

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
2 weeks	Algorithm & Pseudo-code	Be able to write an algorithm to solve a problem.	<p>Task: Students to design a program in pseudo code:</p> <ul style="list-style-type: none"> o to prepare your favorite recipe o to create a shopping list. <p>Task: Students to dry run simple algorithms to evaluate the output.</p>	<ul style="list-style-type: none"> • write a correct algorithm to solve a problem. • design a program in a structured manner • dry run an algorithm to evaluate its output. 	<p>U1: (Pg 44-48) U6: (Pg 113) U10: (Pg 167)</p> <p>Online Resource: Algorithm & Pseudo-code</p> <p>(Appendix 9)</p>	Suggested exercise: U1: (Pg 48)
	Structured or Modular programming	Be able to break down a task into manageable sub-tasks.	<p>Group Work: Discuss the advantages of Modular programming.</p> <p>Task: Students to write their own pseudo-code using the three program structures:</p> <ul style="list-style-type: none"> o sequence o selection o repetition <p>e.g. to explain how a vending machine works.</p>	<ul style="list-style-type: none"> • develop top-down design skill • use the three program structures sequence, selection and repetition appropriately 	<p>U1: (Pg 49-53) U10: (Pg 89-90, 167-168)</p> <p>Online Resource: Structured or Modular programming</p> <p>(Appendix 9)</p>	Suggested exercise: U1: (Pg 168)

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	Using Visual Basic to create simple forms	Be able to create a form and placing controls on the form	<p>Demonstration: Show and explain the different areas in the Visual Basic main windows (toolbox, Form window, solution explorer, properties window etc).</p> <p>Hands-on: Create a form that contains controls for user input and calculations.</p>	<ul style="list-style-type: none"> • create forms and add various controls. • create visual basic code to perform simple calculations through the code windows. 	<p>U16: (Pg 74-141)</p> <p>Online Resource: Visual Basic Tutorials</p> <p>(Appendix 9)</p>	
2 weeks	Using Visual Basic to Manipulate A Database	Be able to create a simple database and to manipulate the data using VB.	<p>Hands-on: Create a database for a school or library and perform the basic operations using Visual Basic.</p>	<ul style="list-style-type: none"> • create a database using Visual Data Manager • append, edit and delete records in a database 	<p>U16: (Pg 275, 292-327)</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	Source Document	Be able to design a proper source document.	<p>Discussion:</p> <ul style="list-style-type: none"> Distribute samples of source documents that are badly designed. Discuss their weaknesses and suggest improvements. Distribute samples of the corrected or improved source documents. Discuss what are the changes made and the advantages of having the changes done. 	<ul style="list-style-type: none"> List factors to be considered when designing a source document. design a source document for a given application provide reasons for coding data suggest suitable codes for a particular data item in a given application. design on-line form using combo boxes, drop-down lists, etc. <p>(Appendix 1)</p>	U3: (Pg 24) U8: (Pg 46-47) U10: (Pg 44-51) U13: (Pg 41-44)	Suggested exercise: U10: (Pg 44, 52-54)
2 weeks	Data Checking	Be able to differentiate between the different data checking methods. Be able to identify suitable data checking methods for different data items.	<p>Discussion:</p> <ul style="list-style-type: none"> Consequences of error (GIGO) Two types of error Differences between Data Verification and Data Validation. Examples of different Data verification methods. Examples of different Data validation methods. Case Study: Students to suggest suitable validation checks for different data items. Case Study: Calculation of check digit - ISBN barcode 	<ul style="list-style-type: none"> explain the concept of GIGO (Garbage In Garbage Out) state two types of error define the term verification identify the various data verification method. define the term validation identify the various data validation method. suggest suitable validation checks for different data items with reasons provided. calculate check digit e.g. modulus-11 	U3: (Pg 25) U8: (Pg 48-49) U10: (Pg 8, 55-60) Online Resource: Data checking (Appendix 9)	Suggested exercise: U9: (Pg 46-48) U10: (Pg 61)

