

# COMPUTER STUDIES

# SCHEME OF WORK YEAR 9

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
1 week	Information System	<p>Be able to explain what an information system is.</p> <p>Be able to draw a block diagram to explain how an information system operates.</p>	<p><b>Group Work:</b></p> <ul style="list-style-type: none"> <li>Identify the data and devices involved in an information system in terms of input-process-output.</li> </ul>	<ul style="list-style-type: none"> <li>explain what an information system is.</li> <li>draw a simple block diagram to show how an information system works.</li> </ul>	<p>U6: (Pg 9 – 11)                      U10: (Pg 1-7)                      U14: (Pg 7)                      Online Resource: <a href="#">ICT system</a> (Appendix 4)</p>	<p>Suggested Exercises U14: (Pg 22-23)</p>
	Data VS Information	<p>Be able to differentiate between data and information.</p>	<p><b>Discussion:</b></p> <ul style="list-style-type: none"> <li>Examples of data and information.</li> <li>Differences between data and information</li> </ul>	<ul style="list-style-type: none"> <li>differentiate between data and information.</li> <li>provide examples on                             <ul style="list-style-type: none"> <li>data</li> <li>information</li> </ul> </li> </ul>	<p>U3: (Pg 1-2)                      U10: (Pg 1-2)                      U13: (Pg 21)                      U14: (Pg 7)                      Online Resource: <a href="#">Data &amp; Information</a> (Appendix 4)</p>	<p>Suggested Exercises U10: (Pg 53 Q.3)                      U14: (Pg 11 Q.10)</p>
1 week	Bits and Bytes	<p>Be able to differentiate various measurement of storage capacity in a computer storage device.</p>	<p><b>Discussion:</b></p> <ul style="list-style-type: none"> <li>Comparison between Decimal and Binary Number system</li> <li>Relationships between various measurements (bit, bytes, kilobyte, megabyte, gigabyte, etc)</li> </ul>	<ul style="list-style-type: none"> <li>differentiate between Base-2 (Binary) and Base-10 (Decimal) Number System.</li> <li>convert from one measurement to another (e.g. convert from kilobyte to bytes or bits and vise-versa)</li> </ul>	<p>U3: (Pg 1)                      U10: (Pg 31)                      U13: (Pg 23)                      U14: (Pg 25, 32-33)                      Online Resource: <a href="#">Bits &amp; Bytes</a> (Appendix 4)</p>	<p>Suggested Exercises U9: (Pg 14-15)                      U14: (Pg 36-37)</p>

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
	Bits and Bytes (Cont)	Be able to differentiate various measurement of storage capacity in a computer storage device.	<b>Task:</b> <ul style="list-style-type: none"> <li>• Conversion between the two number systems.</li> <li>• A table of ASCII codes is given to students. Students to suggest the ASCII code for certain characters.</li> <li>• Compute the storage capacity of various storage devices.</li> </ul>	<ul style="list-style-type: none"> <li>• convert between the two number systems</li> <li>• suggest a suitable measurement of storage capacity for any given permanent storage device.</li> </ul>	U3: (Pg 1) U10: (Pg 31) U13: (Pg 23) U14: (Pg 25-33 )  Online Resource: <a href="#">Conversion</a> (Appendix 4)	Suggested Exercises U9: (Pg 14-15) U14: (Pg 36-37)
1 week	Types of computers	Be able to categorize types of computers based on size.  Be able to list characteristics of different types of computers.	<b>Group Work:</b> <ul style="list-style-type: none"> <li>• To categorize computers based on size.</li> <li>• To list the characteristics of different types of computers.</li> </ul>	<ul style="list-style-type: none"> <li>• state the differences between desktop computers and notebook computers.</li> <li>• describe the characteristics of microcomputer, minicomputer, mainframe computer, supercomputers.</li> </ul>	U1: (Pg 88-89, 97-98) U10: (Pg 11-12) U14: (Pg 9-10)  Online Resource: <a href="#">Types of computers</a> (Appendix 4)	Suggested Exercises U14: (Pg 11)
1 week	Microprocessors	State the use of microprocessors in everyday life.	<b>Group work:</b> <ul style="list-style-type: none"> <li>• Identify the use of microprocessors in embedded system.</li> <li>• Identify the data and devices involved in embedded system in terms of input-process-output .</li> </ul>	<ul style="list-style-type: none"> <li>• differentiate between microcomputer and microprocessors.</li> <li>• identify the data and devices involved in embedded computers in terms of input-process-output (e.g. mobile phone, washing machine, etc)</li> <li>• state the use of microprocessors in everyday life                             <ul style="list-style-type: none"> <li>○ digital cameras</li> <li>○ digital watch</li> <li>○ CCTV</li> </ul> </li> <li>• Etc</li> </ul>	U10: (Pg 11-12) U14: (Pg 8-9)  Online Resource: <a href="#">Embedded system</a> (Appendix 4)	

