4.9.2 Computer Studies Paper 2 (451/2)

1. (a) Open a word processing program and create the following document as it appears. Save it as *network*. (43½ marks)

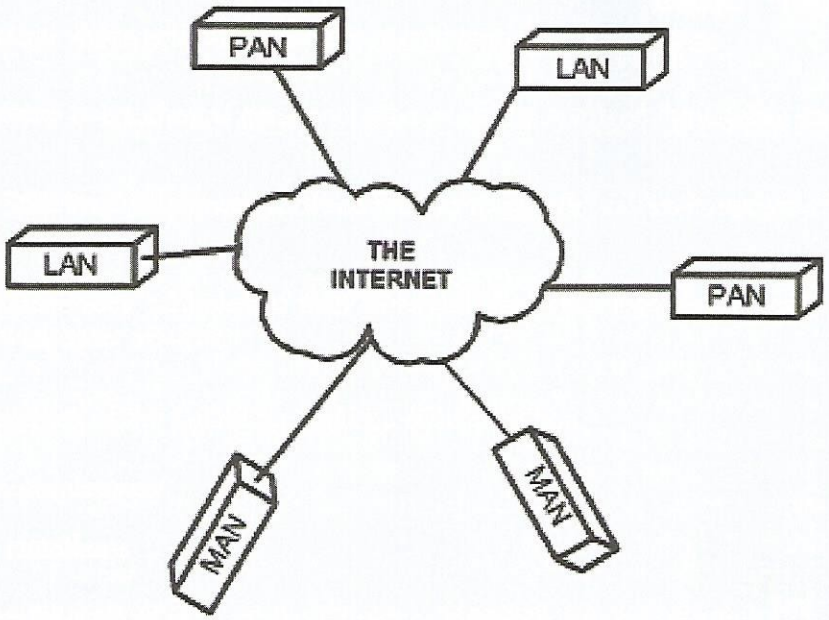
COMPUTER NETWORK

Net working is referred to as connecting computers, electronically for the purpose of sharing information. Resources such as files, applications, printers and software are commonly shared in a network.

Computer networks can be categorised based on size and topology as follows:

- ✔ ~~List Area Network~~ Local Area Network (LAN)
- ✔ Personal Area Network (PAN)
- ✔ Metropolitan Area Network (MAN)
- ✔ Wide Area Network (WAN)

A WAN is composed of ***LAN, MAN*** and ***PAN*** connected through the internet.



TYPES OF PHYSICAL TOPOLOGY

STAR TOPOLOGY

- Fast performance with few nodes and low network traffic.
- Hub can be upgraded easily.
- Easy to troubleshoot.

RING TOPOLOGY

i. All data flows in one direction, reducing the chance of packet collisions.
ii. A network server is not needed to control network connectivity between each workstation.
iii. Data can transfer between workstations at high speeds.

DIFFERENCE BETWEEN STAR AND RING TOPOLOGY	
STAR	RING
The nodes are connected to the central hub or router	Every node is connected to its left and right side nodes
The hub is failure point	Every node are failure point
The information travels from central hub or router to all the nodes	The information travels from node to node in a ring manner in one direction

(b) Apply each of the following formats on the document created:

(i) 1.27 cm page margins at the top and bottom of the page. (1 mark)

(ii) 2 cm hanging indent on the bulleted text under the title Ring Topology. (1 mark)

(iii) 1.5 line spacing on the bulleted text under the title star topology. (1 mark)

(c) (i) Insert the text COMPUTER NETWORKS as a footer. (1 mark)

(ii) Format the footer created as follows:

I. Alignment: right (½ mark)

II. Font size: 9 (½ mark)

III. Font style: italics (½ mark)

(d) Print out the document. (1 mark)

2. The management of a car hire company intends to maintain its records using a database. You have been tasked with creating the database.

(a) (i) Open a database program and create a database named **CarHire**. (1 mark)

(ii) Create the tables named Customers, Drivers, Vehicles and Expenses in the database created in 2(a)(i). (21 marks)

Customers Table

Field Name	Data Type	Field Properties
CustomerID	Text	Field size 4
CustomerName	Text	Field size 25

Drivers Table

Field Name	Data Type	Field Properties
DriverID	Text	Field size 4
DriverName	Text	Field size 20

Vehicles Table

Field Name	Data Type	Field Properties
VehicleID	Text	Field size 6
VehicleDescription	Text	Field size 20

Expenses Table

Field Name	Data Type	Field Properties
VehicleID	Text	Field size 6
CustomerID	Text	Field size 4
DriverID	Text	Field size 4
ExpensesIncurred	Currency	Fixed
ExpenseDesc	Text	Field size 20
DateTravel	Text	Format: short Date
DistanceCovered	Number	

(iii) Apply the appropriate primary key fields in the Customers, Drivers and Vehicles tables. (3 marks)

(iv) Create appropriate relationship among the tables. (1½ marks)

(v) Create a form named **ExpensesForm** that would be used to enter data in the Expenses table and perform the following on the form.

- Modify the title as "Expense Entry"
- Bold the title
- Italicise the fields (3 marks)

(b) Enter the following data into their respective tables. (9½ marks)

Customers Table	
CustomerID	**CustomerName**
C001	ROSE
C002	JOEL
C003	MARION
C004	JOHNSTONE

Drivers Table	
DriverID	**DriverName**
V001	ANTONY
V002	HURRYSON
V003	LENNY
V004	PATRICK

Vehicles Table	
VehicleID	**VehicleDescription**
VW67	WISH
VF92	FIAT
KM13	MAZDA
VH84	HARRIER

Expenses Table

VehicleID	CustomerID	DriverID	Expenses Incurred	ExpenseDesc	DateTravel	Distance Covered
VW67	C001	V001	3000.00	Tyre replacement	7/14/2020	445
KM13	C004	V001	2000.00	Tyre replacement	7/21/2020	550
KM13	C001	V002	2000.00	Shocks	7/10/2020	380
VW67	C003	V002	1500.00	Shocks	7/5/2020	180
VF92	C002	V003	2000.00	Shocks	7/7/2020	600
VH84	C003	V003	3000.00	Bushes	7/24/2020	230
VF92	C001	V004	1500.00	Engine check	7/6/2020	425

(c) Given that a customer is charged Ksh 15 per kilometre for the distance covered by a vehicle. Create a query that would display the fields; CustomerName, DriverName, ExpenseIncurred, DistanceCovered (in km) and a calculated field named **charges**, (*Hint: Charges = distance × 15 + ExpenseIncurred*).
Save the query as **vcharges**. (5½ marks)

(d) Create a report that would display the fields: CustomerName, DriverName, ExpenseDesc, ExpensesIncurred and the accumulated amount of all the expenses incurred. Save the report as expense **vreport**. (2½ marks)

(e) Print out later each of the following:

(i) Four tables

(ii) **vcharges** query

(iii) **vreport** report. (3 marks)