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	Types of data	Be able to differentiate between the different types of data and process of data conversions.	Discussion: <ul style="list-style-type: none"> Give example of Digital data and Analogue data. Comparison between the graphs of these two types of data. ADC and DAC. 	<ul style="list-style-type: none"> define the terms: digital and analogue data describe the function of an ADC and a DAC with examples define the term sound synthesizing state advantages and disadvantages of analogue display and digital display 	U3: (Pg 61) U13: (Pg 27-28,169-170) U10: (Pg 81-82) Online Resource: Analogue & digital data (Appendix 9)	Suggested exercise: U13: (Pg 37 Q.1)
1 week	File access Methods	Be able to suggest file access methods for different types of storage media.	Discussion: <ul style="list-style-type: none"> Students to suggest the type of file access methods used for various storage media. 	<ul style="list-style-type: none"> differentiate between serial access, random access, sequential access and indexed sequential access. suggest the file access method used in a given storage medium 	U3: (Pg 28) U8: (Pg 50-51) U10: (Pg 66-67) U13: (Pg 85-86) Online Resource: File access methods (Appendix 9)	Suggested exercise: U9: (Pg 50-51)
	File update processes	Be able to identify different file update processes.	Case Study: <ul style="list-style-type: none"> For a given application e.g. a student record system, suggest an occurrence when a record would be inserted, deleted or amended? 	<ul style="list-style-type: none"> differentiate between insertions, deletions and amendments in a file. provide examples of insertions, deletions and amendments for a particular application. 	U10: (Pg 68-69) U13: (Pg 87)	Suggested exercise: U13: (Pg 91-92)

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	File Maintenance	<p>Be able to differentiate between a master file and a transaction file.</p> <p>Be able to provide procedures for backup methods .</p>	<p>Discussion:</p> <ul style="list-style-type: none"> Case study of a file used for a particular application e.g. a patient master file. Students to suggest possible changes to the data. Where are the updates stored? Which file needs to be updated? How is the updates carried out? How to recover a lost master file? 	<ul style="list-style-type: none"> state the purpose of a master file and a transaction file provide an example of a master file and a transaction file provide the reason for sorting a transaction file before updating a master file define the term merging based on the updating process define the term file generation and file dumping. 	<p>U3: (Pg 28) U8: (Pg 52-53) U10 (Pg 63-69) U13: (Pg 87-89)</p>	<p>Suggested exercise: U9: (Pg 52-53)</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
2 weeks	Building a Database	<p>Be able to identify the different types of database.</p> <p>Be able to describe the use of fixed and variable length fields.</p> <p>Be able to create a simple database.</p> <p>Be able to edit and format a database structure and setting up a primary key.</p>	<p>Group work: Discuss on:</p> <ul style="list-style-type: none"> o different types of databases o the advantages and disadvantages of fixed and variable length fields. <p>Hands-on:</p> <ul style="list-style-type: none"> • Create a database on: <ul style="list-style-type: none"> o employee details • Open a database and edit its structure and certain field's properties. <p>Task: Students to visit a library that uses database. Interview a librarian to find out more about the database (e.g. information stored in the database, how is the database searched and updated).</p>	<ul style="list-style-type: none"> • compare the advantages and disadvantages of using a manual database and a computerized database • differentiate between the two main types of databases (flat file database and relational database) • identify the hierarchy of data (Files, Records, Fields, Characters) and data types • differentiate between fixed and variable length fields • create a database table • format a field's properties (date/time format currency, number format, etc) • assign a field as a primary key in a database. • insert validation rules and input masks. <p>(Appendix 2)</p>	<p>U10: (Pg 63-66)</p> <p>U14: (Pg 119-134)</p> <p>Online Resource: Data types Access Tutorials (Appendix 9)</p>	<p>Suggested exercise: U11: (Pg 69-81, 82-106) U14: (Pg124-126, 128-129, 131-135)</p>
1 week	Form and Report	<p>Be able to design a form and a report using wizard features.</p>	<p>Hands-on:</p> <ul style="list-style-type: none"> • Create a form and a report for a database. 	<ul style="list-style-type: none"> • identify the criteria for designing a good form for data-entry • create and edit form and report in database • insert logos and pictures 	<p>U14: (Pg 149-151)</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	Query	Be able to create a query statement to display records with special conditions	Hands-on: <ul style="list-style-type: none"> • Create simple queries 	<ul style="list-style-type: none"> • search and display information in a database by using: <ul style="list-style-type: none"> ◦ filter by form ◦ filter by selection • use logical and relational operators in queries (is equal to (=), is less than (<), is greater than (>), is not equal to (<>), AND, OR, NOT) • create complex searches that use two or more search conditions 	U5: (Pg 216-223) U14: (Pg 135-142)	Suggested exercise: U14: (Pg 142-149, 151-154)
2 weeks	Tables and Relationships	Be able to create and set relationships between tables.	Demo: <ul style="list-style-type: none"> • Open a database which has multiple tables. • Show students different types of relationship between two or more tables. Hands-on: <ul style="list-style-type: none"> • Create a database with two or more tables. • set up a relationship between them: <ul style="list-style-type: none"> ◦ one-to-one ◦ one-to-many 	<ul style="list-style-type: none"> • differentiate between One-To-One and One-To-Many relationships. • set up a relationship between two tables. • enforce a referential integrity to create a relationship between the two tables. 	U5: (Pg 230-239) U11: (Pg 73)	
		Be able to create forms and queries based on multiple tables.	Hands-on: <ul style="list-style-type: none"> • Create a form based on two tables. • Create a query based on two tables 	<ul style="list-style-type: none"> • create a form and a query based on two tables. 	U5: (Pg 223-227, 240-250)	

