SCIENCE

MOCK MARCH, 2019

TIME: 2 HRS 30 MINS

1. Answer ALL the questions
2. All answers MUST be written in the spaces provided in the question paper.
3. Do not remove any pages from this question paper.

FOR EXAMINER'S USE ONLY

SECTION 'A'

1	2	3	4	5	6	TOTAL

SECTION 'B'

7	8	9	10	11	12	13	14	15	TOTAL

SECTION A (60 MARKS)

Answer ALL the questions in the spaces provided.

1. (a) Name **two** documents that a teacher needs to prepare a scheme of work. (2 mks)
   (b) State **four** reasons why a scheme of work is necessary. (2 mks)
   (c) In the table below, suggest a suitable method of teaching that can be used to achieve each of the stated objectives. (4 mks)

	Teaching objectives	suitable method of teaching
(i)	The learner should be able to classify common substances as acidic, basic or natural.	
(ii)	The learner should be able to determine the density of irregular solid objects.	
(iii)	The learners should be able to name the habitats of small animals.	
(iv)	The learner should be able to name parts of human eye and state their functions.	

2. Complete the following lesson plan for standard six by filling in the blank spaces.

TOPIC: LIGHT

(a) Sub-topic (1 mk)

KNOWLEDGE OBJECTIVE

By the end of the lesson, the learner should be able to describe how light travels.

(b) SKILL OBJECTIVE (2 MKS)

Teaching/ learning resources
Torches, bent tubes, straight tube, cardboards, dark classroom.

INTRODUCTION
Ask the pupils to recall what happened when a beam of light from a torch is shone on a straight or correct part of a path.

(c) PRESENTATION LEARNING ACTIVITIES.

(i) Describe an activity to illustrate a property of light using a source of light and bent and straight tubes in a dark classroom. (2 mks)

(ii) Describe an activity using a source of light and three identical card-boards having a hole in the centre in a dark classroom. (2 mks)

(d) CONCLUSION

Write down a question you can ask the pupils to use whether they know how light travels. (2 mks)

(e) Chalk board summary

Draw a labeled diagram to illustrate experimental set up in C (ii) above. (2 mks)

3. A teacher wanted standard six pupils to investigate whether seeds require moisture in order to germinate. The following were available: bean seeds, shoe polish tins, cotton wool, water.

(a) List instructions that the teacher could give to the pupils to enable them carry out the experiment correctly. The first instruction has been given. (4 mks)

(i) Place equal amount of cotton wool in each tin.

(ii) _____

(iii) _____

(iv) _____

(v) _____

(b) State **two** activities that pupils carry out after setting up the experiment. (2 mks)

(c) Draw diagrams to illustrate the final results of the experiment. (2 mks)

(d) State the control in this experiment and purpose. (1 mk)

4. A standard five teacher planned to demonstrate that "Air exerts pressure" using the method of collapsing tin.

(a) Other than the tin, name **two** materials which the teacher would require for the demonstration. (2 mks)

(b) Describe the procedure of carrying out the demonstration. (2 mks)

(c) Give **two** reasons why demonstration method is the most suitable for the activity. (2mks)

(d) Describe how you would demonstrate that our air exerts pressure other than by the collapsing tin method. (2 mks)

5. (a) State **three** methods of assessing pupils in lower primary school classes. (3 mks)

(b) State **three** reasons for assessing pupils in primary schools. (3 mks)

(c) Below is a multiple choice type of question.
" From the following lists of animals choose the one that consist of mammals only.

A. Bat, tortoise
B. Whale, rabbit, bat, tortoise, kangaroo
C. Whale, hedgehog, owl, salamander
D. Elephant, python. Lion, antelope

(i) State two mistakes in the options that make the question a bad item. (2 mks)

(ii) Re-write the options correctly. (2 mks)

A.
B.
C.
D.

(d) Below is another multiple choice type of question.
Friction is a force which;

A. Accelerates motion
B. Produces motion
C. Opposes motion
D. Changes direction of motion

What is the key? (1 mk)

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6. A standard 7 teacher wanted to teach the lesson on 'water pollution" using the Science walk method.

(a) State **three** suitable habitats the teacher would use for the lesson. (3 mks)

(b) State **two** ways in which he/she would prepare for the lesson. (2 mks)

(c) Explain **two** activities she/he would involve pupils in during science walk. (4 mks)

(d) Give **two** precautions the teacher should give to the class. (2 mks)

(e) Give **two** reasons to explain why science walk is classified under the dynamic approach of teaching science. (2 mks)

(f) State **two** advantages of using oral questions to evaluate the lesson. (2 mks)

SECTION B: (40 MARKS)

Answer all the questions in this section in the spaces provided.

7. The change in the length of a leaf was measured for a period of 14 days. The results are show in the table below.

Time (days	0	2	4	6	8	10	12	14
length (mm)	12	12.5	13.0	13.5	14.5	18	20	20

(a) (i) On the graph paper provided, draw the graph of length of leaf against time in days. (4mks)

(ii) Calculate the gradient of graph between 10^{th} and 14^{th} day. (1 mk)

_____

(iii) Account for the shape of the graph between;

8^{th} and 10^{th} day. (½ mk)

_____

12^{th} and 14^{th} day (½ mk)

_____

(b) A set up that can be used to compare the viscosity of water and engine oil is shown in the diagram below.

(i) Name suitable materials that are presented by 'K' and ' L'. (1 mk)

K _____

L _____

(ii) Describe how the experiment is carried out. (1 mk)

8. (a) Draw set up that would be used to demonstrate how electricity is produced using the materials below. (3 mks)

Small bulb
Wires
copper nail
Iron nail
Drinking glass
Salt
Water

(b) Trace the energy transformations which take place when a bicycle dynamo is in use. (1 mk)

9. In a grassland area are lions, cheetah wild beasts and gazelles.
(a) Construct a food web using the information provided. (2 mks)
(b) State **two** human activities which are likely to affect population of wild animals in a game reserve. (1 mk)

10. (a) Name **two** energy saving devises and for each , state the source of energy. (2 mks)

	Energy saving device	source of energy
(i)		
(ii)		

(b) Explain how drying prevents food spoilage. (1 mk)

(c) (i) At which structure in the breathing system does oxygen come in contact with the blood? (1 mk)
(iii) Name the blood component responsible for the transport of oxygen. (1 mk)

11. The diagram below illustrates a section through a mammalian heart.

(a) Name the parts labeled E, F, G and H. (2 mks)

E._____

F. _____

G._____

H. _____

(b) Use arrows n the diagram to show the direction of blood flow in the heart. (1 mk)

(c) Name the blood vessel that supplies blood to the heart. (1 mk)

12. (a) State **two** characteristics of cumulus clouds. (2 mks)

(b) Explain the meaning of the word galaxy. (1 mk)

13. (a) Explain why rusting of iron is a chemical change. (2 mks)

(b) Describe an experiment to compare the strengths of two acidic solutions. (2 mks)

14. (a) Explain the following;

(i) Mercury forms a convex meniscus in a glass container. (1 mk)

(ii) Aluminum is preferred to copper in long distance power transmission. (1 mk)

(iv) An ordinary glass cracks easily when hot water is poured into it. (1 mk)

15. (a) State **two** advantages of vegetative reproduction in plants. (2 mks)

(b) State **two** social effects of drug abuse. (2 mks)

(c) Explain how a rainbow is formed in the sky. (2 mks)