

451/3
COMPUTER STUDIES
PAPER 3
(Project)
January to July 2019



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

Instructions to candidates

- (a) *Candidates are expected to use a Database Management System when developing their projects.*
- (b) *A soft copy of the work done must be stored in a removable storage medium (CD-R/CD-RW).*
- (c) *Your name and index number should appear on the cover page of your 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.

REHEMA SCHOOL PREFECTS ELECTORAL SYSTEM

Rehema school is a day secondary school with five streams each in form one, form two, form three and form four. The students' administrative structure is in three levels; school level, form level and class level. The school level students leadership positions comprise of the head boy, the head girl, dining hall captain, games captain and the library captain. The form level positions comprise of form captains who are in charge of all the streams in their respective forms. The class level positions comprise of the class prefects who are in charge of their respective classes and are answerable to their respective form captains. All the positions are elective and the holders serve for a one year term.

The school elections are held at the beginning of each year. Only form three students are eligible for school level positions. The school level prefects are elected by all the students in the school. A form level captain is elected by all the students in the streams in his/her own form. A class prefect is elected by members of his/her own class.

Those students who intend to vie for the positions are required to be vetted by the school administration. The successful candidates are required to provide their personal details which would be used in the ballot papers. The school level and the form level contestants are vetted by the school administration, while the class level contestants are vetted by their respective class teachers. One of the requirements in the vetting is that each contestant must have been proposed and seconded by their electorate. Those seeking school level positions are required to be seconded by a student from each class in their respective forms. Those seeking class level positions are required to be seconded by two students from their respective classes.

Elections are carried out in every classroom concurrently, where the respective class teacher presides over the exercise. On the day of the election, the class teachers collect ballot papers for each of the elective positions for their respective classes. During the polling, students are required to indicate their preference in the ballot papers by placing a tick (✓) alongside the candidate of their choice and inserting the ballot papers in their respective ballot boxes.

Counting of votes is carried out in the respective classes and the results are recorded, announced and taken to the tallying centre. At the tallying centre, the form level and the school level vote results from the classes are combined and the total votes for each candidate recorded.

The candidate with the highest number of votes for each post is registered as the winner. The results of the election are forwarded to the school's principal who then approves and announces the final results.

Develop a well documented computerised prefects election system that will

(a) maintain:

- (i) records of classes and their respective class teachers;
- (ii) list of contestants for each post;
- (iii) list of electoral positions;
- (iv) list of students per class;
- (v) list of proposers and seconders;
- (vi) results for each level.

(b) compute:

- (i) total votes for each contestant at:
 - school level
 - form level
- (ii) the winner for each post;
- (iii) determine the contestants with adequate proposers and seconders.

(c) generate the following reports:

- (i) voters list;
- (ii) list of contestants for each post;
- (iii) list of class teachers;
- (iv) list of winners for each post;
- (v) list of spoilt votes from each class;
- (vi) list of contestants and the votes garnered.