



Dr. Bosa Science

UGANDA NATIONAL EXAMINATION BOARD  
PRIMARY LEAVING EXAMINATION



Science 2015

Time allowed: 2 hours 15 minutes

Index No:

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Candidate's Name.....

Candidate's signature.....

District Name.....

Read the following instructions carefully

1. This paper has two sections **A** and **B**. Section **A** has 50 questions and section **B** has 5 questions. The paper has 15 pages following altogether.
2. Answer all questions. All answers to both sections A and B must be **written** in the spaces provided.
3. All answers must be written using a blue or black ball-point pen or ink. **Any** work written in pencil other than graphs, pictures and diagrams will **not** be marked.
4. Unnecessary change of work may lead to loss of marks.
5. Any handwriting that cannot easily be read may lead to loss to marks.
6. Do not fill anything in the boxes indicated:
7. "For examiners'. Use only and inside the question paper

| FOR EXAMINERS<br>USE ONLY |       |              |
|---------------------------|-------|--------------|
| No.                       | MARKS | EXR'S<br>NO. |
| 1-10                      |       |              |
| 11-20                     |       |              |
| 21-30                     |       |              |
| 31-40                     |       |              |
| 51                        |       |              |
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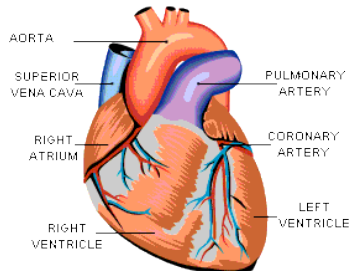
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1. Which type of immunity do babies get from the mother

*Natural immunity*

*Other types of immunity is called Acquired or artificial immunity through vaccination.*

2. Name the blood vessel which takes blood from the heart to the lung



Pulmonary artery carries blood from the heart to the lungs.

3. Name the energy resource obtained from animal dung and urine

Biogas: the main component of biogas is methane, thus the answer may be methane.

4. Mention any **one** factor that affects the rate of evaporation.

Humidity: the higher the humidity the lower the rate of evaporation because the air saturates faster.

Other factors include

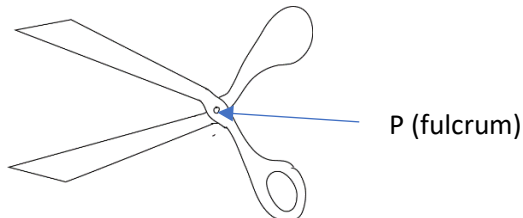
- Surface area; the bigger the surface area, the higher the rate of evaporation due to increased exposure of liquid molecules
- Temperature: the higher the temperature, the higher that rate of evaporation because, it provides heat of vaporization.
- Wind increases the rate of evaporation by removing saturated air
- Pressure reduction in pressure increases the rate of evaporation

5. State the difference in units to measure weight and mass.

Mass is measured in kilogram(kg) whereas weight is measured in newtons (N)

The diagram below shows a simple machine

Use it to answer questions 6 and 7.



6. To which class of levers does the machine above belong?

**First class lever**

- In first class lever, the fulcrum is between the load and effort:
- In second class lever the load is between the fulcrum and the efforts
- In third class lever, the load and the fulcrum

Examples are

### First class lever

reason → The fulcrum is between the force (Effort) and the load  
Some examples are scissors, pliers, crowbar and hammer.

### THIRD CLASS LEVER

EXAMPLE IN EVERYDAY LIFE

7. Use an arrow with letter P to show the fulcrum on the diagram.
8. Give any **one** way in which litter is important in a poultry house.
  - Absorbs moisture and keeps the house dry
  - Insulates the house and keep it warm
  - Cushions the floor and reduce egg breakage



Litter or bedding in poultry farm

9. Apart from the brightly colored petals, state **one** other thing that attracts insects to the flowers.
  - Strong scent
  - Presence of nectar

10. State any **one** way in which drought affects food production in a community.

- Dries crop
- Retards crop yield

a prolonged period of abnormally low rainfall, leading to a shortage of water.



