

451/3  
COMPUTER STUDIES  
PAPER 3  
(Project)  
July 2021 to January 2022  
7 months



**THE KENYA NATIONAL EXAMINATIONS COUNCIL**  
**Kenya Certificate of Secondary Education**  
Computer Studies  
**Paper 3**  
**(Project)**  
7 months

**Instructions to candidates**

- (a) *Candidates are expected to use a Database Management System when developing their projects.*
- (b) *A soft copy of the system and documentation must be stored in a removable storage medium (CD-R/CD-RW/DVD-R/DVD-RW).*
- (c) *Candidate's name and index number should appear on the cover page of the documentation and on the storage medium.*
- (d) *Each candidate should hand in a hard copy and a soft copy of the project documentation.*
- (e) ***Candidates should answer the questions in English.***

**This paper consists of 3 printed pages.**

**Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**

## MOVERS TRANSPORT SYSTEM

Movers is a company that provides transportation for various agricultural goods for farmers between farms and retail outlets. The company transports produce such as cereals, livestock and perishable goods like milk, eggs, fish and flowers. The company also transports farm inputs such as fertilizers, manure, herbicides, pesticides and seeds for planting to the farms.

Large scale farmers register individually as members of the company whereas small scale farmers are required to form groups in order to qualify for membership. A group has a minimum of five farmers and is recognized by a group name, location, nature of farm produce and details of individual farmers. The group can then order for transport as a unit.

The company owns pick-ups, trailers, lorries and refrigerated trucks. The charges for transported goods are based on the means of transport, load capacity and destination as shown in Table 1.

**Table 1: Transport charges based on vehicles, load capacity and destination**

Transport means	Load capacity in tonnes	Cost in KSh per km
Pick-up	1	200
Lorry	7	650
Trailer	>10	1500
Refrigerated truck	3	1000

The company employs drivers and loaders where each driver is assigned a specific vehicle. Drivers are responsible for the vehicles and ensuring that goods reach their destination in good condition.

A driver who commits an offence such as over speeding, overloading, driving while drunk or causes perishable goods to get spoilt due to misconduct is surcharged. A driver is served with a warning letter if surcharged three times in a month. A driver who has been served with a warning letter and commits an offence is suspended from duty for one month. If a driver is suspended twice within a period of six months, his/her services are terminated.

Each vehicle is allocated loaders whenever it is assigned a task. The number of loaders for a vehicle is based on its type as shown in Table 2.

**Table 2: Number of loaders and payments to drivers and loaders based on type of vehicle**

Types of vehicle	Number of loaders	Amount paid to loader per vehicle (in KSh)	Amount paid to driver per trip (in KSh)
Pick-up	2	200	2000
Lorry	6	300	3000
Trailer	10	500	8000
Refrigerated truck	4	450	5000

Vehicles are serviced and fueled before each trip and the expenses incurred are recorded.

The company remits 20% of the total revenue as tax to the government.

Develop a well-documented computerized database system for the company that will:

1. Maintain records of membership
2. Maintain records of vehicles
3. Maintain records of loaders and drivers
4. Maintain records of goods transported
5. Maintain records of farmers who are in groups
6. Maintain records of orders for transport
7. Maintain records of offences committed by drivers
8. Maintain records of expenses for each vehicle
9. Compute each of the following:
  - (i) Payment for a loader and a driver;
  - (ii) Penalties surcharged on drivers;
  - (iii) Loading fee per vehicle per trip;
  - (iv) Revenue per vehicle per trip;
  - (v) Expenses for each vehicle;
  - (vi) Tax payable;
  - (vii) Total company expenses;
  - (viii) Total revenue for the company;
  - (ix) Overall company profit.
10. Generate various reports.