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 Privacy	<p>Be able to identify where personal information are kept and the misuse of these data.</p> <p>Be able to state some of the principles involve in the data protection act.</p>	<p>Demonstration:</p> <ul style="list-style-type: none"> Show students some places where personal information is kept. Students to suggest more places where personal information is kept. Show a video on how our personal information can be disclosed to others without our consent. Alternatively, students can copy or download and watch the video at home. 	<ul style="list-style-type: none"> define the term data privacy. identify where one's personal information is kept e.g. hospital health records and magazine subscription. give examples of possible misuse of one's personal information. list at least 3 principles involve in the data protection <p>(Appendix 3)</p>	<p>U10: (Pg 137-140)</p> <p>U13: (Pg 212-213)</p> <p>Online Resource: Video on data privacy Data Protection</p> <p>(Appendix 9)</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 Security	Be able to identify factors affecting data security and methods of data recovery.	<p>Demonstration:</p> <ul style="list-style-type: none"> Show pictures of various ways in which data can be lost. Suggest ways to recover lost data and provide examples of various ways to back-up data. <p>Hands-on: Students to back-up information stored on a selected folder in the hard disk onto a floppy disk or other storage media.</p> <p>Restore data from the back-up disk.</p> <p>Group Work: Task worksheet with various scenarios of data lost. Students to determine the causes and what can be done to overcome the problem.</p>	<ul style="list-style-type: none"> define the term data security. list possible <u>dangers</u> of losing files. Suggest <u>ways</u> to recover lost data. <p>(Appendix 4)</p>	<p>U6: (Pg 121-127)</p> <p>U10: (Pg 130-133)</p> <p>Online Resource: News on Data security</p> <p>(Appendix 9)</p>	<p>Suggested Exercise:</p> <p>U9: (Pg 56-57)</p>
	Consequences of system failure	<p>Be able to explain the consequences of computer system failure.</p> <p>Be able to explain methods of data recovery in case of system failure.</p>	<p>Group Work: Discuss various consequences of system failure in various applications: air traffic control system, traffic-light control system, payroll system, etc.</p>	<ul style="list-style-type: none"> compare the varied degree of seriousness posed by system failure in various situations. state the precautionary methods to prevent system failure. state the methods of system recovery. 	<p>U14: (Pg 266-267)</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
4 weeks	Systems Analysis	Be able to list the main stages of system analysis.	Task: Draw the system life cycle diagram	<ul style="list-style-type: none"> • list the main stages of system analysis: (suggested model) <ul style="list-style-type: none"> ○ Fact finding ○ Feasibility Study ○ Analysis ○ Design ○ Implementation ○ Testing ○ Documentation ○ Evaluation / Maintenance 	U5: (Pg 93-99) U8: (Pg 60-69) U10: (Pg 97-103) Check list: (Appendix 5)	Suggested exercise: U9: (Pg 58-59)
		Be able to explore the problems of existing system. Be able to state the tasks that are involved in the feasibility study stage. Be able to evaluate alternative or possible solutions.	Group work: Discuss methods of fact findings. Discuss on examples of problems faced by an organization/company: <ul style="list-style-type: none"> ○ Too long to find customers details. ○ Sales figures are not up to date. ○ Etc Hands on: To construct a questionnaire and questions to be prepared for an interview.	<ul style="list-style-type: none"> • state the methods of fact finding <ul style="list-style-type: none"> ○ observation ○ interviewing ○ questionnaire ○ reviewing • state examples of problems identified by an organization. • list the components of a feasibility report <ul style="list-style-type: none"> ○ determine the organization's objectives ○ determine the nature and scope of the problem ○ propose alternative solutions ○ describe costs and benefits of the new system ○ prepare a preliminary plan and course of action 		