11. State the difference between the feeding of tape worm and a Hook worm.

Tape worm absorb digested food in the intestines whereas hook worm feed on blood



Hook worm



Tape worm

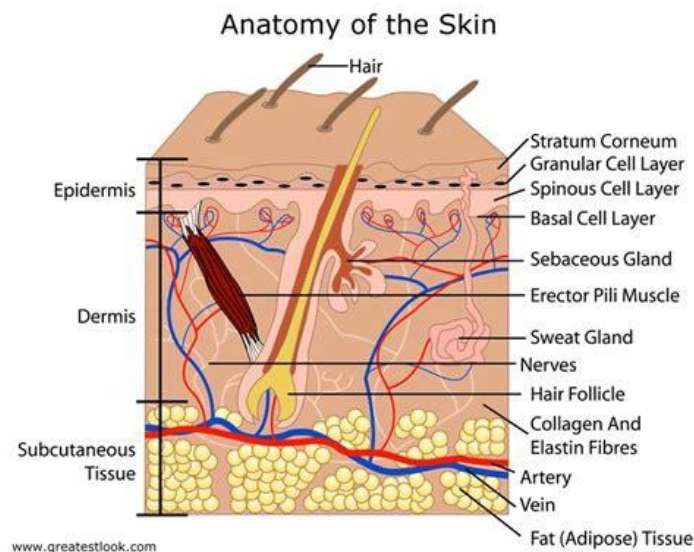
12. Why is water obtained by distillation method not good for drinking?

- Lacks useful ions such as calcium for strengthening bones.

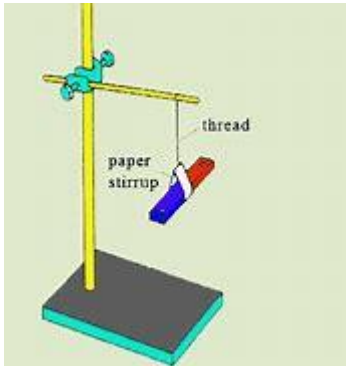
13. State the sense organ for feeling in the human body.

Skin

The skin is also used for regulating body temperature.



14. Which property of a magnet enables a magnet compass to work.



A freely suspended magnet rests in north-south direction

15. State any **one** way in which the spread of scabies can be prevented.

- Avoid body contact with infected person
- Avoid sharing clothes and comb
- Early treatment with calamine or benzylbenzoate



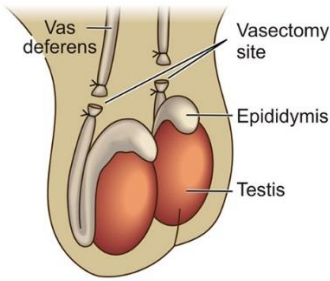
Scabies is a skin disease that cause skin rash

16. Why do some plants shed their leaves during dry season?

Plants shed off their leaves to reduce water loss



17. Mention **one** permanent method of birth control in males.



**Vasectomy:** in vasectomy sperm ducts are cut and tied

18. Why a fish dies soon after it has been removed from water?

**Due to lack of oxygen**

Note that a fish derives oxygen from water through the gill.

19. Give the use of a drenching gun to cattle farmer.

**A drenching gun is used to administer drugs to animals**

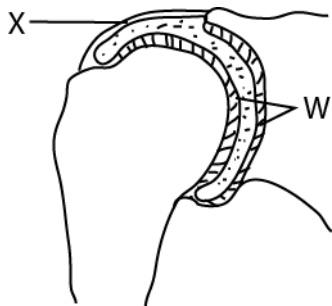


20. Give **one** reason why pregnant mothers are advised to feed on food rich in proteins.

To enable the fetus to grow well.

The diagram below shows part of a joint.

Study and use it to answer questions 21 and 22.



21. Name the part marked X

*Ligament (joins a bone to a bone)*

22. Using letter W, label the part that reduces friction in the joints, apart from the synovial fluid.

23. State the method of controlling soil erosion where a farmer ploughs land across a slope

*Contour ploughing*



Contour ploughing

24. Which element of primary Health care helps to prevent tooth decay?

*Personal hygiene or dental care*

25. State the role of enzymes during food digestion.

*Breakdown food into absorbable form*

26. Apart from camera and microscope, name any **one** other optical instrument that uses a lens.

Telescope or binoculars

A telescope is used to observe far objects such as planets and stars

A binocular is used to observe distant objects in range of few kilometer

27. Give one way in which mosses are similar to mushrooms in the way they reproduce.

Both reproduce by means of spores



Fungi



mosses

28. Why tepid sponging is an important First Aid to a person with high fever?



A tepid sponge reduces body temperature. It is a cloth with lukewarm water.

