
KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

KABARAK HIGH SCHOOL
COMPUTER STUDIES
PAPER 1
MARKING SCHEME

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KABARAK HIGH SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016
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1. Distinguish between parallel and serial cables. (2marks)
 - Parallel cable connects to parallel interface port used to connect printers, optical scanner.
 - Serial cables- connects to com or RS 232 ports, supports transmission of data one bit at a time. They can support data transmission to devices connected 15m away while parallel support short distance.
2. Differentiate between Error Handling and interrupt handling. (2marks)
 - OS alerts users of errors that may arise out of illegal operations e.g software and hardware failures, performs audit check on users.
 - Interrupt handling – when a critical request causes the processor to stop executing the current job to attend to the requested task before returning control to the initial process.
3. Name four malicious programs that can affect your computer system. (2mks)
 - Computer virus - boot sector.
 - Trojan horse.
 - Worms.
 - Spyware
4. What is meant by expert systems? Name the three components. (4marks)
 - Software designed to make a computer operate at a level of a human expert in a specific narrow area of specialization.
 - Software that stimulates the reasoning process of experts in certain well defined areas such as medical diagnosis.
 - i) Knowledge base.
 - ii) Inference engine.
 - iii) User interface.
5. Name two ways of editing cell entries in spreadsheets. (2marks)
 - Use the formula bar.
 - Double click the cell to be edited.
6. Describe TWO roles of each of the following:
 - a) Database Administrator. (2mks)
 - Design and develop database applications for the organization
 - Set up security measures needed to control access to data and information.
 - Keeping the database up-to-date by adding new records or modifying and deleting unwanted records.
 - b) System analyst (2mks)
 - Renew current manual or redundant information system and make recommendations on how to replace it with a more efficient one.
 - Work with programmers to construct and test the system.
 - Co-ordinating training for users of the new system.
7. a) Describe two facilities offered by email software such as Ms Outlook. (2mks)
 - Contact management.
 - Attaching of files.
 - Checking mail.
 - b) Name other two email software available in the market? (1 mark)

- Yahoo mail, G mail, Endora.
8. State the functions of the following protocols; (2 marks)
- a) FTP
Protocol used to transfer files on the internet by downloading or uploading
 - b) TCP/IP
- Governs how data is transferred from one place to another while IP determines the addressing system on the internet.
9. What is meant by World Wide Web? (2mks)
A virtual space on the internet where information is made available.
10. Explain the difference between Gas Plasma Display and liquid Crystal display monitors. (2mks)
- LCD – monitor that are a special liquid called crystal.
Gas plasma – Resemble LCD but use gas instead of liquid crystal.
Images displayed in gas plasma do not suffer from angle distortion.
11. State the purpose of the following field properties in a Database management software (2mks)
- a) **Input mask**
-Automatically formats the field entry into a specified format.
 - b) **Validate Rule**
- Logical expression that restricts the values to be entered into a field, example ≥ 0 and ≤ 100
12. Differentiate between logical and syntax errors encountered in programming. (2mks)
- Logical errors**
- Not detectable by the translation
- Syntax**
- Emanate from improper use of language rules such as grammatical mistakes.
13. What is a computational error? Give an example to illustrate. (2mks)
- Errors that occur when an arithmetic operation does not produce expected result.
 - Overflow (illustrate using ones or twos complement)
 - Underflow
 - Truncation
 - Rounding errors.
14. Anita was working on her computer studies project. She was worried of the media to use for storing her data. She settled on a media that used Serial file organization. How are files organized on a storage medium using this method? List two advantages offered by this type of file organization. (3mks)
- Serial file are stored and accessed one after another on a storage medium.
- Advantages – simple, cheap.
15. Define the following terms in relation to computer security: (6mks)
- a) Data Encryption
- This is where data that is on transit is mixed up in a form that only the sender and receiver can be able to understand.
 - b) Sabotage
- Illegal destruction of data and information with the aim of crippling service delivery or causing great loss to an organization
 - c) Firewall
- A device or software system that filters the data and information exchanged between different networks by enforcing the lost networks access control policy.