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
	Systems Analysis	Be able to analyze and evaluate the current system.	Task: Complete data flow diagrams and systems flowcharts given.	<ul style="list-style-type: none"> • to analyze and evaluate the current system in greater detail <ul style="list-style-type: none"> ○ a broad description of the current system ○ the flow of information of the current system ○ the evaluation of the current system • to identify the flow of information in and out of the system • design data flow diagrams and system flowcharts. 	U5: (Pg 93-99) U8: (Pg 60-69) Online Resource: System flowcharts (Appendix 10)	Suggested exercise: U9: (Pg 60-61, 66-67)
Be able to apply top-down design principles to problem solving.		Group work: Discuss on the top-down design for a payroll application.	<ul style="list-style-type: none"> • define top-down design. • state the reasons for using top-down design principles. • apply top-down design principles for a software solution. • list the tasks carried out during the design stage. 			
Be able to identify the implementation methods.		Group work: Identification of conversion methods for different systems.	<ul style="list-style-type: none"> • list the tasks in the implementation stage <ul style="list-style-type: none"> ○ install any new hardware ○ provide training to the users ○ convert or use the new system through direct, parallel or phased approach. • identify the methods of implementation <ul style="list-style-type: none"> ○ direct change over ○ parallel running ○ phased implementation • list the advantages and disadvantages for each implementation method. 			

COMPUTER STUDIES

SCHEME OF WORK

YEAR 10

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
	Systems Analysis	Be able to design data testing strategy.	Group Work: Discuss on examples of test data used in a system. e.g. data used in a school marks processing system	<ul style="list-style-type: none"> • design a sample test data to test a system using: <ul style="list-style-type: none"> ○ normal/standard data ○ abnormal/invalid data ○ extreme data 	U5: (Pg 93-99) U8: (Pg 60-69)	Suggested exercise: U9: (Pg 64-65)
Be able to differentiate between user documentation and technical documentation.		Group Work: Discuss the purpose of user and technical documentation.	<ul style="list-style-type: none"> • differentiate between user documentation and technical documentation • list examples of items in user documentation and technical documentation. 			
Be able to state the needs for maintenance and evaluation of the system.		Group work: Discuss reasons for evaluating the system.	<ul style="list-style-type: none"> • identify ways to maintain the system: <ul style="list-style-type: none"> ○ performance monitored ○ modification made if required ○ errors corrected ○ documentation kept up-to-date • state the reasons for maintenance <ul style="list-style-type: none"> ○ program faults ○ changing needs of the organization ○ accommodate changes in its external environment ○ improve system performance upon customer's request ○ changes in legislation • state the reasons for evaluation 			