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
1 week	Software	Be able to differentiate system software and application software.	<p><b>Group work:</b></p> <ul style="list-style-type: none"> <li>• Identify various system software and application software.</li> </ul> <p><b>Demonstration :</b></p> <ul style="list-style-type: none"> <li>• Show some courseware developed by using authoring tools (e.g. Hyperstudio, Authorware)</li> </ul>	<ul style="list-style-type: none"> <li>• distinguish between system software and application software.</li> <li>• give examples of system software                             <ul style="list-style-type: none"> <li>○ Operating System e.g. DOS, Windows XP, etc</li> <li>○ Utility programs e.g. antivirus, backup, etc</li> <li>○ Translation programs (compilers and interpreters)</li> </ul> </li> <li>• give examples of application software.                             <ul style="list-style-type: none"> <li>○ Word processing software</li> <li>○ Electronic spreadsheet packages</li> <li>○ Database management packages</li> <li>○ Graphic packages</li> <li>○ Desktop publishing packages</li> <li>○ Presentation software</li> <li>○ Web design software</li> <li>○ Authoring tools software</li> <li>○ etc</li> </ul> </li> </ul>	<p>U6: (Pg 46 – 80)                      U10: (Pg 36 - 41)                      U14: (Pg 38 - 53)</p> <p>Online Resource:  <a href="#">Software</a>                      (Appendix 4)</p>	<p>Suggested Exercises                      U10:                      (Pg 41)                      U14:                      (Pg 41)</p>

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
3 weeks	Operating System	Be able to state the functions of operating system.	<b>Demonstration:</b> <ul style="list-style-type: none"> <li>Use of some DOS commands such as CLS, COPY, CD, MD, DIR etc.</li> <li>Utility software: run any antidote software, anti spyware, error checking, defragmenting, etc.</li> </ul>	<ul style="list-style-type: none"> <li>define operating system</li> <li>state the tasks of OS                             <ul style="list-style-type: none"> <li>control the hardware</li> <li>manage data files on the disk</li> <li>run computer program</li> <li>etc</li> </ul> </li> <li>state what utility software is and give examples.</li> </ul>	U6: (Pg 48 - 53) U10: (Pg 36 – 38) U14: (Pg 42 - 53)  Online Resource: <a href="#">Software</a> (Appendix 4)	Checklist on DOS Commands  Suggested Exercises U10: (Pg 42) U14: (Pg 51 - 52)
	User Interface	Be able to list the different types of user interface.  Be able to use graphical user interface for file management.	<b>Hands-On:</b> <ul style="list-style-type: none"> <li>Create folders and sub-folders.</li> <li>Move and copy folders.</li> </ul>	<ul style="list-style-type: none"> <li>state the advantages and disadvantages of the different user interface                             <ul style="list-style-type: none"> <li>Command line interface</li> <li>Menu driven interface</li> <li>Graphical user interface (GUI)</li> </ul> </li> <li>create folders and sub-folders.</li> <li>copy, move, list, delete, save, rename, retrieve and print files.</li> <li>identify root directory and subdirectories.</li> <li>state the use of subdirectories.</li> </ul>	U1: (Pg 113-115) U6: (Pg 46 – 48) U10: (Pg 37 – 38) U14: (Pg 44 – 49)  Online Resource: <a href="#">User interface</a> <a href="#">Create folders</a> (Appendix 5)	Suggested Exercises U1: (Pg 119)
	Operating system Facilities	Be able to identify different operating system facilities.	<b>Group Work:</b> <ul style="list-style-type: none"> <li>Discuss the real time transaction processing in                             <ul style="list-style-type: none"> <li>airline booking system</li> <li>online stock control system</li> <li>etc</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>explain batch OS, real-time OS (real-time transaction processing), online and offline OS, multi-access OS, network OS, multitasking OS, process-control OS.</li> </ul>	U1: (Pg 107-110) U6: (Pg 82 – 83) U10: (Pg 74 – 77) U14: (Pg 22, 267-268)  Online Resource: <a href="#">Operating system</a> (Appendix 5)	Suggested Exercises U1: (Pg 117)