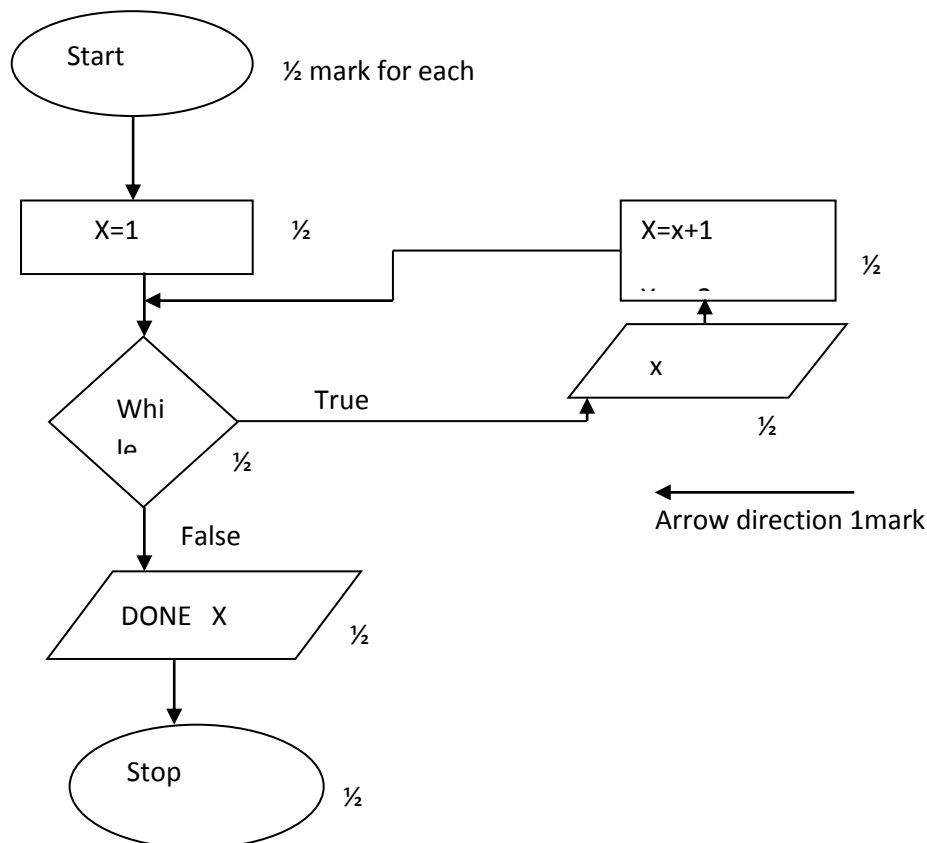
SECTION B (60 MARKS)

16. a)

x	y
1	3
2	4
3	5
Done 4	6

b)

½ mark each



- a) List any four components of Requirement specification made during system development.

(2mks)

- output specification
- input specification.
- File / data stores.
- Hardware & software requirements.
- Processing requirements.

- c) Describe three kinds of **program documentation** you would prepare to ensure an explanation on how the program was developed is availed. (6mks)

- User oriented.
- programmer oriented.
- Operator oriented documentation.

17. a) Describe the field data types used in the database above. (4mks)

- product number – text-less than 255 character.
- product name- text- less than 255 character
- Qty- number

- Value per unit – currency
- b) i) Product names starting with letter P. (2mks)

Like P* or P* in query design window.

- ii) value per unit below 200. (2mks)
- <200 in query design window.

- c) i) List and describe four areas of application of spread sheets. (4mks)
 - Forecasting
 - Mathematical and scientific
 - Accounting
 - Statistical analysis.
- ii) Explain data range, legend and axis as used in spreadsheet charts. (3mks)
 - Legend – equal to a key in a manually drawn chart. Pattern represents data series.
 - Data range- Adjacent / non adjacent cells that are being graphed. Group the cells that form the chart.
 - Axis- Y- axis/ X- axis

18. a) What is automated production. List two advantages and two disadvantages of automated production. (5mks)
- where processes in a manufacturing company are controlled by computers.
- Advantage- increased efficiency
- Improved customer service.
 - Efficient utilization of resources.

Disadvantage – High initial cost, unemployment.

- b) i) Name three ways of representing signed binary numbers (3mks)
 - Prefixing an extra bit to a binary number.
 - using one's complement.
 - Using two's complement.

