

**PTE MOCK EXAMINATION**

**SCIENCE**

**MARCH, 2019**

**TIME: 2<sup>1</sup>/<sub>2</sub> HRS**

1. A science teacher intend to teach standard III learners a lesson on the topic Air in the soil  
(a) State one knowledge objective for this lesson. (1 mark)

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(b) Other than recording, name two skills learners will develop during this lesson (1mark)

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(c) Name three materials required to carry out an experiment to show that there is air in the soil (3marks)

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(d) State three instructions a teacher that the teacher should give to the learners, so as to guide them to carry out an activity to show that there is air in the soil (3 marks)

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(e) Draw a labeled diagram of the set up that could be included in the chalk board summary for this lesson. (2 marks)

2. (a) Give **Three** reasons why it is important to assess pupils (3 marks)

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(b) Give **three** reasons why a scheme of work is important in the teaching / learning of primary school Science (3 marks)

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(c) State **two** reasons why it is important to ask questions during an investigation (2 marks)

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(d) State **three** reasons why it is important to record observations in Science  
(3 marks)

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3. A teacher wanted his pupils to construct a weather station as one of the projects in a class.

(a) List down the materials the teacher would ask the pupils to bring in order to construct a rain gauge?  
(4mks)

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(b) Name **TWO** weather elements that can be measured in the weather station other rainfall.  
(2mks)

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(c) State **TWO** reasons why it is appropriate to use the project approach when teaching about weather.  
(2mks)

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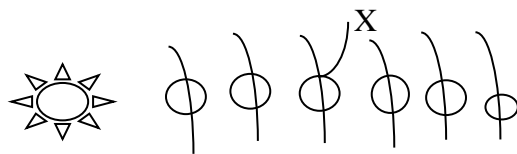
(d) Name **TWO** attitudes that the pupils would acquire while carrying out the project.  
(2mks)

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4. a) Apart from written tests, name other **two** methods of assessing pupils in science.  
(2 marks)

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b) The following multiple choice question was given to Standard eight pupils. The diagram below shows a section of the solar system showing six planets in the order in which they appear.



Which planet is marked X in the diagram above?

A. Earth

- B. Jupiter
- C. Venus
- D. Mars

i) Identify the key \_\_\_\_\_ (1 mark)

ii) What ability does the question test? (1 mark)

\_\_\_\_\_

iii) Majority of the pupils chose option A.  
What **two** points should the teacher emphasize on when revising the question with the pupils? (2 marks)

\_\_\_\_\_

\_\_\_\_\_

c) A multiple choice question has the following options.

- A. Ticks
- B. Liver Flukes
- C. Tsetse Flies
- D. Fleas

i) Write down a suitable stem to the question. (2 marks)

\_\_\_\_\_  
\_\_\_\_\_

ii) State the key (1 mark)

\_\_\_\_\_

iii) State the ability being tested. (1 mark)

\_\_\_\_\_

\_\_\_\_\_

5. A teacher wanted Standard Seven pupils to investigate water retention capacity in different types of soil

(a) Name **four** materials required for the investigation other than the types of soil (4 marks)

\_\_\_\_\_

(b) State **three** variables that should be controlled during the investigation(3 marks)

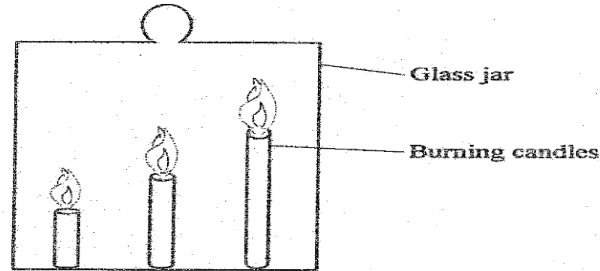
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State the importance of the principle in soils to plants life (1mark)

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6. The diagram below represents a set up that was used in an investigation



(a) Learners observed that candles went off.