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
1 week	Input devices	Be able to list the standard and specialist input devices and state the uses of these devices.	<p><b>Group Work:</b></p> <ul style="list-style-type: none"> <li>• Discuss the different sensors that could be used to measure all aspects of the weather.</li> <li>• Discuss the devices to communicate with virtual reality systems.</li> </ul>	<ul style="list-style-type: none"> <li>• list the standard and specialist input devices and state the uses of these devices.                             <ul style="list-style-type: none"> <li>○ keyboard</li> <li>○ point and touch devices e.g. mouse, touch sensitive screens.</li> <li>○ video digitisers and scanners with the use of Analog to Digital Converter or A/D Converter or ADC)</li> <li>○ Magnetic input devices such as magnetic stripes by using magnetic encoder and magnetic ink by using magnetic ink character recognition (MICR).</li> <li>○ optical mark reader (OMR) with multiple choice questions.</li> <li>○ optical character recognition</li> <li>○ bar code reader, graphic tablets</li> <li>○ light pens, microphones</li> <li>○ MIDI</li> <li>○ Sensors ( temperature, sound, magnetism, radar, light), proximity sensors (pressure, touch, microwave)</li> <li>○ special goggles and electronic gloves (for virtual reality system)</li> <li>○ Optical Character Recognition (OCR)</li> <li>○ Speech recognition</li> <li>○ etc</li> </ul> </li> </ul>	<p>U1: (Pg 89-94)                      U6: (Pg 19 – 28)                      U10: (Pg 14-27)                      U14: (Pg 11 – 18)</p> <p>Online Resource:  <a href="#">Input devices</a>                      (Appendix 5)</p>	<p>Suggested Exercises                      U10:                      (Pg 27-29)</p>

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
1 week	Data capture	Be able to differentiate manual, direct and automatic data capture methods with its advantages and disadvantages.	<p><b>Group Work:</b></p> <ul style="list-style-type: none"> <li>• Discuss the use of turnaround documents.</li> <li>• Discuss the use of manual, direct and automatic data capture.</li> </ul>	<ul style="list-style-type: none"> <li>• describe the manual data capture (key to disk)</li> <li>• list different direct data capture methods with its advantages and disadvantages                             <ul style="list-style-type: none"> <li>○ Magnetic strips reader</li> <li>○ Magnetic ink character recognition (MICR)</li> <li>○ Optical Mark Recognition (OMR)</li> <li>○ Bar code reader</li> <li>○ Optical Character Recognition (OCR)</li> <li>○ Speech recognition</li> </ul> </li> <li>• describe the automatic data capture using signals                             <ul style="list-style-type: none"> <li>○ remote sensing, etc</li> </ul> </li> </ul>	U10: (Pg 46-50) U14: (Pg 231 – 233)  Online Resource: <a href="#">Data capture</a> (Appendix 5)	Suggested Exercises U10: (Pg 51) U14: (Pg 235 – 236)
1 week	Output devices	Be able to list the standard and specialist output devices and state the uses of these devices.	<p><b>Group Work:</b></p> <ul style="list-style-type: none"> <li>• Discuss the input and output devices to help disabled people:                             <ul style="list-style-type: none"> <li>○ blind</li> <li>○ limbless</li> <li>○ etc</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• list the standard and specialist output devices and state the uses of these devices                             <ul style="list-style-type: none"> <li>○ monitor</li> <li>○ printer (laser printer, inkjet printer, dot matrix printer, plotter)</li> <li>○ speakers</li> <li>○ control devices, etc</li> </ul> </li> </ul>	U1: (Pg 94-97) U10: (Pg 14-27) U14: (Pg 18 – 22)  Online Resource: <a href="#">Output devices</a> (Appendix 5)	Suggested Exercises U10: (Pg 27-29)
1 week	Storage media	Be able to state the function and characteristics of storage media.	<p><b>Group Work:</b></p> <ul style="list-style-type: none"> <li>• Discuss the suitability of storage devices for different purposes.</li> <li>• Discuss the process of formatting a disk done by the operating system.</li> </ul>	<ul style="list-style-type: none"> <li>• state the functions and characteristics of storage media such as                             <ul style="list-style-type: none"> <li>○ RAM, ROM</li> <li>○ CDROM,</li> <li>○ CD-R/W,</li> <li>○ DVD, USB</li> <li>○ flash memory,</li> <li>○ disks</li> <li>○ tapes.</li> </ul> </li> </ul>	U1: (Pg 98-101) U10: (Pg 31-34) U14: (Pg 25 – 31)  Online Resource: <a href="#">Storage media</a> (Appendix 5)	Suggested Exercises U10: (Pg 35)