- ii) Convert $5D6_{16}$ to Binary (2mks)

010111010110₂

- iii) Describe any four activities that take place during implementation stage of a system. (4mks)

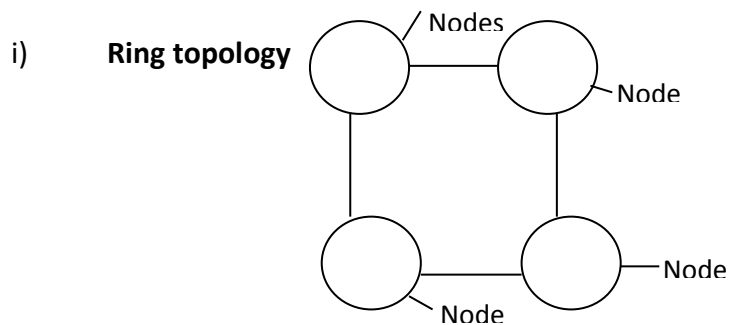
- File conversion.
- Staff training.
- Change over
- o Security control measures.

- c) Define the following terms as used in DTP software.
 - i) Cropping
 - Hide unwanted parts of a graphic that you don't want to print.
 - ii) Rotating
 - o Transformation of an object that changes it's angular placing.

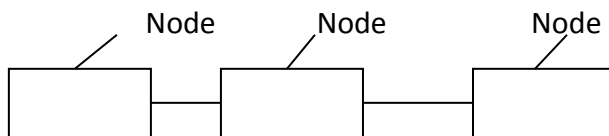
19. a) State and explain any four operating system disk management utilities. (8marks)
- Formatting – preparing new disk for use by printing sectors, tracks on the surface of the disk.
 - Scanning- Helps the user to check and repair minor drive problems such as lost storage locations.
 - Defragmenting a disk – consolidating fragments on a disk so that each file occupies a single, contiguous space on the drive.
 - Compressing- Reducing the amount of space the files occupies on a drive.
 - Backing up of data – enables users to create copies of data and programs.
 - Partitioning – Process of dividing large physical disk into 2 or more partitions called logical drives.

- b) i) What is system maintenance? (2mks)
 - Adjustments and enhancement of requirements or correction of errors after the system has been implemented.
- ii) **Define** the following terms in relation to computer software .
- a) Free ware.
 - Software products that are freely made available to the use.
- b) Propriety
 - Those are software whose source code is hidden for users.
- c) Open source
 - These are software whose source code is available to the user and are encouraged to modify, distribute and use.
- iii) List any four likely causes of data and program loss in a computer system? (2mks)
- Viruses
 - Hardware fault
 - Theft
 - Network breakdown.
 - Program failure.
 - Vandalism
 - Unstable power.

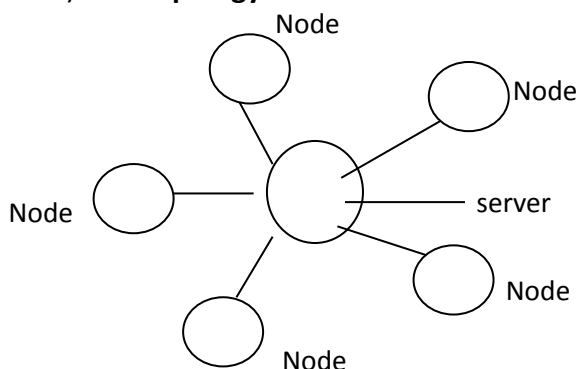
20. a) With the aid of a diagram explain the following network topologies (6mks)



ii) **Bus topology**



iii) **Star topology**



- b) Define the following terminologies in relation to networking. (4mks)
- i) Crosstalk
 - Disturbance caused by the electric or magnetic field of one telecommunication signal affecting a signal in an adjacent circuit.
 - iv) Frequency
 - o No. of cycles by unit time e.g. frequency indicator.
- c) State two advantages of and two disadvantages of wireless communication (4mks)
- Advant.
 - Flexible in operation.
 - Span large geographical areas easily.
 - Can reach remote areas that do not have high physical Infrastructure.
- d) List down one major advantage of networking
- Cost effective.
 - Reliable.
 - Remote communication
 - Resource sharing.
- ii) Noise
- Unwanted electrical or electromagnetic energy that degrades the quality of signals and data. Occurs in digital and analog.
- iii) attenuation
- Decrease in magnitude and energy as a signal progressively moves along a transmission medium.
 - Loss of signal strength as it travels along a communication medium.