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Southam College Computing & ICT Department



Summer

Project

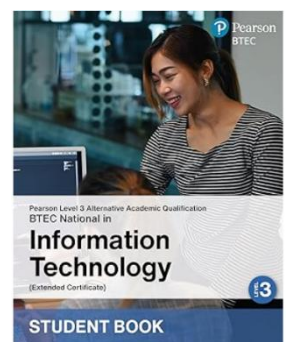
This booklet provides several tasks for you to update your current knowledge and learn new concepts required for ICT

Please complete the research and tasks. These will form the basis of a suitability test when you return in September.

Bring this booklet back in for checking on your first lesson in September

Some Sources Of Information:

www.teach-ict.com --- YouTube: CraginDave --- www.orc.org.uk ---
bbc bitesize



Section 1 - Computer Hardware

Computer hardware can be defined as any component that the user can physically touch. These are generally broken down into Input & Output devices.

An Input device allows the user to interact with the computer system by entering data whereas an Output device allows the computer system to provide the user with information, data or instructions.

Task 1 - Research, identify, state and explain at least two different input and output devices specifically engineered for people with disabilities.

Name of Input Device 1:

Explanation:

Name of Input Device 2:

Explanation:

Name of Output Device 1:

Explanation:

Name of Output Device 2:

Explanation:

Section 2 – Software

There are many different types of software and how these can be classified.

Task 2 – Consider the different software classifications below and describe how each differ:

Open Source ‘vs’ Propriety Source

Off The Shelf ‘vs’ Bespoke

Software is more commonly known as Application Software (or Apps for short)

Task 3 - Define the term 'application software'

Task 4 - Define what an operating system is:

There can be many various types of operating systems on different computer systems (Multi-Tasking, Multi-User, distributed, Embedded & Real-Time).

Task 5 - Describe how each of the following operating systems function on a computer system:

Multi-Tasking:

Multi-User:

Distributed:

Batch:

Real-Time O.S:

Mobile OS

Single-User

Task 6 – Question:

Which of these operating systems would be best suited for running on a nuclear power station computer system? Explain your answer.

Answer:

Task 7 – Question:

What type of operating system is Windows 11?

Answer:

Section 3 – Networks

Networks are collections of connected computing devices. They consist of a number of devices known as nodes, which are mostly made up of various computers, but can also include shared peripherals such as printers, scanners and secondary storage devices.

Networks can be implemented in a variety of topologies depending upon how they need to be used. Each with their own advantages and disadvantages.

Task 8 – For each of the following network topologies draw a diagram of its layout and describe one advantage and one disadvantage for each.

Bus:

Star:

Ring:

Mesh:

There are two models of networks that commonly appear, these are 'Client-Server' and 'Peer-to-Peer'.

Task 9 - Describe two differences between a Client-Server and Peer-to-Peer network

The extent at which networks are designed also play a factor in what topology or model may be employed. These extents are described as LAN's, WAN's, MAN's and PAN's.

Task 10 – Define a LAN, WAN, MAN and PAN (do not just state what the acronym means!).

LAN:

WAN:

MAN:

PAN:

Protocol name, uses & why it is needed:

Section 4 – Threats To Computer Systems

All computer systems come with a degree of insecurity, some larger than others. Each of these threats are usually aimed at targeting one aspect of the computer system.

Task 11- Explain each of the following security threats and what they are specifically targeting:

Phishing:

Hacking:

Virus:

Trojan:

Key Logging:

Section 5 – Legislation

There are many Acts of Parliament and levels of Government Legislation (UK, European & Worldwide) that have a big impact upon Computer Systems. These Acts of Law cover aspects such

as Data Protection, Computer Misuse, Copyright, Safe Disposal, Recycling and Internet Interception.

Task 12 – General Data Protection Regulation

GDPR	
Principle	Description

DON'T FORGET TO HAND THIS IN WHEN YOU RETURN IN SEPTEMBER