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EASTERN CAPE
 EDUCATION

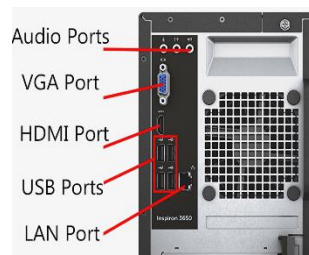
DIRECTORATE SENIOR CURRICULUM MANAGEMENT (SEN-FET)

HOME SCHOOLING SELF-STUDY WORKSHEET 61

SUBJECT	COMPUTER APPLICATIONS TECHNOLOGY	GRADE	10	DATE	13/7/20 TO 17/7/20
TOPIC	HARDWARE (Provided by DBE)	TERM 1 REVISION		TERM 2 CONTENT	✓
TIME ALLOCATION	5 HOURS (15 QUESTIONS PER DAY)	<u>TIPS TO KEEP HEALTHY</u>			
INSTRUCTIONS	<ol style="list-style-type: none"> This is a Theory Worksheet: You will need a book to write your answers in and something to write with. Answer the following questions in your workbook. WHERE TO FIND THE ANSWERS: <ul style="list-style-type: none"> USE THE POWER POINT PROVIDED ALSO AVAILABLE ON OUR WEBSITE – GR 10 https://drive.google.com/file/d/1DGV0hX57TMpFJyJFmNW_a_ijaJ5rpACR/view?usp=sharing You may use your CAT textbook to find the answers or alternatively, you can use the free downloadable CAT textbook provided by the Department of Basic Education. See the link below to download this FROM OUR provincial CAT and IT website. THEORY COMPUTER APPLICATIONS TECHNOLOGY: https://sites.google.com/view/itandcatinec/cat-grade-10?authuser=0 	<ol style="list-style-type: none"> WASH YOUR HANDS thoroughly with soap and water for at least 20 seconds. Alternatively, use hand sanitizer with an alcohol content of at least 60%. PRACTICE SOCIAL DISTANCING – keep a distance of 1m away from other people. PRACTISE GOOD RESPIRATORY HYGIENE: cough or sneeze into your elbow or tissue and dispose of the tissue immediately after use. TRY NOT TO TOUCH YOUR FACE. The virus can be transferred from your hands to your nose, mouth and eyes. It can then enter your body and make you sick. STAY AT HOME. 			

Level 1 – Getting the basics → testing your knowledge

1. What is data? (1)
2. What is information? (1)
3. What is an ICT system? (7)
4. What is the function of an ICT system? (2)
5. List the main components of a general ICT system (5)
6. What is a computer? (4)
7. List the four parts of a computer (4)
8. What is a port? (2)
9. Study the picture below and describe, for each port/connector, what it is used for/which device can be connected to it. (9)



- a. Audio
 - b. USB
 - c. HDMI
 - d. VGA
 - e. LAN
10. What is the function of a port? (2)
 11. What is an input device? (2)
 12. Name two input devices that can be connected to a computer via USB (2)
 13. List two types of computer input. (2)
 14. List two types of scanners (2)
 15. What is an output device? (2)
 16. Name two common output devices (2)
 17. What is a Central Processing Unit (CPU)? (2)
 18. What is RAM? (4)
 19. What is ROM? (2)
 20. What is the motherboard? (3)
 21. What is a storage device? (3)
 22. Storage is considered one part of a computer.
Name the two storage components/devices inside a computer. (2)
 23. Name the port that can be used to connect the following to a desktop computer
 - a. Monitor (1)
 - b. Printer (1)
 24. What is a keyboard used for? (2)
 25. List three factors to consider when buying a storage device (3)
 26. Name factors than one needs to consider when buying a keyboard? (2)