Duration (no of weeks)	Topic	Learning Objectives	Learning Activities	Learning outcome (At the end of the lessons, students will be able to ...)	Resources	Assessment
4 weeks	Practice with MS PowerPoint	Be able to develop and format simple presentations.	Hands-on: <ul style="list-style-type: none"> • Create a presentation containing 5-6 slides. 	<ul style="list-style-type: none"> • create, save, open and close a presentation. • enter and format text. • format slides. • switch between open presentations. • use available help functions. <p>(Appendix 7)</p>	U14: (Pg 194-199) Online Resources: Presentation packages PowerPoint Tutorial	Suggested exercise: U14: (Pg 196-199)
		Be able to identify the general features and make use them for a multimedia applications.	Hands-on: <ul style="list-style-type: none"> • Open a presentation file and incorporated sound or video and animated images. • Incorporate a recorded voice into a presentation file. • Hyperlink slides. 	<ul style="list-style-type: none"> • make use of some interesting elements or features in a multimedia presentation: video, sound and animation. • hyperlink slides to other slides, other presentation files or different format files or a website. <p>(Appendix 8)</p>	(Appendix 10)	
	Movie maker application package	Be able to create a simple storyboard using a movie maker program.	Demonstration: <ul style="list-style-type: none"> • Produce a simple movie clips. 	<ul style="list-style-type: none"> • create save, open a movie using still pictures or video clips. • make use of the task button. <p>(Appendix 8)</p>	Online Resource: Movie maker (Appendix 10)	

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	Multimedia System	Be able to understand the need & features of Multimedia System	<p>Discussion:</p> <ul style="list-style-type: none"> • The Definition of Multimedia System • Hardware Components and examples of such system. [Encyclopedia, Computer Aided Learning, E-commerce, Graphics in movie making...] <p>Hands-on: Find some application of multimedia system in business.</p>	<ul style="list-style-type: none"> • explain the need for a multimedia system • justify the need for various hardware components in the multimedia system 	<p>U10: (Pg 84-85)</p> <p>U11: (Pg 230)</p> <p>Online Resource: Multimedia</p>	

SUGGESTED CHECK LIST ON SOURCE DOCUMENT:

Suggested check list for Source Document:		Tick here
Factors to be considered when designing a form		
	Make sure all necessary details would be collected	
	Heading to describe the form usage	
	Clear instructions should be given	
	Layout should be in a logical sequence	
	Sections for Data Subject and Data User	
	Data Coding	
Reasons for coding data		
	Faster data-entry	
	Reduces sizes of the files	
	Solve problems of variations in spellings	

GUIDELINE FOR TEACHERS:

SUGGESTED CHECK LIST ON CREATING A DATABASE:

