

STRICTLY CONFIDENTIAL

THE PUBLIC ACCOUNTANTS EXAMINATION
COUNCIL OF MALAWI

2011 EXAMINATIONS

ACCOUNTING TECHNICIAN PROGRAMME

PAPER TC 4: INFORMATION SYSTEMS

(JUNE 2011)

TIME ALLOWED: 3 HOURS

SUGGESTED SOLUTIONS

1. (a) Computer fraud is when someone knowingly and with intent to defraud (steal), accesses someone else's computer without authorization or exceeds the authorized access and through such conduct he/she furthers the intended fraud and obtains anything of value.
- (b) Security measures against computer fraud. Ensure as far as possible that users of the computers are able to detect whether damage, destruction, malfunction or theft of their information has occurred. This can be achieved in the following ways:
 - (i) Identify all hardware and software through labels so that they can easily be traced.
 - (ii) Ensure that there is no illegal copies of the software in the hands of the users.
 - (iii) Use of security passwords for computer access to limit and trace the users.
 - (iv) Do not let a user stay on one function for a long time, especially in high risk areas to avoid tricks.
 - (v) Educate staff i.e. let them know the rules and benefits of using a computer.
 - (vi) Physically lock PC's and laptops to prevent unauthorized persons from removing them and getting information out.
 - (vii) Regularly back-up data for recovery in times of suspected malfunction.
 - (viii) Prepare a full disaster recovery plan program in case of the worst.
 - (ix) Prohibit unauthorized copying of files, especially games and demonstration software from outside computers to avoid virus and loss of data to outsiders.
 - (x) Use antivirus software packages to limit virus attacks.
 - (xi) Encrypt data as it is being transmitted to avoid hacking.
 - (xii) Use a firewall to reduce hacking.
 - (xiii) Regularly do spot checks on the integrity of the data to ensure it is up-to-date.
 - (xiv) Carefully dispose of used materials e.g. diskettes, computer paper and tapes to avoid leakage of information.
- (c) Security measures for backed-up data:
 - (i) Back-ups should be stored in a safe protected place under the instructions from media manufacturers.
 - (ii) Have an offsite back-up storage place in the event of a worst case scenario.
 - (iii) At regular intervals, restore the backed up files and determine their status.

- (iv) Clearly label the back-ups. This will ensure you have correct data once needed (date, day, file name).
 - (v) Ensure the back-up program (software) runs successfully.
- 2.
- (a) A customer statement is a document that lists outstanding transactions that have been made by the customer with your organization. Usually this lists unpaid transactions and the recently paid amounts. It is usually produced periodically such as monthly.
 - (b)
 - (i) Customer address and name details to identify the customer.
 - (ii) Name and address of yourselves so that the customer identifies where (who) the statement is from.
 - (iii) Age of the debt – how long the customer has not paid the debt for.
 - (iv) Total debt – how much in total the customer owes you. Total of all listed transactions.
 - (v) Date of the statement – when the statement was printed. That is what the customer owes as at that date.
 - (vi) Transaction number and transaction description – what the transaction was all about (could be an invoice number).
 - (vii) Date of the transaction – this shows when the transaction took place.
 - (viii) Customers order number reference – This shows under what customer instruction the transaction was produced.
 - (ix) Transaction total (debit/credit) amount of the individual transaction.
 - (x) Transaction reference document – unique transaction number.
 - (xi) Payment period – agreed payment terms, e.g. 30 days, 7 days etc.
- 3.
- (i) Study the new system specification and acceptance report so that you are familiar with it.
 - (ii) Plan actual changeover. This will involve a detailed list of activities that will take place during changeover which includes choosing the changeover method.

- (iii) Design forms for the new system as may be required.
 - (iv) Organize a staff appreciation and training seminar.
 - (v) Arrange for file making and conversion tools as may be once off.
 - (vi) Organize standby facilities for the new system and implementation.
 - (vii) Study the manual run data listing, correction and documentation.
 - (viii) Study the complete system testing, evaluation and correction for parallel run.
 - (ix) Study the new system acceptance, changeover and security for the installation.
 - (x) System maintenance visibility for planning and control systems.
 - (xi) Evaluation audit for achievement and management – system objective.
 - (xii) Maintenance, updates and correction as necessary.
- (4) (a) (i) Manual filing system:
- Requires large storage space for filing cabinets.
 - Retrieval is slow because you go through a lot of files and papers to find what you are looking for.
 - There could be mistakes in filing.
 - Once a file is pulled out, it is difficult to trace who has it.
 - There is no back-up for filed documents hence risk of losing them is high.
 - Paper, files, cabinets and salaries for filing clerks are expensive.
 - Reduce privacy.
- (ii)
- Fraud: likely to commit a crime of cheating in order to get money or goods illegally.
 - Filing clerk could be absent from work so no one could easily continue from where the clerk stopped.
 - Less accuracy in reports.
 - Sometimes wrong decisions are made due to lack of “what if” scenario.
 - No competitive advantage over the other company.