29. Why are sun bird able to suck nectar from the bottom of the flowers?

Sun bird has a long beak to reach nectar



30. Give an example of mollusc which is a vector to human.

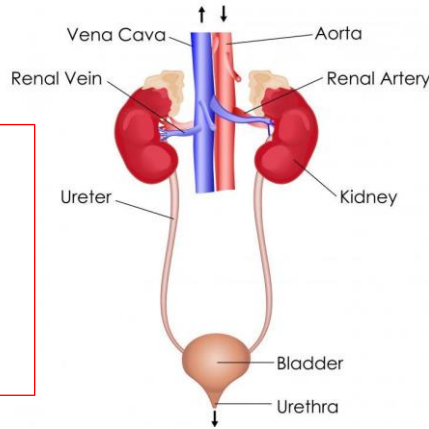
Water Snail



31. Name the human body system which eliminated wastes.

Excretory system

Excretory system is made of kidney, ureter, bladder and urethra



32. Give any one way in which a VIP latrine is different from an ordinary pit latrine.

- A VIP latrine has
- a screen which traps flies
  - vent pipe
  - no lid

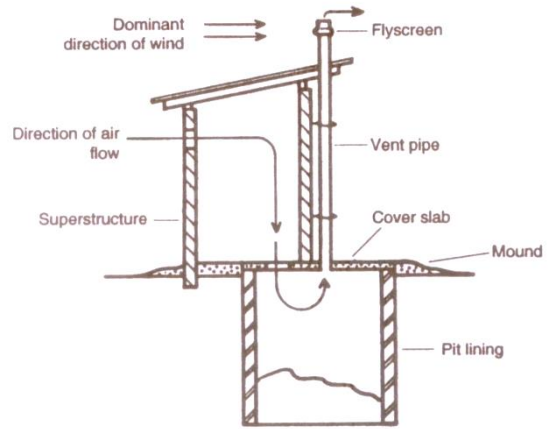


Figure 5.4 VIP latrine

33. Name the root crop which is attacked by the mosaic disease.

Cassava



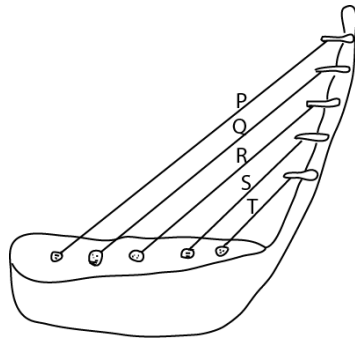
34. Give any one reason why sheep farmers carry out docking.  
To make mating easy i.e. docking cutting off sheep's tail



35. Apart from a flat iron, give any other one appliance used at home that changes electric energy to heat energy.

*Bulb, electric kettle and hot plate*

36. The diagram below shows a well-tuned musical instrument. The string P, Q, R, S and T are of uniform thickness. Use it to answer the question that follows

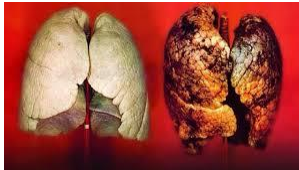


Why does string T produce sound of the highest pitch?

*Because it is the shortest, the shorter the string and the tighter the string the higher the pitch.*

37. State any one way in which smoking affects the human respiratory system.

*Causes lung cancer,  
Damages the lungs*

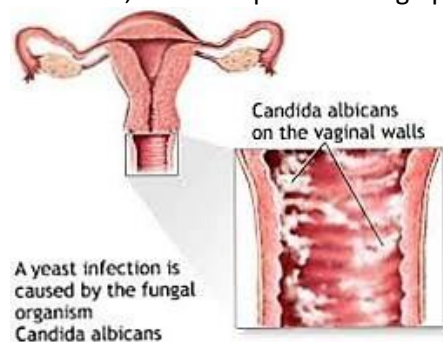


38. Give the importance of plants in a food chain.

*Produce food by the process of photosynthesis.*

39. Name the fungal-caused sexually transmitted disease, which is spread through poor hygiene.

Candidiasis/ thrust



40. State one reason why farmer stake tomato plants.

- To prevent tomatoes from rotting
- To make weeding easy



SECTION B: 60 MARKS

Questions 41 to 55 carry four marks each.