TOPIC	TASKS	SUGGESTED TASKS AND DIRECTION OF ACTIVITIES	TICK HERE:
DATABASE MANAGEMENT SYSTEM USING MICROSOFT ACCESS: BASIC LEVEL	Create database	Open and create a database	
		Save it and create a database structure for that particular database. Close the database.	
		Close the database	
	Customizing the structure and field properties	Open a database and change it's structure	
		Identifying fields like numbers, date/time and currency. Edit the properties like the validation rule, the null value and the format, the primary key settings.	
		Save the edited structure and proceed with data-entry based on the new structure. Watch the different.	
	Design a form using wizard	Create a form using wizard	
		Specify a suitable style, background and layout for the form	
		Save the form	
	Design a report using wizard	Create a report using wizard	
		Specify a suitable style, background and layout for the records to be printed	
		Making use the sorting features	
		Save the report.	
	Design a query statement with different criteria	Create a query statement using relational and logical operators	
		Insert or add a database / table ← ADD and CLOSE	
Specify the criteria for searching particular information			
Create a form to display the answers for the query created earlier			
Create several queries on different searching criteria.			
DBMS: INTERMEDIATE LEVEL	Tables and relationships	Create a new table in a database created earlier.	
		In the new table specify a primary key and save the table.	
		Activate the database, if it is closed. Click at the TOOL menu and choose Relationship at the option list. A dialog box [Relationships] appear on the screen, which contain the two tables. Link the primary key of the first table to the second table.	
		Tick the small box [Enforce Referential Integrity] in the edit relationships dialog box, and finally click the CREATE button.	
		Create a One-Many link, simply drag a field name (in one table) to more than one fields in the second table	
	Working with Multiple tables	Create a many-One link, simply drag multiple fields (in the first table) to a single field in the second table.	
		Activate a database, click on query tab and create a NEW query. In the show table window, select and add the tables (more than one) to the query. Click and drag the table fields to the field row of the design area, save the query or click RUN icon to see the result.	
		Activate a database, click on Forms tab then on New. In the Form wizard dialog box, select one table first and select some fields from the available fields' column. Then select another table and select other fields from the available fields' column. Then click NEXT button. Choose appropriate layout and Finish	
	Sharing Information between application	Activate a database, click on reports tab, select Report Wizard, select the fields from several tables then click Next, and finally Finish button after saving.	
		Copy access data to word: use the copy and paste method OR using the Export method, select a query table then click at the File → EXPORT option list.	
		Linking access table to Word document: In word, select View menu -> Toolbars → database. Click the INSERT DATABASE icon and GET DATA. In the open data source window select Ms Access database and the database's file, choose a table in it. Select a style and finally OK. Click (tick it) INSERT DATA and ALL option. Check the INSERT DATA AS field. With the steps above, the link to the database file is now established.	
		Creating a Mail merge : Type a letter or a certificate in word. Select Tools menu → Mail merge. Click CREATE button and choose Form letters. Select active window, click GET DATA → Open Data Source. State the access table to get the data form. Select and insert the FIELDS into the appropriate place in the document (i.e letter or certificate). Click MAIL MERGE HELPER ico and the MERGE... Select ALL (records to be merge) and click MERGE button.	
		Export Access Data To Excel: 3 methods: (1). Use copy & Paste Method : Open access table, highlight it and click on the COPY icon, start Excel and Paste it. (2), Export Method : start and open an access table, select File → Export, in the export table 'payroll' to window, select the file type Microsoft Excel and click SAVE. (3). Office Links: Open the access table, select Tools menu → Office links. Select Analyze It With Ms Excel. A copy appear in excel	

SUGGESTED CHECK LIST ON DATA PRIVACY AND SECURITY:

Suggested check list on Data Privacy and Data Security		Tick here
Examples of computer crime		
	Software Piracy	
	Data Espionage	
	Computer Fraud	
	E-mail Scams	
Examples of hacking		
	Password guessing	
	Spyware/plug-Ins to capture personal details e.g. Credit-card details	
Physical safeguards against hacking		
	Locking CPU/notebook	
	Accessing a Computer lab via special key like a magnetic stripe card	
	Accessing a Computer lab via biometric characteristic { like retina-scan, face recognition, fingerprint-scan and voice recognition}	
Software safeguards against hacking		
	User ID and Password	
	Data Encryption	
	Firewall	
Sources of virus infections		
	Sharing diskettes/computers	
	Free software distributed with magazines	
	Downloading software/shareware from untrusted web-sites	
	E-mail attachment	

SUGGESTED CHECK LIST ON DATA PRIVACY AND SECURITY:

Virus protection measures.		
	Avoid the use of any programs of doubtful origin, such as free software.	
	Write-protect disk	
	Avoid sharing diskettes/computers.	
	Use of antivirus software and updating the virus definition files.	
	Back up files on a regular basis	
Possible dangers of losing files		
	Lost e.g. losing storage discs/tapes, bad filename	
	Destroyed e.g. natural disaster, accidental deletion	
	Corrupted e.g. scratches on a disc/ faulty disc drives , electronic interference	
	Modified e.g. accidentally overwritten, fraud, updated with wrong data.	
	Accessed by unauthorized	
Recover lost data		
	Use of back up file	
	Uninterruptible Power Supply (UPS)	