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Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
1 week	Mail merge	Be able to identify features in mail merge and to create a data source using Microsoft word	<b>Hands-on:</b> <ul style="list-style-type: none"> <li>Create and save a data source file in a tabular form containing names, addresses ...</li> </ul>	<ul style="list-style-type: none"> <li>create form letters, mailing labels, envelopes ...</li> <li>open, create data source table and save it.</li> </ul>	U10: (Pg 245, 286) U11: (Pg 20-30) U14: (Pg 74 – 78)	Suggested Exercises U14: (Pg 76 - 78)
	Mail merge using word processing	Be able to create a document with variable fields.  Be able to merge the data source to the document.	<b>Hands-on:</b> <ul style="list-style-type: none"> <li>Create a document with variable fields such as name, address, etc.</li> <li>Merge the data source with the letter to produce personalize letters.</li> </ul>	<ul style="list-style-type: none"> <li>create a document with different merged fields .</li> <li>produce merged documents.</li> </ul>	Online Resource: <a href="#">Mailmerge</a> (Appendix 5)	Suggested Exercises U14: (Pg 76 - 78)
1 week	Central Processing Unit	Be able to identify the main elements of the central processing unit.	<b>Role play:</b> <ul style="list-style-type: none"> <li>Students play the role of control unit, ALU and IAS to solve simple arithmetic problems.</li> </ul>	<ul style="list-style-type: none"> <li>list and explain briefly the functions of the three main elements of CPU.                             <ul style="list-style-type: none"> <li>Control unit</li> <li>Arithmetic and logic unit (ALU)</li> <li>Immediate access store (IAS)</li> </ul> </li> </ul>	U6: (Pg 9 - 10) U10: (Pg 7 – 10) U14: (Pg 8)  Online Resource: <a href="#">CPU</a> (Appendix 5)	Suggested Exercises
	Peripheral device control	Be able to explain the communication between the computer and external devices and how this communication is controlled.	<b>Demonstration:</b> <ul style="list-style-type: none"> <li>A video clip to show how buffer works.</li> </ul> <b>Group Work:</b> <ul style="list-style-type: none"> <li>Discuss the use of buffers in printers.</li> </ul>	<ul style="list-style-type: none"> <li>define interrupts and interrupt priorities, spooling, polling, handshaking and checksums.</li> <li>describe the use of buffers in printers.</li> </ul>	U1: (Pg 115-116) U10: (Pg 165) U14: (Pg 20 – 21)	Suggested Exercises U1: (Pg 118)