41. (a) give two examples of natural fertilizers

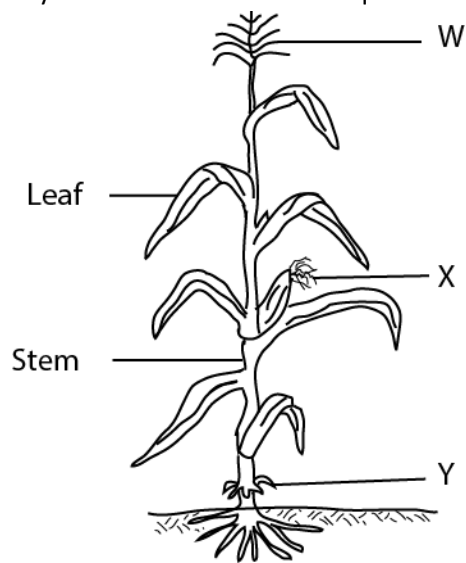
- (i) Green fertilizer
- (ii) Composite fertilizers

(b) state any two ways in which natural fertilizers are better than artificial fertilizers.

- (i) They stay longer in the soil
- (ii) they are cheap
- (iii) Do not require skill to apply
- (iv) Improve soil texture
- (v) Provide a variety of nutrients

42. The diagram below shows a flowering plant

Study and use it to answer the questions that follow.



- (a) To which group of flowering plants does the above plant belongs?  
*Monocotyledonous plant*
- (b) What type of root system does the plant have?  
*Fibrous roots*
- (c) State the importance of root marked Y to the plant.  
*Provide extra support*
- (d) In which **one** way is part **W** different from X in their reproductive function?  
*W produces pollen grains whereas X receive pollen grains*
43. (a) Give any **two** conditions in which women are vulnerable
- (i) *When sick*
- (ii) *When pregnant*
- (b) State any **two** ways in which family members can care for vulnerable women.
- (i) *provide balance diet*
- (ii) *help with domestic work*
- (iii) *Counsel and guidance*
44. (a) Name the respiratory organ which are protected by the rib cage.  
*Lungs*
- (b) What happen to the rib cage during the following process:
- (i) Breathing in? : ***move up and outwards***
- (ii) breathing out? ***Move down and inwards***
- (c) Give the use of oxygen we breath in  
***For respiration or burning food to obtain energy***
45. The table below shows diseases, the vectors that spread them and disease-causing germs. Study and complete it correctly.
- | Disease         | Vector                       | Germ                      |
|-----------------|------------------------------|---------------------------|
| Cholera         | housefly                     | <u>Bacteria</u>           |
| Yellow fever    | <u>Aedes/ tiger mosquito</u> | Virus                     |
| <u>Rabies</u>   | Infected cats                | virus                     |
| River blindness | Blackflies                   | <u>Worm/filarial worm</u> |
46. (a) Give the functions of each of the following part of a modern bee hive.
- (i) The brood chambers.: for queen to lay eggs
- (ii) The honey chambers: it is where younger one grow and food for grubs is stored.

(b) Apart from being used as food, give two other ways in which honey is useful to people

(i) medicine

(ii) making alcohol

(iii) Sweetening food

(iv) Making preservatives

47. (a) What kind of food is made by green plants during photosynthesis?

Starch, glucose or sugar

(b) State any one raw material used by green plants for photosynthesis.

Carbon dioxide and water

(c) How is chlorophyll important during the process of photosynthesis?

