storage space. (2)

2.4 Explain how the following components improves the processing speed of a

 computer :

 2.4.1 dedicated graphics card (2)

 2.4.2 cache memory (2)

2.5 *The processing speed of the CPU is directly influenced by the clock speed at*

 *which it runs. The clock speed of the CPU is normally much higher than the*

 *speed of the system clock*

* + 1. What is the system clock ? (1)
		2. Explain how it is possible that the CPU works at a much higher speed than the speed of the system clock (2)

2.6 Explain what is meant by an *hardware interrupt* (1)  **[22]**

**QUESTION 3.**

The computers in the administration offices in the mall are networked in a local area network (LAN), as shown in the diagram below.

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3.1.1 State TWO advantages of using a wired network (2)

3.1.2 *UTP cables could be used to wire the network*

 3.1.2.1 State ONE problem associated with UTP cables (1)

 3.1.2.2 Explain why fibre optic cables have a higher data transmission rate,

 than UTP cables (2)

3.1.3.1 Name the topology used in the LAN diagram above (1)

3.1.3.2 State TWO advantages of this topology (2)

3.1.4 *Data travels along communication channels to the NIC*

 3.1.4.1 What is an NIC, and what is its purpose in a network ? (2)

 3.1.4.2 One often sees NIC’s advertised with specifications 10/100/1000

 What precisely do these figures mean, and what does it tell you about

 the NIC ? (2)

 3.1.4.3 How would you know if an NIC supports wireless transmission ? (1)

3.2 *The network in the mall has been expanded to include a Wi-Fi access to the*

 *network, by installing multiple access points in various places around the mall*

 3.2.1 What is the function of the access point ? (1)

 3.2.2 Give TWO reasons why multiple access points will be needed (2)

3.3 Explain the difference between the following terms :

 3.3.1 a PAN and a HAN (2)

 3.3.2 a router and a modem (2)

3.4 *Skype is one of the most popular software packages that allows people to*

 *communicate using VoIP*

 3.4.1 What is VoIP ? (1)

 3.4.2 State TWO disadvantages of VoIP (2)

 **[23]**

**QUESTION 4**

4.1 *There are many situations in programming, when loops are necessary*

4.1.1 What is a *loop* in programming ? (2)

4.1.2 Mention ONE way in which a conditional loop differs from an

 unconditional loop (2)

4.1.3 Give an example of a conditional loop in Delphi (1)

4.2 Consider the following excerpt from a Delphi program and answer the questions

 that follow

str := ‘All success stories begin with a dream’

4.2.1 Determine the output of following Delphi statements :

 4.2.1.1 newStr := COPY(str,13,7) (2)

 4.2.1.2 newStr := COPY(str,21) (2)

 4.2.1.3 posi := POS(‘s’,newStr) (1)

 **[10]**

**TOTAL = 60**