GUIDELINE FOR TEACHERS:

SUGGESTED CHECK LIST ON SYSTEM ANALYSIS:

PHASE	Tasks	Suggested tasks and direction of activities	Tick here
Preliminary Investigation	Preliminary Analysis	Determine organization objectives	
		Determine nature / scope of the problem.	
	Proposed Alternative solutions	Leave the system as it is	
		Improve the system	
		Develop a new system	
Describe Costs & Benefits	Aware of: unnecessary steps / errors/ redundancy		
Submit a Preliminary Plan	All findings compiled in a written report		
Analysing the system	Gather data	Tools: gather any written document e.g: organizational chart	
		Held structured interviews, set questionnaires, observation and sampling	
	Analyze the data	Use modeling tools: (any 5) data flow diagram, systems flowcharts, connectivity diagrams, grid charts & decision tables. Any analysis phases done above should be documented.	
Design the system	Do a Preliminary Design	Describes general functional capabilities of a proposed information system. Use 3 tools: Prototyping, CASE tools & Gantt Chart/ PERT chart.	
	Do a detail design	Describes a proposed information system will deliver the general capabilities (in the preliminary design): Output/Input requirement; storage; processing requirement & system control / backup	
	Write a Report	Compile both the preliminary as well as the detail design to a detailed report.	
Develop the system	Obtain the hardware	Some organization prefer to lease rather than buy some of the expensive hardware	
	Obtain the software	Make-or-buy decision : an analyst has to decide whether to make a new program (custom-written) or buy it – simply purchase an existing software package.	
	Test the system (2 types)	Unit testing: individual parts of the program (subroutines) are tested using test data.	
System testing: the parts are then linked together and test data is used to see if the parts work together.			
Implement the system	Convert to the new system	Direct approach: stops using the old system and starts using the new one.	
		Parallel approach: old and new system operated side by side until the new system has shown it is reliable.	
		Phased approach: parts of the new system are phased in gradually.	
		Pilot approach: the entire system is tried out but only by some users.	
	Train the users	Using instructional manuals	
Video tapes movie showing clips			
Live classes (1-1) or (1-Many)			
Maintain the system	Auditing	Design an audit trail which helps auditors to trace the record of transaction from its OUTPUT back through all processing and storage to its source.	
	Evaluation	Comparing the workings of the system against some preset criteria.	

TEST YOURSELF

Using the words in the list below, complete all the questions below. The words may be used more than once

<i>output</i>	<i>Systems analyst</i>	<i>Analysis trained</i>	<i>Evaluated</i>	<i>Feasibility report</i>
<i>Parallel documentation</i>		<i>design</i>	<i>Feasibility study</i>	
			<i>Fact find</i>	

1. A _____ is the person who looks at the manual system to see which parts to computerize
2. She looks at the manual system in terms of three stages: input, process and _____.
3. To begin with, she will perform a _____ in order to find out a variety of facts about the business.
4. Going on from this, she will then perform a _____ which will then look at whether an alternative system would be feasible.
5. When she has completed this, she will submit a _____ to the directors of the company.
6. If the directors are happy with the report, they will give the go-ahead for the system and the analyst can start to _____ the system.
7. Detailed system _____ then follows where outputs, inputs, files, software etc. are all decided.
8. The personnel involved with the new system will need to be _____.
9. Also, _____ will need to be written.
10. There are three ways that a system can be implemented: _____ running, phased implementation and direct implementation.
11. After a system has been in use for some time, it needs to be _____ to make sure that the objectives of the system are still being satisfied.

SUGGESTED CHECKLIST ON MULTIMEDIA & PRESENTATION APPLICATION PACKAGES.