27. What is a 3-D printer? (3)
28. State whether the following statements are true or false:
- An All-in-One computer contains a separate tower that contains the system unit (1)
 - An ICT system is made up of people, computer hardware, computer software and the ability to collect data and communicate results (1)
 - Data conveys meaning to users and information is a collection of unprocessed items such as number. (1)
 - A headset is a type of input device. (1)
 - A hybrid computer can be used as a tablet or a laptop (1)
 - A washing machine is an example of an embedded device (1)
 - A digital camera is an example of a dedicated device (1)
 - RAM is also known as secondary memory (1)
 - The CPU fetches program or application's instructions from non-volatile memory (1)
 - A storage device can be categorised as an input and an output device (1)
29. What is an embedded device? (4)
30. Name two household devices that use embedded computer systems (2)
31. Explain what the Gig economy is. (2)
32. What are the functions of the following computer hardware:
- CPU (4)
 - RAM (2)
 - ROM (2)
 - Graphics card (2)
 - Motherboard (2)
33. In the context of computers, what is authentication? (2)
34. Define the term 'ergonomics' (2)
35. List three factors that need to be considered with ergonomic design (3)
36. List two factors to consider when buying a mouse (2)
37. Define the term 'Green computing' (2)
38. List four economic reasons for using computers. (4)
39. In the context of computers, what are 'instructions'? (3)
40. What is Bluetooth? (3)
41. Many devices today use biometric input for authentication. What is biometric input? (2)
42. List three types of printers (3)
43. What is Radio Frequency identification (RFID)? (3)
44. What is Near Field Communication (NFC)? (3)
45. Name the technology that can convert a scanned document into an editable document? (1)
46. List two uses of RFID tags (2)
47. Give one word or term for each of the following statements:
- An output device that produces text and graphic on a physical medium such as paper or other material. (1)
 - An input device that contains keys you press to enter data and information into a computer (1)
 - A pointing device that fits under the palm of your hand comfortably. (1)
 - An input device that captures and converts a user's handwriting or drawings into a digital format, which users can upload or transfer to a computer (1)

- e. A personal computer designed to be in a stationary location where all of its components on or under a desk or table (1)
- f. Any information that is processed by and sent out from a computer (1)
- g. A device that projects the text/images displaying on the computer screen on a larger screen so that the audience can see the text/images clearly. (1)
- h. To provide or give something to the computer, in other words, when a computer or device is receiving a command or signal from outer sources (1)

Level 2 – Demonstrate your understanding and apply what you have learned

- 48. Explain the difference between data and information and provide an example of each (4)
- 49. Explain the difference between a VGA and HDMI connection (3)
- 50. Describe the role of the computer to transform data into information (4)
- 51. Generally, a computer has integrated graphics to render images on a screen. Explain why would one want to add a graphics card? (5)
- 52. Why does a computer need a motherboard? (3)
- 53. Table the differences between ROM and RAM (4)
- 54. Describe two differences between memory (RAM) and storage (e.g. hard disk) (2)
- 55. Why would you prefer your computer to have many USB ports? (1)
- 56. What is the advantage of using solid-state-drives (SSDs) over HDD in laptops? (2)
- 57. Differentiate between a desktop computer and a laptop computer (3)
- 58. Name two disadvantages of a Wi-Fi mouse over a wired mouse (2)
- 59. Name two advantages of a wired keyboard over a Bluetooth keyboard (2)
- 60. Why is ROM considered to be more secure data storage than RAM? (2)
- 61. Classify the following input as data, instruction(s) or information
 - a. Test marks entered into a spreadsheet (1)
 - b. Pass and fail rates of the test represented in a graph (1)
 - c. Text entered into a word processor using a keyboard (1)
 - d. Double-clicking the Word processor icon on the desktop (1)
 - e. The till slip received after grocery purchase (1)
 - f. Entering a web-address in a browser (1)
- 62. Describe how storage and memory interact (4)
- 63. Describe two uses of QR codes. (2)
- 64. Many people prefer a laptop computer as it is lightweight and portable. Name two other advantages that a laptop has when compared to a desktop computer. (2)
- 65. Your school needs to dispose of old computers and computer parts. Suggest to the principal how it should be done. (2)
- 66. Describe the difference between a storage device and storage media (4)
- 67. Motivate why and SSD is an improvement over HDD. (4)
- 68. Using an example, explain what multi-level authentication is (4)
- 69. A RFID tag is used in a retail store to ensure that customers do not remove an item from the store without paying. Explain how the RFID tag is used in this context (4)
- 70. Near-Field Communication (NFC) and Radio Frequency Identification (RFID) are two technologies that contain data.
 - a. Describe two similarities between NFC and RFID? (2)
 - b. What is the difference between NFC and RFID? (2)

