

Fundamentals of IT (Unit 1)

In Unit 1 of Cambridge Technicals ICT you will be studying IT systems. Below is a list of the different elements we will discuss and review from the first 3 sections of the unit (out of 5).

Task 1: Create a new document, read appropriate material (places like teach-ict.com and BBC Bitesize ICT are a good start) and take notes to provide a definition and basic explanation for each individual element in the list below. Keep this safe as you will need your notes in class.

1. Understand computer hardware	<ul style="list-style-type: none">• Computer hardware, i.e.:<ul style="list-style-type: none">○ input devices○ output devices○ communications devices• Computer components, i.e.:<ul style="list-style-type: none">○ processors○ motherboards○ storage (hard drive, solid state, flash, internal, removable, SAS, SCSI, portable, Cloud)○ ports (USB, Firewire, SATA, Network, Fibre Channel)○ memory (RAM, ROM, cache)○ expansion cards (sound, network, graphics, storage controller, fibre channel)○ power supplies• Types of computer system, i.e.:<ul style="list-style-type: none">○ desktop/server○ tablet/hybrid○ smartphone○ embedded system/Internet of Things (e.g. cars, home appliances, etc.)○ mainframe○ quantum• Connectivity methods, i.e.:<ul style="list-style-type: none">○ copper○ fibre○ wireless technologies (Bluetooth, WiFi, microwave,○ infrared, laser, Satellite, GSM, 3G/4G and future technologies)• Communications hardware, i.e.:<ul style="list-style-type: none">○ hub○ switch○ router○ modem○ wireless access point○ combined/hybrid devices
2. Understand computer software	<ul style="list-style-type: none">• Types of software, i.e.:<ul style="list-style-type: none">○ open source○ closed source○ off the shelf

	<ul style="list-style-type: none"> ○ bespoke ○ shareware ○ freeware ○ embedded ● Applications software, i.e.: <ul style="list-style-type: none"> ○ productivity software (e.g. word processor, spreadsheet, database, email, etc.) ○ development tools (e.g. compiler, debugger, translator, integrated design environment, etc.) ○ business software (e.g. MIS, multimedia, collaboration, project management, manufacturing, CAD/CAM, publishing, expert systems, healthcare, etc.) ● Utility software, i.e.: <ul style="list-style-type: none"> ○ backup ○ anti-virus ○ compression ● Operating systems, i.e.: <ul style="list-style-type: none"> ○ single user/multiuser ○ single processor/multiprocessor ○ off the shelf/open source/bespoke ● Communication methods, i.e.: <ul style="list-style-type: none"> ○ SMS ○ email ○ messaging software ○ social networking ○ VoIP ○ personal assistants (e.g. Siri, Cortana) ○ teleconference ○ video conference ○ cellular/satellite ○ instant messaging
<p>3. Understand business IT systems</p>	<ul style="list-style-type: none"> ● Types of servers, i.e.: <ul style="list-style-type: none"> ○ file/print ○ application ○ database ○ web ○ mail ○ hypervisor ● 3.2 Virtualisation, i.e.: <ul style="list-style-type: none"> ○ server ○ client ○ storage ○ cloud ○ hybrid ○ benefits and limitations ● 3.3 Networking characteristics, i.e.: <ul style="list-style-type: none"> ○ peer to peer ○ client server ○ bus/star/ring/mesh ○ addressing

Task 2: Utilise your definitions to create a set of flash cards that you can use to revise. If you don't already have one, create an account on Quizlet (<https://quizlet.com/en-gb>). Structure your flash cards by creating folders and naming your flash card appropriately by section and then topic (i.e. Cambridge Technicals ICT Unit 1 – Computer Hardware). Pick out the key terms and provide a short but appropriate definition for each.