

The Lester Vaughan School
Information Technology (Theory) Unit Plans –Year 1
Term – 1

THEORY LESSONS

<u>WEEK</u>	<u>TOPIC</u>	<u>OBJECTIVES</u>	<u>CONTENT</u>
1	Orientation	<ul style="list-style-type: none"> ● Know why they are in class ● Display an understanding of the subject ● Display knowledge of basic IT components ● Define Information Technology 	Discuss reasons for the class; outline computer uses, types of computers; possible careers in IT; the value of IT in business; basic functions (input, process, store, output); <i>Lab etiquette</i> Skeete: Chp 1; Oxf: p.6 & 7
2	Inside The Case	<ul style="list-style-type: none"> ● Describe the composition of a PC ● State the functions of the basic parts of a PC ● Draw data flow diagram for the computer ● Explain the difference between expansion cards and peripherals ● Id the ports at the back & front of a PC 	Motherboard, CPU, memory, expansion slots, expansion cards, peripherals, ports, cable types {Hands on class} Input/output ports: serial, parallel, USB, HDMI, PS2, Firewire, mini stereo, midi, network, modem, S-video. (Oxf: p.48)
3	Computer Hardware : Input Devices	<ul style="list-style-type: none"> ● Identify various input devices ● State the use of each device ● Describe how data is inputted into a computer ● List places & situations where each device can / is used 	Input: Optical mark reader (OMR), character readers (OCR, MICR), mouse, joystick, bar code reader, document scanner, light-pen, touch terminals, voice response unit, Touch Screens (tablets, point of sale, ATM), keyboard, digital camera, biometric systems, sensors, remote control, sound capture, pointing devices, webcam Oxf: p. 8 -14; Skeete: p. 16 - 24
4	Review Test	<ul style="list-style-type: none"> ● 	All areas covered to date
5	Computer Hardware	<ul style="list-style-type: none"> ● Describe types of output devices 	Oxford: p. 15-18; output devices – printers,

	: Output Devices	<ul style="list-style-type: none"> List places & situations where each device can / is used 	plotters, robots, monitors, 3D printers, microfilm; hard & soft copies
6	Storage & Storage Devices	<ul style="list-style-type: none"> Explain data and information Explain the diff. between primary & secondary storage Describe types of memory Describe types of sec. storage devices Describe alternative storage such as cloud 	<p>Relation / diff. between data & info.; the process; memory: ROM, RAM, PROM, EPROM;</p> <p>Types of secondary storage: advantages & disadvantages, possible uses of each (HD, FD, CD, DVD, USB Drive, portable HD, mag. tape, cards), cloud storage Oxf: p. 19 – 23; Skeete: p. 7 - 15</p>
7	Review Test		(Storage & output devices)
8	Operating Systems	<ul style="list-style-type: none"> Explain the role of the different types of software in computer operation; Id types of operating systems State the difference between types of OS List the features of a GUI List the advantages of Windows over DOS State the purpose of a OS 	<p>System Software: Operating System, Utilities. Oxf: p. 36 – 40; Skeete: p. 36 - 38</p> <p>the relative merits of the various types of user interface -</p> <p>Hardware: touch screens, specialized keyboards.</p> <p>Software: command line, menu-driven, graphical user, touch</p>
9	Application software	<ul style="list-style-type: none"> ID types & categories of app. software 	<p>Application software: general-purpose and special-purpose; integrated package;</p> <p>Source: off the shelf, custom-written, and customized.</p> <p>Oxf: 42 – 43; Skeete: p. 38 - 39</p>
10	Review Test	<ul style="list-style-type: none"> 	
11 & 12	Computer Specifications	<ul style="list-style-type: none"> evaluate the suitability of a given computer system for a specific purpose; 	<p>Basic knowledge of system specification needed for purposes such as: to run a video game, web browsing, graphic design, video editing, and desktop publishing</p>

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Term - 2

THEORY LESSONS

<u>WEEK</u>	<u>TOPIC</u>	<u>OBJECTIVES</u>	<u>CONTENT</u>
1	Hardware maintenance	<ul style="list-style-type: none"> ● troubleshoot basic computer hardware problems 	Check/fix monitor, printer, cables, etc add / change memory.
2	Data Communication / Network Technology	<ul style="list-style-type: none"> ● distinguish among types of networks; ● Describe each network median ● Explain the advantages & disadvantages between wired & wireless networks ● assess the importance of mobile communication technologies ● 	WAN, MAN, LAN; network media; connection hardware (switches, etc.); mobile technology;
3	Internet Technology	<ul style="list-style-type: none"> ● explain the interrelationship among key Web technology concepts. 	World Wide Web. Hypertext Markup Language. Hypertext Transfer Protocol. Hyperlinks. Web Server. Web Page. File Transfer Protocol. Web Browser. Uniform Resource Locator. Upload and download. Email.
4	Term Review	<ul style="list-style-type: none"> ● Demonstrate understanding of areas covered to date. 	Review exercise
5	Computer Misuse	<ul style="list-style-type: none"> ● Define / describe malicious software ● ID ways in which computers are misused ● Explain the effects of computer misuse on victims ● Describe ways in which computers can be damaged 	Cyberbullying, copyright infringement, data theft, denial of service attacks, transmission of viruses and malware, identity theft, online publication of obscene materials, phishing attacks, software

			and music piracy, financial abuses, violation of privacy, propaganda, electronic eavesdropping, industrial espionage;
6	Computer & Cyber security	<ul style="list-style-type: none"> Describe preventative methods to combat computer misuse and damage 	Security meth.s: antivirus / internet security / backups / firewalls / anti phishing / methods of verification on the internet etc <i>{refer to syllabus page 16(23)}</i>
		<ul style="list-style-type: none"> 	
	Introduction to Programming	<ul style="list-style-type: none"> ID and describe programming languages by level. 	Brief history and description of each generation of programs. Oxf. Ch 3 / Skeete(2) ch 16
	Problem Solving	<ul style="list-style-type: none"> Describe the steps in developing a solution. Define a given problem. (IPO charts) Describe a solution(s) 	Defining the problem, IPO charts, suggesting solutions to the problem. Skeete(3): p80
9-10		<ul style="list-style-type: none"> Draw a simple flow chart Explain sequence, selection & repetition. 	Algorithms / flow charts; Use of math and logic operators; Sequence, Selection, Repetition.
11	Term Review	<ul style="list-style-type: none"> Demonstrate understanding of areas covered during term. 	Review test

TERM – 3

<u>WEEK</u>	<u>TOPIC</u>	<u>OBJECTIVES</u>	<u>CONTENT</u>
1	Binary Numbers	<ul style="list-style-type: none"> Review 	All areas covered in term 1

2	Job Skills & Careers in IT	<ul style="list-style-type: none"> • ID skills and related careers in IT 	Skeete: p.58-59
3	Information Processing	<ul style="list-style-type: none"> • Describe types info processing. 	Oxf. p.144 – 150
4	Data Capture	<ul style="list-style-type: none"> • Describe methods of capturing data. 	Oxf. p.151-156
5	Trends in technology	<ul style="list-style-type: none"> • Describe modern trends in technology 	Skeete: p. 61-63
6-8	Year Review	<ul style="list-style-type: none"> • Review of all topics / exam preparation 	
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