Cambridge Technicals in ICT – Level 3

**Bridging Work**

**Year 11 to 12**

**Name…………………………………**

**Unit 1: Fundamentals of IT**

**UNIT PURPOSE**

A sound understanding of IT technologies and practices is essential for IT professionals. Information learnt in this unit will provide a solid foundation in the fundamentals of hardware, networks, software, the ethical use of computers and how business uses IT.

After completing this unit, the knowledge, skills and understanding you have developed will underpin your study for the additional units.

Knowledge gained in the study of this unit will also help prepare you for relevant industry qualifications such as CompTIA A+, CompTIA Mobility+ and Cisco IT Essentials.

**TOPIC 1 – “Computer Hardware”**

‘What examples of Computer Hardware are there and why are they important?

Input Devices

Research different **input devices** and complete brainstorm below



Output Devices

Research different **output devices** and complete brainstorm below



Communication Devices

Research different **communication devices** and complete brainstorm below



Computer Hardware Uses, Benefits and Limitations

Computer Hardware such as input devices can have a range of uses, benefits and limitations to users or organisations. Carry out some research and complete the tables below.

Provide **three** for each

|  |  |  |
| --- | --- | --- |
| **Input Devices** | | |
| **Use** | **Benefit** | **Limitation** |
| 1. | 1. | 1. |
| 2. | 2. | 2. |
| 3. | 3. | 3. |

|  |  |  |
| --- | --- | --- |
| **Output Devices** | | |
| **Use** | **Benefit** | **Limitation** |
| 1. | 1. | 1. |
| 2. | 2. | 2. |
| 3. | 3. | 3. |

|  |  |  |
| --- | --- | --- |
| **Communication Devices** | | |
| **Use** | **Benefit** | **Limitation** |
| 1. | 1. | 1. |
| 2. | 2. | 2. |
| 3. | 3. | 3. |

**TOPIC 2 – “Computer Components”**

‘Describe the role of different computer components’

Computers have different **components** to enable to the computer to function correctly. Each component has a different role or function. Carry out some research to find the role of different computer components

Complete the table below:

*The first one has been done for you…*

|  |  |  |
| --- | --- | --- |
| **Component** | **Image** | **Role** |
| Processor |  | * The CPU or Central Processing Unit is the main chip in a computer responsible for carrying out all tasks. * It's responsible for telling all the other components in a computer what to do, according to the instructions it is given by the programs (software) running on that computer |
| Motherboard |  |  |
| Hard Drive |  |  |
| USB Port |  |  |
| RAM |  |  |
| ROM |  |  |
| Graphics Card |  |  |

**TOPIC 3 – “Types of Computer System”**

‘Explain the uses of different types of computer system’

There are different types of **computer system** e.g. a server. They have different uses and can be used for different scenarios and examples

Carry out some research on computer systems and complete the table below

|  |  |  |
| --- | --- | --- |
| **System** | **Use/Role** | **Scenario/Example** |
| Desktop |  |  |
| Tablet |  |  |
| Server |  |  |
| Smart Phone |  |  |
| Embedded System |  |  |
| Mainframe |  |  |

**TOPIC 4 – “Connectivity Methods”**

‘Describe the characteristics of different connectivity methods’

There are different types of **connectivity methods** that can be used e.g. Bluetooth. Each method is used for the main role of connectivity and communication. However, some may have different characteristics or attributers

*For example, Bluetooth is wireless but can only be used over short distances…*

Carry out research on different connectivity methods *characteristics* and complete the table below:

|  |  |  |
| --- | --- | --- |
| **Connectivity Method** | **Image** | **Characteristics** |
| Copper Cable |  |  |
| Fibre Optic |  |  |
| Bluetooth | List of Bluetooth profiles - Wikipedia |  |
| Wi-Fi | Wifi and Bluetooth, what's the difference? - Best Read on ITpedia |  |
| Infrared | Infrared - Communication Systems |  |
| Satellite | Principles of Satellite Communications - Tutorialspoint |  |
| 3G/4G/5G | What is 4G? - Computer Business Review |  |