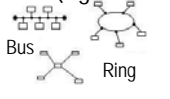
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Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
1 week	Graphics packages	<p>Be able to list main types of graphics packages.</p> <p>Be able to state the features of graphics packages.</p>	<p><b>Discussion:</b></p> <ul style="list-style-type: none"> <li>Resolutions in graphics packages.</li> <li>Comparison between bitmap and vector graphics.</li> </ul>	<ul style="list-style-type: none"> <li>define pixels</li> <li>list different type of graphic packages                             <ul style="list-style-type: none"> <li>Photoshop, MS Paint</li> <li>CAD</li> <li>etc</li> </ul> </li> <li>state the features of graphics packages</li> <li>list the features of bit-mapped graphics and vector graphics</li> </ul>	<p>U10: (Pg 37)</p> <p>U13: (Pg 109-111)</p> <p>U14: (Pg 34 – 35, 80 – 83, 190 - 193)</p> <p>Online Resource: <a href="#">Graphics packages</a> (Appendix 6)</p>	Suggested Exercise: U10: (Pg 42 - 43)
1 week	CAD (Computer-Aided Design)	Be able to state the features of CAD packages.	<p><b>Demonstration:</b></p> <ul style="list-style-type: none"> <li>3D design produced using CAD software (3D Home Architect, Home Design)</li> </ul> <p><b>Project:</b></p> <ul style="list-style-type: none"> <li>To design house plan, road map, etc.</li> </ul>	<ul style="list-style-type: none"> <li>list the features of CAD program</li> <li>list CAD packages</li> <li>list peripherals needed</li> <li>state main applications of CAD</li> <li>list advantages of using CAD</li> </ul>	<p>U6: (Pg22, 64, 66, 69)</p> <p>U10: (Pg205, 318)</p> <p>U13: (Pg 109 – 110)</p> <p>U14: (Pg 275)</p> <p>Online Resource: <a href="#">CAD</a> (Appendix 6)</p>	
1 week	Computer Aided Manufacturing (CAM)	Be able to state the differences between Computer Aided Design and CAM.	<p><b>Group work:</b></p> <p>Discuss advantages of CAD and CAM.</p> <p><b>Demonstration:</b></p> <p>Use video clips to view the application of CAD and CAM.</p>	<ul style="list-style-type: none"> <li>state the differences between CAD and CAM.</li> <li>identify the advantages of using CAD and CAM.</li> </ul>	<p>U14: (Pg 275 - 277)</p> <p>Online Resource: <a href="#">CAM</a> (Appendix 6)</p>	

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
1 week	Web Design	Be able to explain the purpose of designing a web page.	<p><b>Demonstration:</b></p> <ul style="list-style-type: none"> <li>shows some web designing packages.</li> <li>show HTML codes.</li> <li>show few websites which are personal, business, educational, news, entertainment and e-commerce.</li> </ul>	<ul style="list-style-type: none"> <li>list examples of web designing packages</li> <li>state the language used in designing website e.g.HTML</li> <li>list the steps in designing a website</li> </ul>	U5: (Pg 190 – 196) U10: (Pg 216 – 230) U14: (Pg 182, 199 – 211) Online Resource: <a href="#">Web Design</a> (Appendix 6)	
2 weeks	Generic packages VS Specially-written packages	Be able to differentiate and provide advantages and disadvantages of generic packages and specially-written packages.	<p><b>Group Work:</b></p> <ul style="list-style-type: none"> <li>Various computing tasks carried out in different organisations, general office or at home are given to students. Identify which of the tasks are done using a generic software and which are done by a specially-written software.</li> <li>Discuss the virtues and limitations of each type of packages.</li> </ul>	<ul style="list-style-type: none"> <li>define and provide an <u>example</u> of a Generic package</li> <li>define and provide an <u>example</u> of a Specially-written software</li> <li><u>state</u> advantages and disadvantages of each package.</li> </ul> <p>(Appendix 1 &amp; 2)</p>	U8: (Pg 28 and 32) U13: (Pg 106-107) U14: (Pg 39 – 41) Online Resource: <a href="#">Software</a> (Appendix 6)	Suggested Exercise: U9: (Pg 28, 33)
	Integrated Packages	Be able to differentiate and provide advantages and disadvantages of integrated packages.	<p><b>Demonstration:</b></p> <ul style="list-style-type: none"> <li>Load and run an integrated package.</li> </ul> <p><b>Discussion:</b></p> <ul style="list-style-type: none"> <li>Discuss the features in an integrated package.</li> </ul>	<ul style="list-style-type: none"> <li>define and provide an <u>example</u> of an Integrated package</li> <li>state the different packages you would expect in an integrated package.</li> <li><u>state</u> advantages and disadvantages of an integrated package.</li> </ul> <p>(Appendix 3)</p>	U10: (Pg 39) U13: (Pg 110-111) U14: (Pg 39) Online Resource: <a href="#">Integrated packages</a> (Appendix 6)	Suggested Exercise: U10: (Pg 43)