71. Describe the two components used with RFID technology (4)

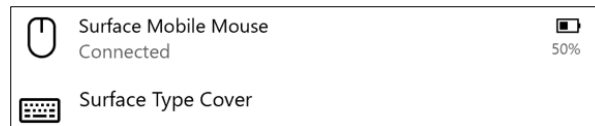
Level 3 – Are you ready to analyse, evaluate, think critically and solve problems?

72. For each of the following, choose the item in the list that does not logically belong in the list and explain why it does not belong:

- a. Hard disc, Optical disc, RAM, SSD, USB Flash Drive, Memory card (2)
- b. Touch screen, digital camera, flash drive, keyboard, webcam (2)
- c. Smart watch, mobile phone, desktop computer, microwave oven, GPS device (2)
- d. Tablet, laptop computer, desktop computer, hybrid/convertible computer (2)
- e. SSD, memory card, hard disk, USB flash drive (2)
- f. Scanner, keyboard, , printer, mouse, microphone (2)

73. You have a printer connected to your computer via a USB port. You want to print but nothing happens. Suggest some actions that you could take to establish the problem. (3)

74. A computer shows the following information about the installed mouse and keyboard:



- a. Is the mouse a wired or wireless mouse? Explain your answer. (2)
- b. The keyboard is indicated as a Type Cover. What is a Type Cover? (1)
- c. What type of computer is suggested by the above information? Explain your answer. (2)

75. You need to log onto your computer. When you enter your username and password, an error message appears stating that your username or password is incorrect. What are your next steps to solve the problem? (3)

76. You and your friend must complete an assignment that must be handed in the next day. As your friend does not have a computer and will be going to his/her home after school, taking your laptop and staying the night so the two of you could complete the assignment. When you arrive at your friend's home (which is very far away from your own home), you realised that you forgot the laptop's charger at home. Fortunately, the battery is half full. What steps/precautions would you take to ensure that you will be able to finish your assignment before the battery dies. (2)

77. Your uncle has given you a monitor for your computer. When you attempt to connect it, you notice that it requires a VGA port whilst your computer only has a HDMI port. How can you solve the problem? (1)

78. Drag and drop the following pictures of computing devices into the block that **best** describes the device in the picture

(5)



Multi-purpose device	
Mobile device	
Embedded device	
Wearable device	
Mobile embedded device	
Dedicated device	

79. Your friend got a motorbike for his birthday and is starting a delivery service using his motorbike. He needs a computing device that will be able to, among others, do the following:

- Enter and save the client's details
- Take a photo to confirm delivery
- Use an application that will direct him to the place of delivery
- Use the device for school purposes as well because he has no money to buy two devices.

Suggest a suitable computing device and motivate your suggestion.

(3)

80. Your friend bought a small hybrid computer and a Wi-Fi mouse to use with it. The device has only one USB port. When he/she wants to access information on a USB flash drive, he/she ran into trouble. Suggest two solutions to solve the problem. (2)

81. Your friend shows you the following screen capture from her system's storage capacity. Her computer has a 256 GB SSD. Study the information provided and answer the questions that follow:



- How much space (GB) does the disk have in total? (1)
- Your friend has a 1 TB SSD. How much GB is one TB? (1)
- How much space is used by user data? (1)
- Estimate how much space is used in total (1)
- The local disk indicates 238 GB instead of 256 GB. Explain why. (1)

82. Your computer does not synchronise with Bluetooth devices. What are your next steps? (2)

83. Read the following, watch the videos and answer the questions that follow:



As creepy as it sounds, webcam hacking is a real danger, and peeping Toms could be watching your every move, in the privacy of your own home. ... Your webcam, smartphone camera, and home surveillance system can all be used to spy on you

<https://youtu.be/muZpR2qjwAQ>

- Provide some simple suggestions to prevent possible webcam spying (1)
- Discuss: How acceptable it is to use built-in webcams and microphones to monitor online exams?