St Benedict's Sixth Form

CTEC Level 3
IT
Transition Pack

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Planning on studying IT next year?

IT at KS5 aims to develop your students' knowledge, understanding and skills of the essentials of IT and Cyber Security. Your students will gain an insight into the IT sector as they investigate the pace of technological change, IT infrastructure on a global scale, and the importance of legal and security considerations. Designed in collaboration with industry experts the qualifications focus on the requirements that today's employers demand.

A wide range of Centre assessed units with practical and wider project-based assessment opportunities, as well as examined units on the Essentials of IT and Essentials of Cyber Security has resulted in a range of focused qualification. You will also develop professional, personal and social skills through interaction with peers, stakeholders and clients, as well as theoretical knowledge and understanding to underpin these skills. These support the transferable skills required by employers such as communication, problem solving, time management, research and analytical skills.

This pack is designed to help you learn more about IT and help you understand what the demands of the course are.

Please complete the tasks 1-4. You need to ensure you keep your research safe and ready to be submitted in September.

If you require further support contact ashafique@sbsj.co.uk or sakhtar1@sbsj.co.uk

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TASK 1

STORAGE DEVICES

There is a vast array of storage devices used in various ICT scenarios. Having knowledge of storage devices is an essential part of the syllabus for KS5 ICT.

Complete the following research task on storage devices / methods.

- **USB**
- **HARD DRIVES (HDD)**
- **CLOUD STORAGE**
- **NETOWORK STORAGE**
- **SOLID STATE DRIVES**
- **MAGNETIC TAPE DRIVES**

Research the different types of storage media, including examples of the key characteristics (e.g. cost, energy consumption, robustness, data density, weight, environmental considerations etc.), advantages and disadvantages of each and some possible uses for each example. This can be done as a report in Word or as a Powerpoint presentation.

Task 2- Hardware

Hardware – This is the general term for the physical components that make up a computer system, for example, keyboard monitor, processor, base unit etc. This also includes Tablets, Laptops and Phones. If you can touch it or hold it then it is hardware.

Motherboard – This is the main component inside all computers and is a base for all the other components to connect to. It is complimented by the CPU. There are lots of technical things about Motherboards you could look up such as Bridges, Models, Connectors and Speed. All processes link through the Motherboard which holds the memory (RAM and ROM) to move information to and
from the CPU.

Task 2 - Research and explain the different components which could be found inside a computer e.g. motherboard, RAM …

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Task 3 – Networking

A **Local Area Network (LAN)** is a network that is confined to a relatively small area. It is generally limited to a geographic area such as a writing lab, school, or building. Rarely are LAN computers more than a mile apart.

Wide Area Networks (WAN's) are used where computers or networks are situated a long distance from each other geographically (e.g. in a different city or country). If a number of LAN's are joined together using a router or modem, then they can form a WAN. The most common examples of WAN include the Internet and the network of ATM' s (automated teller machines) used by banks

Task 3 - Explain the differences between LAN (Local Area Network) and WAN (Wide Area Network)

Task 3b

Research the following types of networks and explain their advantages and disadvantages and the differences between them.

BUS NETWORK
STAR NETWORK
RING NETWORK
MESH NETWORK

Task 4 – Employability

Most jobs value staff who can work on their own steam, who can be independent just as much as they value staff who can be team players. Independent skills mean the person can finish the task, will take personal responsibility for doing so, will feel obliged and manage the pressure. Staff within most jobs will spend some time working alone, being able to achieve within this timeframe is going to be beneficial to a company.

- **Independent** - not needing to rely on others to get a job done, multitasks, accepts responsibility for views and actions and able to work under their own direction and initiative. Manages work-loads, sets personal deadlines.
- **Self Awareness** - awareness of achievements, abilities, values and weaknesses and what you want out of life, demonstrates an understanding of the commercial realities affecting the organisation, knows their own limitations and asks for help when the limitation is met.
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- **Self Motivation** - able to act on self-initiative, to identify opportunities and be pro-active in putting forward ideas and solutions. Being ambitious, capable, reliable. Can inspire others with their work ethic.
- **Enthusiastic** - showing real and genuine interest in the job, the company and the future. Happy to help and support, keen to get the work done, on-time, goes beyond the call of duty and limitations of current knowledge to go further, read more, understand more. Inspiring.

Task 4 - Produce a report that identifies and explains the different personal attributes required during a candidate's employability.

Resources to use

Unit 1 - Fundamentals of IT - Cambridge Technicals | CSNewbs