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
1 week	<b>Spreadsheets: Basic features</b>	Be able to create a spreadsheet with functions and formulae.	<b>Hands-on:</b> <ul style="list-style-type: none"> <li>• Create a class mark sheet.</li> </ul>	<ul style="list-style-type: none"> <li>• enter text, numbers and formulae.</li> <li>• convert marks to grades.</li> <li>• arrange ranking.</li> <li>• create charts.</li> </ul>	U4: (Pg 220-238) U14: (Pg 88 – 101)  Online Resource: <a href="#">Spreadsheets</a> (Appendix 6)	Suggested Exercise: U14: (Pg 90 - 102)
2 weeks	<b>Spreadsheets: Business Applications</b>	Be able to use spreadsheet for business applications such as payroll and invoicing.	<b>Hands-on:</b> <ul style="list-style-type: none"> <li>• Produce a workbook with at least 3 worksheets of data. Use the workbook for processing Payroll and/or invoicing using FORMULAE and various spreadsheet functions such as VLOOK and HLOOK. Try to make use of CONDITION(IF) as well.</li> </ul>	<ul style="list-style-type: none"> <li>• use VLOOK and HLOOK functions appropriately.</li> <li>• create a payroll program</li> <li>• produce an invoice program for any business.</li> <li>• use macro to record a number of keystrokes for future use.</li> </ul>	U4: (Pg 220-238) U14: (Pg 104 – 118)	Suggested Exercise: U14: (Pg 105 – 109, 113 – 117)

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
1 Week	Network	Be able to identify the topologies of Network.	<p><b>Group work:</b> Distinguish what is LAN, MAN and WAN. Draw diagrams of Star, Ring and Bus topologies. * <b>Types</b> of networks: <b>LAN, MAN &amp; WAN.</b> * <b>Basic Topologies</b> of network: <b>Bus, Star &amp; Ring.</b></p>	<ul style="list-style-type: none"> <li>state the basic characteristics of LAN, MAN and WAN.</li> <li>draw network topologies such as Ring, Star and Bus.</li> <li>identify the advantages of each topology.</li> </ul>	<p>U10: (Pg 117-120) U14: (Pg 159-163)</p>  <p>Star <b>TOPOLOGIES</b></p> <p>Online Resource: <a href="#">Network</a> (Appendix 6)</p>	Suggested Exercise: U14: (Pg 165-166)
2 Weeks	Internet & Intranet	<p>Be able differentiate Internet &amp; Intranet relating to WAN, LAN and MAN.</p> <p>Be able to name some applications of Internet and Intranet.</p> <p>Be able to state the advantages of using broadband over dial up connection.</p> <p>Be able to state the advantages and disadvantages of wireless technology</p>	<p><b>Group Work:</b> Discuss the differences between Internet and Intranet.</p> <p>Discuss the popular services provided by an ISP. (Internet, Email, Message boards, On-line shopping...etc.)</p> <p><b>Hands-on:</b> Browse the Internet and some school websites.</p>	<ul style="list-style-type: none"> <li>list some features of Internet and Intranet.</li> <li>use a search engine to look for specific educational resource.</li> <li>use some of the services provided by an ISP.</li> <li>list some advantages of using broadband.</li> <li>list the advantages and disadvantages of wireless technology.</li> </ul>	<p>U14: (Pg 166 - 184)</p> <p>Online Resource: <a href="#">Internet</a> (Appendix 6)</p>	Suggested Exercise: U14: (Pg 185-188)

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
1 week	Programming languages	<p>Be able to describe machine code and assembly language.</p> <p>Be able to differentiate between low level language and high level language.</p> <p>Be able to discuss between the different types of translators.</p>	<p><b>Demonstration:</b></p> <ul style="list-style-type: none"> <li>Show students different types of translators and programming languages.</li> </ul>	<ul style="list-style-type: none"> <li>describe what is machine code</li> <li>describe the differences between high-level languages and low-level languages.</li> <li>discuss the advantages and disadvantages of assembly languages</li> <li>differentiate between object code and source code.</li> <li>discuss the differences between the three types of translation programs; assemblers, compilers and interpreters.</li> </ul>	<p>U10: (Pg 39-41)</p> <p>Online Resource: <a href="#">Programming Language</a> (Appendix 6)</p>	
2 weeks	LOGO Programming	<p>Be able to write simple procedures using LOGO commands.</p>	<p><b>Task:</b></p> <ul style="list-style-type: none"> <li>Draw geometrical shapes like square, rectangle, circles, pentagon, octagon etc using LOGO instructions and procedures.</li> </ul>	<ul style="list-style-type: none"> <li>use some LOGO commands</li> <li>use LOGO instructions to draw simple diagrams</li> <li>define a procedure and the use of variables</li> </ul>	<p>U10: (Pg 295-297)</p> <p>Online Resource: <a href="#">LOGO Programming</a> (Appendix 6)</p>	