Suggested check list for hands-on activities		Tick Here
Sound recording software:		
	Open the application: program → accessories → entertainment → sound recorder	
	Identify the simple buttons for recording and play-back	
	Demonstrate the use of other features like: mixing sound, changing the tempo and the frequency of the recorded voice.	
	Save the recorded voice for later use in the Microsoft power point application.	
	Closing the application	
Presentation software: start creating		
	Open, editing, close and save a multimedia application.	
	Create a presentation by using pre-designed layout and templates.	
	Use the undo and redo commands	
	Save a file under a different file type eg. 'slide show' file type	
Formatting text		
	Use different case, build shadows and colours.	
	Try different text alignments: left, right, centre and justified.	
Format the paragraph and slides		
	Adjust line spacing before / after bulleted and numbered point	
	Change between the style of bullets, numbers in a list from built-in standard options	
	Apply the background templates or import other wallpapers.	

SUGGESTED CHECKLIST ON MULTIMEDIA & PRESENTATION APPLICATION PACKAGES.

Suggested check list for hands-on activities		Tick Here
Other features / elements to be incorporated		
	Clip arts, word art, animation or animated clip art	
	Sound or music	
	Slide transitions	
	Incorporate timing features during a slide show presentation	
Hyperlink buttons		
	Hyperlink built- in buttons / user-made buttons	
	Hyperlink to other presentation file or other files	
	Hyperlink to external slides from other presentation file	
	Linking a slide to other files like a movie file, a webpage ...	
Movie Maker application package:		
	How to import pictures into the collection frame	
	Show two viewing mode of media: storyboard and timeline	
	Produce (drag) clips from collection to the storyboard /timeline.	
	Incorporate audio and music effects	
Making use of the TASK button		
	Video effects.	
	Video transition.	
Designing the movie clips with titles or credits (Enrichments)		
	Titles at the beginning / before / after selected slides shows	
	Add credits at the end of the movie	
	Saving video clips in different movie formats: CD format, e-mail; web version; DV format and simply to the computer movie version.	

Web Links

Algorithm & Pseudo-code

http://cache.search.yahoo-ht2.akadns.net/search/cache?ei=UTF-8&p=algorithm+%26+pseudo+codes&fr=slv8-msqr&u=www.comp.nus.edu.sg/%7Ecs1101x/4_misc/jumpstart/chap3.pdf&w=algorithm+algorithms+pseudo+codes+code&d=OCRAmjWxOzO2&icp=1&.intl=us

Structured or Modular programming

http://en.wikipedia.org/wiki/Top-down_and_bottom-up_design

<http://c2.com/cgi/wiki?StructuredProgramming>

<http://c2.com/cgi/wiki?ModularProgramming>

Visual Basic Tutorials

<http://cuinl.tripod.com/tutorials.htm>

Data Checking

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

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

<http://www.bbc.co.uk/schools/gcsebitesize/ict/databases/3datavalidationrev1.shtml>

Analogue and digital data

http://www.ib-computing.com/program/core/analog_digital.html

File Access Methods

<http://www.bbc.co.uk/schools/gcsebitesize/ict/databases/4directserialaccessrev1.shtml>

Data Types

<http://www.teach-ict.com/gcse/software/db/miniweb/pg7.htm>

MS Access Tutorials

<http://www.teacherclick.com/access2003/index.htm>

Web Links (Con't)

Video on data privacy

<http://www.ictgcse.com/?act=podcast#vid>

Data Protection

http://www.teach-ict.com/gcse/theory/protectingdata/student/shome_protectdata.htm

News on data security

http://www.teach-ict.com/news/news_dpa.htm

System Flowcharts

<http://www.bbc.co.uk/schools/gcsebitesize/ict/measurecontrol/2systemflowchartrev1.shtml>

Presentation Packages

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

http://www.baycongroup.com/powerpoint/00_powerpoint_tutorial.htm

Movie Maker

<http://www.microsoft.com/windowsxp/using/moviemaker/getstarted/default.mspx>

<http://www.mightycoach.com/articles/mm2/index.html>

Multimedia

<http://www.webopedia.com/TERM/m/multimedia.html>

<http://www.webstyleguide.com/multimedia/applications.html>