- (b) Any **six** major benefits of electronic processing
- Speed of processing is high.
 - Enables large volumes to be processed accurately.
 - Reduces paper, files and filing cabinets bills.
 - Easily copes with filing requirements of a busy and large organization.
 - Competitive advantage over companies with the manual systems.
 - Enables easy back-ups.
 - Increases privacy due to use of password.
 - Has eased communication.
- (c) Potential drawbacks with electronic filing system.
- The systems could be very expensive (hardware/software).
 - May shut down business due to system outages.
 - Damage to equipment (sabotage).
 - Virus attack – files/hardware can get corrupted.
 - Hackers can have access to your information if not well protected.
 - Disk where information is stored can be easily smuggled out of organisation.
 - Standby facilities could be expensive.
5. (a) All systems require human intervention. So people are required to intervene on any system as they are the user of the output and the system as such.
- (b) Procedures: Are put in place to guide the system to achieve its goal.
- (b) Resources (tools): These tools – resources assist the system user to achieve the system goal. They enhance the system.
- (c) Input: In order to get output, we require input. Input on one system could be output from another.
- (d) Processors: This is what does the actual conversion of the input to become output (the desired goal).
- (e) Feedback: after output is produced, feedback is required so that the output can be refined, or decision made by the user as to what action to be taken.
- (f) Output: This is the desired result from a particular system. It could as well be input to another system.

- (g) Environment: The system cannot run in isolation. So an environment is required for the system to run. All systems pass on outputs to other systems.
 - (h) Control: For the system to run well, controls are required. These could be in form of physical, external, internal and procedural.
 - (j) Backups: No system is exempted from threats so it is a must that backups to the system exist so that it can continue to operate once the main system is rendered un-operational.
6. (i) The first generation of computer language consisted of machine language which required the programmer to write all instructions in Os and Is of the binary code and to specify location for even instruction and item data used. Programming in machine language was a very slow and labour intensive process. It required technical knowhow. Software produced was a machine specific.
- (ii) The second generation programming language developed from machine language, and was the assembly language. Like machine language, assembly language was designed for specific machines and specific microprocessors. It was primarily used in system software. It was not transferable from one make of machine to another.
- (iii) Third generation computer language (fortran, cobol, basic, pascal and c). These were specific instructions which appeared as brief statements that were more like natural language than assembly language. They were less efficient in the use of computer resources than earlier languages. Easier to write. Easier to understand. They were transferable from different machine makes, models and processors to others. They were multi-user. They were application orientated.
- (iv) Fourth generation computer languages consist of a variety of software tools that enable end-user to develop own software applications with minimum effort. Examples include query languages, report generators and application generators. No expertise is required to use the language. They come with built in compilers. They are used on a variety of machine makes, models and processors with a variety of users)
7. (a) Computer bureau
- Anybody or organisation offering any service related to computing, either as a mainline of business or a sideline is considered a computer bureau.

- (b) (i) Hardware
Data is taken into the bureau, processed by bureau staff and results returned to the owner.
- (ii) Software
Bureaus can be asked to write application software for an organisation (specialized software).
- (iii) Consultancy
Bureau can be used when advice is sought during buying, upgrading and installing inhouse computer systems.
- (iv) Computer staffing, recruiting, training staff in punching, operating, programming, systems and clerical work.
- (v) Security and courier service – bureaus can act as offsite backup storage, firewall providers, document couriers etc.
- (c) **Six** instances when organisations can consider to use services of a bureau.
- (i) When the organisation has staff shortages, computer bureaus can help in recruiting, training and even providing part-time workers.
- (ii) When workload has expanded, computer bureau can assist the organisation to do some of the work.
- (iii) During seasonal peak periods, the company can engage or contract a bureau at such periods e.g. tobacco companies.
- (iv) When need has arisen for use of expensive computing hardware or software.
- (v) When subject expertise is required, bureaus will be handy.
- (vi) At the time of file creation when once off equipment or software is required.
- (vii) As a stand-by at times of breakdown of in house computers.
- (viii) When organisation's equipment is out of date or under power.
- (ix) Where cost and/or time saving can be made using an already available software package.

- (d) Computers play a major role in turning data into information since:
- They are tools that can group large volumes of data and process them at very high speed to produce information at the required levels.
 - They act as storage for data and information.
 - They provide security to the stored data and software. This is done by the use of input, process, output and storage devices.
 - They facilitate the transmission of data/information from point to point using local area network or wide area network when required to be processed at another place different from where it is gathered

8. (a) Advantages of desktop publishing and word processing to the user:
- (i) Easy to export text to other applications.
 - (ii) Easy to store and retrieve information.
 - (iii) Provide templates and wizards to assist in presentations.
 - (iv) They are very secure as they can be password protected.
 - (v) Easy to correct errors.
 - (vi) Can be easily transferred to other computers.
 - (vii) Can be sent from place to place in an electronic format by use of e-mail or posted on internet.
 - (viii) Can be easily installed on a wide range of computers.
 - (ix) Easy to modify once the software has been updated.
- (b)
- Loss of job: Manual skills like typesets are becoming obsolete.
 - Loss of information when computer is attacked by virus or is damaged where no backup was made.
 - Loss of revenue for manufacturers and retailers of some equipment such as typewriters, ribbons etc.

- (c) Companies have chosen optical disks because:
- (i) They have reasonably big storage capacity.
 - (ii) They are reasonably priced compared to tapes.
 - (iii) They cannot easily be erased by some equipment e.g. magnets or scanners.
 - (iv) They are very light in weight therefore, easy to carry from point to point.
 - (v) They can be accessed by a wide range of computer models.
 - (vi) Readily available drives to read the disks as opposed to tape drives.

END

NOT FOR SALE