SUGGESTED CHECK LIST ON GENERIC VS SPECIALLY-WRITTEN SOFTWARE

<b>Suggested tasks for Generic VS Specially-Written Software</b>		<b>Tick here</b>
<b>Examples of Generic Software</b>		
	Wordprocessing software	
	Database generators	
	Spreadsheet software	
	Desktop Publishing	
	Presentation software	
	Web browsers	
	Email software	
	Graphics software	
	CAD software	
<b>Examples of Specially-Written Software</b>		
	Stock-control system	
	Payroll including time-keeping	
	Aircraft Navigation	
	Hotel bookings	
	Traffic light control	
	Student database system	
	Insurance premium calculations	
	Weather forecasting	

## SUGGESTED CHECK LIST ON GENERIC VS SPECIALLY-WRITTEN SOFTWARE (Con't)

<b>Advantages of Generic Software</b>		
	Can be used right after purchased	
	Well tested and documented	
	Supported by training courses, on-line help and publication	
	Mass production cut down cost	
<b>Disadvantage of Generic Software</b>		
	Need to be customized to meet user's requirement.	
<b>Advantages of Specially-written Software</b>		
	Custom-made to meet the user's requirements	
	Special training and support can be provided by the developers	
<b>Disadvantage of Specially-written Software</b>		
	Not as well tested as those software available in the market	
	Substantial amount of development time	
	Due to fewer sales; software is expensive	

**SUGGESTED CHECK LIST ON STAND-ALONE VS INTEGRATED PACKAGES:**

<b>Suggested check list for Stand-alone VS Integrated package</b>		<b>Tick here</b>
<b>Examples of Stand-alone Packages</b>		
	Macromedia Flash	
	Microsoft Word	
<b>Examples of Integrated Packages</b>		
	Microsoft Works	
<b>Advantages of Stand-alone Packages</b>		
	More powerful features are available	
<b>Disadvantages of Stand-alone Packages</b>		
	Different menus and icons in each application	
	Cumbersome to export and import data among different applications	
<b>Advantages of Integrated Packages</b>		
	Data produced in one program can be easily transferred for use in another program.	
	Cheaper than buying separate packages	
	Similar menus and icons in each program.	
<b>Disadvantages of Integrated Packages</b>		
	To cut down cost not all features are available compared to a Stand-alone package	

**Web Links**

**Information/ICT System**

<http://www.teach-ict.com/gcse/theory/infosystems/miniweb/index.htm>

<http://www.bbc.co.uk/schools/gcsebitesize/ict/system/0ictsystemsrev2.shtml>

**Data, Information**

<http://www.teach-ict.com/gcse/theory/datainfo/miniweb/index.htm>

**Bits & Bytes**

[http://www.teach-ict.com/gcse/hardware/bits\\_and\\_bytes/students/s\\_bitsandbytes.htm](http://www.teach-ict.com/gcse/hardware/bits_and_bytes/students/s_bitsandbytes.htm)

<http://www.technologystudent.com/comps/comp4.htm>

**Binary\_Decimal**

<http://www.wikihow.com/Convert-from-Decimal-to-Binary>

**Types of computers**

<http://www.teach-ict.com/gcse/hardware/types/miniweb/index.htm>

**Embedded systems**

<http://www.embedsystems.com/>

<http://www.howstuffworks.com/microprocessor.htm>

**Software**

<http://www.teach-ict.com/gcse/software/software/miniweb/categories.htm>

<http://www.teach-ict.com/gcse/software/software/miniweb/operatingsystem.htm>

<http://www.teach-ict.com/gcse/software/software/miniweb/applications.htm>

**Operating system**

<http://www.teach-ict.com/gcse/software/opsystems/miniweb/index.htm>

**Web Links (Con't)**

User Interface

<http://www.teach-ict.com/gcse/software/userinterface/miniweb/index.htm>

Folders

<http://www.cybertechhelp.com/tutorial/article/how-to-create-folders>

Input devices

[http://www.teach-ict.com/gcse/hardware/input/miniweb\\_manual/index.htm](http://www.teach-ict.com/gcse/hardware/input/miniweb_manual/index.htm)

[http://www.teach-ict.com/gcse/hardware/input/miniweb\\_automatic/index.htm](http://www.teach-ict.com/gcse/hardware/input/miniweb_automatic/index.htm)

