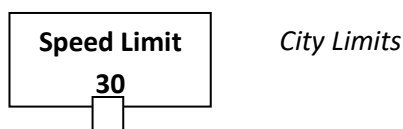


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#### PHYSICS

After driving for 8 minutes on a slippery road at a constant speed in a busy town, the driver of a fully loaded passenger bus notices a boda-boda rider suddenly crossing the road to pick up a customer. The driver immediately applies the brakes and decelerates but still slightly hits the rider causing damages to both the bus and motorcycle. It takes the bus 80 seconds from the moment brakes are applied to come to a complete stop. During this time it is noted that most passengers hit their heads on the seats in front of them. However, during the incident of the accident, several boda-boda riders convene and threatened to beat the bus driver for damaging their colleague's motorcycle. However, officers from police and the bus' insurance company were called upon to come to the scene to assess the situation and also calm down the rowdy riders. Upon assessment, the following were noted:

- Passengers were not wearing seat belts
- Bus tyres were worn out
- A significant amount of heat had been generated due to braking
- The police officers inquired if the driver had sighted the road signs.



**TASK: As a Physics student respond to the following:**

- The bus had travelled a total distance of 5.3km from when it started the constant speed to when it uniformly decelerated to rest. Determine whether the insurance company will be in position to compensate for the damages.
  - Suggest reasons why the loaded bus took long to come to rest.
  - The police was also interested in investigating whether the brakes were in good condition. If the bus was using steel brakes of mass 25kg on each wheel, and 700kJ heat was generated at each wheel, help to determine whether the brakes were appropriate for use.
  - Discuss any three safety precautions that should be followed to minimize road accidents.
- Hint: (i) Insurance Company only pays back its customers if they are driving within the required speed limits  
(ii) Specific heat capacity of steel brakes is  $470\text{Jkg}^{-1}\text{K}^{-1}$  and their initial temperature is  $20^\circ\text{C}$ .  
(iii) Maximum temperature for efficient brakes is  $600^\circ\text{C} - 700^\circ\text{C}$ .

#### ENTREPRENEURSHIP

In your family, you have norms that have been passed on from generation to generation. When you join school, you still find that each school has its code of conduct. Even in the businesses, there are certain values that are cherished and these values are called Ethics.

**Task:**

- What is meant by the term Ethics in business?
- Study the following statements and categorise them as either ethical or unethical using a tick(✓)

	Statement	Ethical	Unethical
i).	Proper waste disposal		
ii).	Failure to pay your bank loans		
iii).	Disrespecting your customers		
iv).	Paying off your debts		
v).	Selling expired products		
vi).	Business not paying its creditors		
vii).	Business counterfeiting products		
viii).	A business paying its taxes		
ix).	Intentional mismanagement of accounts		
x).	Harsh working conditions		
xi).	Treating customers fairly		

#### ART

Mukisa Nursery School is in need of teaching aid for the pupils and among them is the human figure chart.

**Task:** Using your knowledge of human figure drawing, solve this problem with a half or full figure drawing/painting baring a pose of your choice.

#### AGRICULTURE

- Milk is one of the most consumed animal products on farms and families. Most people complain about it being perishable.

**TASK**

- Give four products got from milk

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ii). Give ways in which milk can be processed to increase its time of good quality.

- 2). Busoga horticulture co-operative farmers decided to grow vegetables. They had arguments among themselves on the procedures they should follow when growing vegetables. Some members advised them that they plant seeds directly into the soil. Others said sterilizing the soil was a waste of time when other opted to use herbicides in clearing the area to save time. While other members also suggested that they buy ripe tomatoes, squeeze out the seeds and then plant. Later on, they agreed that they should buy seeds and plant directly in the main garden. A few seeds germinated but were slender with mottled leaves and weak stems.

#### Task

- Advise the farmers on the basic principles they should follow to produce vegetables.
- Elaborate to them the benefits to produce vegetables for commercial purposes.

### GEOGRAPHY (Attempt ALL)

#### ITEM 1

Mining in Africa started some years back. It is not a recent economic activity. During the early Stone Age period the Africans were involved in making tools like knives, spears and later hoes through black smithing. They used to get the raw materials from the ground.

Today mining has improved with the discovery of modern technology and the countries in Africa are getting a lot of wealth from the mining sector.

However, mining has also created serious environmental challenges in many African countries.

#### Support material



#### Task

- Write a brief document of not more than 250 words, describing the factors favouring mining in any one country in Africa.
- Recently in South Africa, illegal mine workers have been buried deep in the mine and some survivors in the ground have refused to come out when the authorities and the police visited the place. Explain the negative effects of mining on the people and physical environment.

#### SWAHILI

Andika insha kati ya maneno (350- 450) juu ya siku yako ya kwanza kufika mjini Kampala.

#### TECHNICAL DRAWING

A retired civil servant intends to construct a two bed roomed house on his plot measuring 8,000m, by 10,000 mm. Use the scale of 1:50 to help him design a plan for the house.

#### LUGANDA

Omuwala omu ku kyalo kye wammwe bazadde be baamukaka okufumbirwa nga yakamaliriza ekibiina eky'omusanvu. Nnyonnyola ng'owakanya eky'abazadde okufumbiza abaana abataneetuuka.

#### CRE

In some area of Uganda lives a man called Mr. Kavera, who does not have time for his wife. He spends most of his time with friends and not his wife. In so doing, Mr. Kavera denies the wife marital rights to sex, which made her resort to adultery as a way of solving some of her problems.

#### Task:

- Explain the Christian teachings that can guide Mr. Kavera to fulfill his marital responsibilities.
- How can the traditional African marriage approaches help to solve the challenges presented in the above scenario?

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#### CHEMISTRY

##### Item 1

Your cousin who is just new to city life has found it interesting to stay in the city as well as being interested in preparing meals at home. As she was preparing your home breakfast, she accidentally knocked the tin containing table salt, fell into a nearby bucket containing water and being puzzled about what to do she poured the resultant mixture on the ground to hide evidence of what had happened. Your mother has however got to know about it due the CCTV surveillance around your home and she has called the two of you to caution you about the situation as well as requesting you as a student of chemistry to advice on what would have been done by your cousin.

Task:

As a student of chemistry please guide about;

- a). category of the resultant substance formed and was poured away by your cousin.
- b). the properties of the resultant substance
- c). impact of what your cousin did after the accident had happened
- d). your mother's request.

##### Item 2

Your nephew is very interested in preparing meals at home. As she was preparing your home breakfast, she accidentally knocked the tin containing cooking oil, fell into a nearby bucket containing water and being puzzled about what to do she poured the resultant mixture on the ground to hide evidence of what had happened. Your aunt has however got to know about it due the CCTV surveillance around your home and she has called the two of you to caution you about the situation as well as requesting you as a student of chemistry to advice on what would have been done by your nephew.

Task:

As a student of chemistry please guide about;

- a). category of the resultant substance formed and was poured away by your cousin.
- b). the properties of the resultant substance
- c). impact of what your cousin did after the accident had happened
- d). your aunt's request.

#### HISTORY

The government of Uganda is usually faced with violence and political tension during election. The state through the ministry of internal affairs often recruits and mandates the security personnel; especially the police force to maintain peace and order during the after elections.

Task

As a student of History and Political education, you have been asked by the head of security team to prepare written guidelines on how to manage the situation.