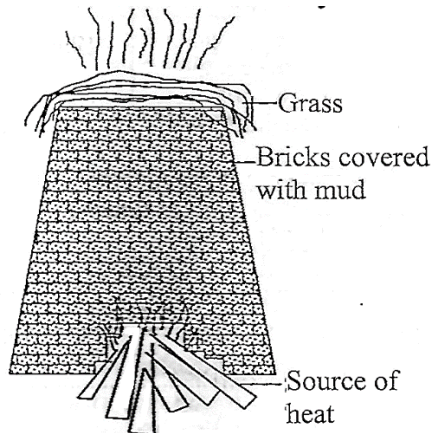
Traps light for photosynthesis

(d) Give one reason why photosynthesis does **not** take place at night.

There is no light energy

48. The diagram below shows firing bricks in a kiln

Study and use it to answer the questions that follows.



(a) Name the source of heat energy used in the firing the bricks.

Fire wood

(b) Give any one reason why the bricks are covered with mud before firing starts.

To prevent heat loss

(c) What is the importance of the grass put on top of the kiln during firing?

To show that all bricks are burnt.

- (d) State any one disadvantage of using the above method of firing bricks to the environment.  
Lead to deforestation and air pollution

49. The table below shows part of human eye in A and that of a lens camera in B.

| A       | B         |
|---------|-----------|
| Iris    | Shutter   |
| Pupil   | Film      |
| Eye lid | Diaphragm |
| Retina  | Aperture  |

For each of the parts of the human eye, write the part of the lens camera from B which performs a similar function.

- (i) Iris diaphragm  
(ii) Pupil aperture  
(iii) Eye lid shutter  
(iv) Retina film
50. (a) Which communicable disease shows sign and symptoms similar to that of tuberculosis?  
(v) AIDS  
(b) Name one cattle product through which tuberculosis can be spread to human beings.  
(vi) Milk  
(c) When is the vaccine against tuberculosis administered to babies?  
(vii) At birth  
(d) Apart from immunization, give one other way in which the spread of tuberculosis can be controlled in human.  
- Isolating infected persons  
- covering the mouth while coughing
51. (a) Give any two ways in which alcohol is used in hospitals.  
sterilizing medical equipment  
solvent for drugs  
disinfects wound  
(b) State any two effects of alcoholism to an individual.  
Damage liver and brain  
Neglect of responsibilities  
Poverty  
Accident and death
52. (a) Apart from the respiratory gases and body wastes, name any other two materials carried in blood.  
digested food, hormones, drugs, antibodies, blood cell

(b) Name the component of blood which transport oxygen in the human body.

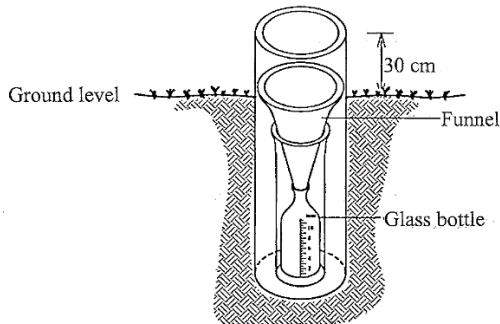
Red blood cells

(c) Which disease-causing germ attacks the white blood cells in humans?

HIV, Bacteria

53. The diagram below shows a weather instrument.

Study and use it to answer the questions that follow



(a) Name the weather instrument shown in the diagram above

Rain gauge

(b) What is the use of the instrument above at a weather station?

To measure the amount of rainfall received in an area

(c) Give a reason why people are advised to:

(i) Put the instrument in an open ground when using it

To get accurate results

(ii) Raise the instrument 30cm above the ground when using it.

To prevent running or splashing water from entering

54. (a) To Which class of vertebrates does a toad belong?

Amphibians

(b) Give one way in which the breathing of a toad is different from that of a tadpole

Toad use lungs whereas tadpole use gills for gaseous exchange

(c) State any two ways in which the jelly round the eggs of a toad is important.

(i) protect the eggs from predators

(ii) keep the eggs floating

55. (a) Apart from ticks, name any one other cattle pest

Mite, flies.

(b) state any two diseases spread by ticks to cattle.

(i) East coast fever.....(ii) red water

(c) Give any way in which the tick borne diseases can be controlled.

- spraying/ dipping

- Rotational grazing