<http://www.bbc.co.uk/schools/gcsebitesize/ict/hardware/0inputandoutputdevicesrev2.shtml>

Output devices

<http://www.teach-ict.com/gcse/hardware/output/miniweb/index.htm>

<http://www.bbc.co.uk/schools/gcsebitesize/ict/hardware/0inputandoutputdevicesrev3.shtml>

Data capture

<http://www.teach-ict.com/gcse/software/datacapture/miniweb/index.htm>

Storage media

<http://www.teach-ict.com/gcse/hardware/storage/miniweb/index.htm>

[http://www.teach-ict.com/contributors/eilish\\_padgett/gcse\\_data\\_storage/data\\_storage.html](http://www.teach-ict.com/contributors/eilish_padgett/gcse_data_storage/data_storage.html)

Mailmerge

<http://mistupid.com/technical/mailmerge/>

<http://personal-computer-tutor.com/mailmerge.htm>

CPU Componentes

[http://www.teach-ict.com/gcse/hardware/parts/miniweb/CPU\\_components.htm](http://www.teach-ict.com/gcse/hardware/parts/miniweb/CPU_components.htm)

**Web Links (Con't)**

**Graphics Packages**

<http://www.bbc.co.uk/schools/gcsebitesize/ict/software/1graphicssoftwarerev1.shtml>

<http://www.teach-ict.com/gcse/software/graphics/miniweb/pg2.htm>

**CAD/CAM**

<http://www.teach-ict.com/gcse/software/cadcam/miniweb/index.htm>

<http://www.bbc.co.uk/schools/gcsebitesize/ict/software/1graphicssoftwarerev4.shtml>

**Web Design**

<http://www.teach-ict.com/gcse/software/webdesign/miniweb/index.htm>

**Integrated Application**

<http://www.teach-ict.com/gcse/software/software/miniweb/integrated.htm>

**Spreadsheets**

<http://www.teach-ict.com/gcse/software/spread/miniweb/index.htm>

<http://www.baycongroup.com/excel2003/index.htm>

<http://www.baycongroup.com/e10.htm>

**Network**

<http://www.teach-ict.com/gcse/hardware/networks/miniweb/net.htm>

**Internet**

<http://www.teach-ict.com/gcse/theory/internet/miniweb/index.htm>

**Programming Languages**

[http://www.teach-ict.com/gcse/software/programming\\_languages/miniweb/pg2.htm](http://www.teach-ict.com/gcse/software/programming_languages/miniweb/pg2.htm)

**LOGO Programming**

<http://mckoss.com/logo/>

## Suggested Book List For Year 3, 4 and 5

Book Ref	Book Author	Book Title	Publisher	Year
U1	Chris Leadbetter & Stewart Wainwright	Computer Studies and Information Technology	Cambridge University Press	2004
U2	Colin Harber	GCSE ICT Study Guide	Letts Educational	2007
U3	Colin Harber-Stuart	GCSE ICT The Revision Guide	Coordination Group	2005
U4	C W Kong	Learning Microsoft Visual Basic 6.0	Venton Publishing	2000
U5	Stephen Doyle	Information Systems for you- Skill builder	Stanley Thornes	2000
U6	Steve Cushing	The Ultimate Study Guide - Revise GCSE ICT	Letts	2005
U7	Jonathan Chan & Choy Wai Tse Kelly	Computer Applications-Upper Secondary	Pearson Longman	2007
U8	Sean O'Byrne	GCSE SUCCESS: Visual Revision Guide ICT	Letts Publications	2001
U9	Sean O'Byrne	GCSE SUCCESS: Visual Revision Guide ICT, Questions & Answers	Letts Publications	2003
U10	Stephen Doyle	Information Systems for you 3 <sup>rd</sup> Edition	Nelson Thornes	2001
U11	Stephen Doyle	Applied ICT GCSE	Nelson Thornes	2002
U12	Tim Anderson	Visual Basic in Easy Steps	Computer Step	1997
U13	Tony Rackham	GCSE Information Technology	Letts Educational	1995
U14	Roger Crawford, Roland Birbal and Joseph Balir	Longman ICT for IGCSE	Pearson Longman	2006
U15	Stephen Doyle	Information System For You: Teacher Support Pack	Nelson Thornes	2001
U16	Sharon J.Podlin & Pamela Palmer	Hands on Visual Basic 6	Tech Publications	1998