(i) State the order in which the candles went off (2marks)

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(ii) Explain why the candles went off in the order you have stated in (i) above (3 marks)

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(b) State three ways in which a teacher could use dynamic approach during this investigation (3 marks)

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(c) Explain how knowledge gained from this investigation could be used to rescue somebody from a burning house (2 marks)

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**SECTION B (40 marks)**

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

7. The table below shows the average height in cm of a man, taken after every three years over a period of 24years

Age (Years)	0	3	6	9	12	15	18	21	24
Height (cm)	50	92	106	120	142	163	169	170	170

(a) On the grid provided, draw the graph of height (y-axis) against age (4 marks)

(b) Use a graph to state a 5 year period during which the growth rate was fastest (1 mark)

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(c) Determine the annual growth rate between the eleventh and the sixteenth year (2 marks)

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(d) Explain the shape of the curve between the 15<sup>th</sup> and 24<sup>th</sup> year (1 mark)

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8. (a) Briefly describe the following terms:

Cross pollination (2 mark)

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Transpiration (2 mark)

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9. State the causative agent in each of the following diseases (2 marks)

Disease	Causative agent
Candidiasis	_____
Tuberculosis	_____

(b) Name **two** methods of softening hard water (2 marks)

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10. In a monohybrid inheritance, a pure breed for round seed (RR) was crossed with a pure breed for wrinkled seeds (rr)

(a) Using genetic crosses work out the F1 generation (3 marks)

(b) Determine the phenotypic ratio of F2 generation if F1 generation was selfed (3 marks)

11. Polythene materials waste is a nuisance as far as environmental management is concerned

- (a) State why polythene wastes are environmental pollutants (1 mark)

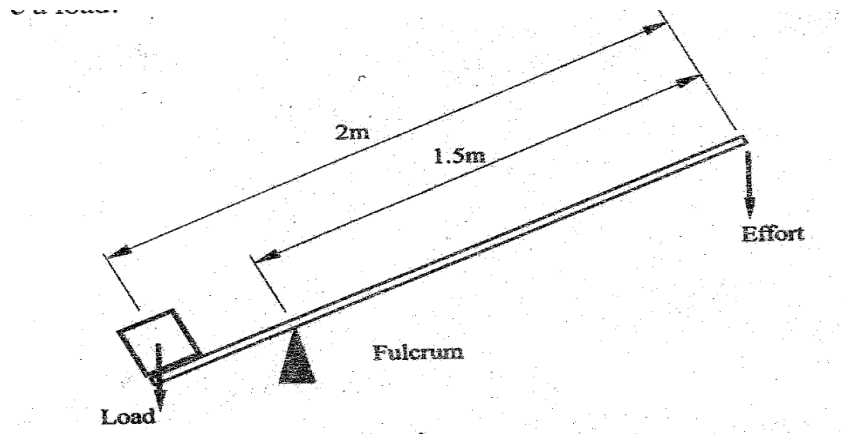
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- (b) State three ways of managing polythene waste so as to avoid the environmental pollution (3 marks)

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- (a) The diagram below (not drawn on scale) represents a simple machine that was used to raise a load.



Calculate the velocity ratio of the machine (2 marks)

- (b) State two properties of oil that make it suitable as a lubricant (2marks)

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12. Name the hormone secreted by each of the following glands

Ovary \_\_\_\_\_ (1 mark)

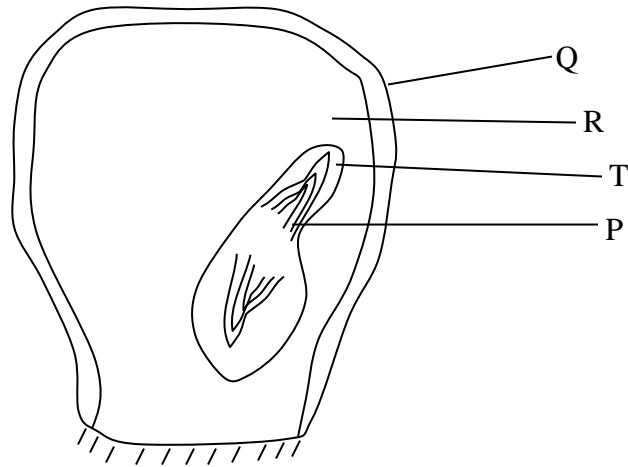
Pituitary \_\_\_\_\_ (1 mark)

13. The velocity ratio of a machine is 4, with an efficiency of 75 %. Calculate its mechanical advantage (3 marks)

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14. The diagram below shows a maize grain.



i. Name the parts marked (4 marks)

R \_\_\_\_\_

P \_\_\_\_\_

Q \_\_\_\_\_

T \_\_\_\_\_

ii. Name the part that stores food that provides energy for the germinating grain.

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(1 mark)