



THE KENYA NATIONAL EXAMINATIONS COUNCIL



KCPE 2016

SCIENCE

Time: 1 hour 40 minutes

INSTRUCTIONS TO CANDIDATES (Please read these instructions carefully)

1. You have been given this question booklet and a separate answer sheet. The question booklet contains 50 questions.
2. When you have chosen your answer, mark it on the **ANSWER SHEET**, not in this question booklet.

HOW TO USE THE ANSWER SHEET

3. Use an ordinary pencil.
4. Make sure you have written on the answer sheet:
YOUR INDEX NUMBER
YOUR NAME
NAME OF YOUR SCHOOL
5. By drawing a **dark line** inside the correct numbered boxes, mark your full Index Number (i.e. School Code Number and the three-figure Candidate's Number) in the grid near the top of the answer sheet.
6. Do not make any marks outside the boxes.
7. Keep the sheet as clean as possible and do not fold it.
8. For each of the questions 1–50, four answers are given. The answers are lettered A, B, C and D. In each case only **ONE** of the four answers is correct. Choose the correct answer.
9. On the answer sheet the correct answer is to be shown by drawing a **dark line** inside the box in which the letter you have chosen is written.

Example:

In the Question Booklet

4. Some curative drugs are also called
- A. painkillers
 - B. vaccines
 - C. stimulants
 - D. antibiotics

The correct answer is "D".

On the answer sheet:

4 [A] [B] [C] [D] 5 [A] [B] [C] [D] 6 [A] [B] [C] [D] 7 [A] [B] [C] [D]

In the set of boxes numbered 4, the box with the letter D printed in it is marked.

10. Your **dark line** **MUST** be within the box.
11. For each question **ONLY ONE** box is to be marked in each set of four boxes.



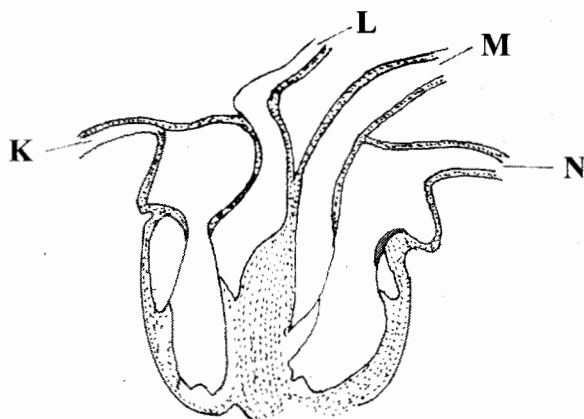
1. Which one of the following characteristics can be used to identify molars? Presence of
- one root and chisel shape
 - cusps and ridges
 - one root and cusps
 - ridges and chisel shape.

2. The following are functions of the trachea **except**
- trapping dust
 - moistening air
 - warming air
 - exchanging gases.

3. Which one of the following parts of the alimentary canal is **correctly** matched to its function?

Part	Function
A. Mouth	digestion of food
B. Stomach	production of bile
C. Small intestine	absorption of water
D. Large intestine	absorption of digested food

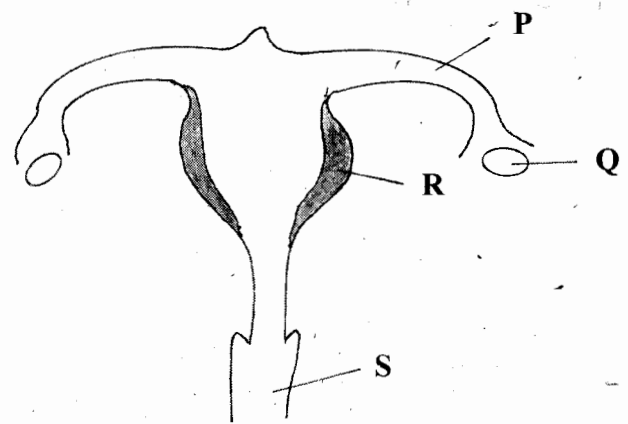
4. The diagram below represents the structure of a human heart.



Name the blood vessel labelled K, L, M and N.

	K	L
A.	Venacava	Pulmonary vein
B.	Pulmonary artery	Aorta
C.	Venacava	Pulmonary artery
D.	Pulmonary vein	Venacava

5. The diagram below represents a female reproductive system.



Which one of the parts labelled P, Q, R and S is correctly matched to its function?

Part	Function
A. P	site for fertilisation.
B. Q	site for implantation.
C. R	egg formation.
D. S	ovulation.

6. Which one of the following is a health effect of drug abuse?

- Withdrawal.
- Marital conflict.
- Truancy.
- Rape.

7. The first stage of HIV infection is known as

- incubation
- widow
- symptomatic
- asymptomatic.

	M	N
A.	Aorta	Pulmonary artery
B.	Pulmonary vein	Venacava
C.	Aorta	Pulmonary vein
D.	Pulmonary artery	Aorta



8. Which one of the following vaccines are **correctly** matched to the age when they are first administered?

	BCG	Tetanus	Polio	Measles
A.	At birth	10 weeks	6 weeks	9 months
B.	6 weeks	At birth	At birth	10 weeks
C.	10 weeks	9 months	10 weeks	At birth
D.	At birth	6 weeks	At birth	9 months

9. Which one of the following diseases can be prevented by draining stagnant water around homesteads?

- A. Tuberculosis.
- B. Typhoid.
- C. Cholera.
- D. Malaria.

10. A patient was instructed by a doctor to take two tablets of medicine every six hours. However, the patient forgot to take at noon and on remembering took four tablets at the same time. The patient should have

- A. taken three tablets every six hours
- B. taken two tablets every three hours
- C. revisited the doctor for advice
- D. thrown away the two extra tablets.

11. Which one of the following pairs consists **only** of illegal drugs in Kenya?

- A. Alcohol and miraa.
- B. Miraa and mandrax.
- C. Alcohol and bhang.
- D. Bhang and mandrax.

12. Which one of the following weeds has green-purple leaves?

- A. Mexican marigold.
- B. Black jack.
- C. Pig weed.
- D. Sodom apple.

13. Which one of the following pairs of plants stores food in the roots?

- A. Irish potato and cassava.
- B. Cassava and carrot.
- C. Onion and carrot.
- D. Irish potato and onion.

14. Which one of the following statements on interdependence between plants is **not true**? Some plants

- A. depend on others for carbon dioxide
- B. grow on dead plants
- C. depend on others for protection against strong sunlight
- D. depend on others for support.

15. Which one of the following crop pests is **correctly** matched to the part of the plant it damages?

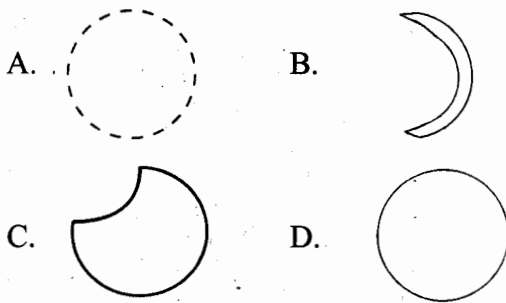
Pest	Part damaged
A. Weevil	leaves.
B. Cutworm	stems.
C. Stalk borer	flowers.
D. Aphids	roots.

16. Which one of the following groups of plants consists of **only** flowering plants?

- A. Onion, sisal, nappier grass.
- B. Maize, kales, toadstools.
- C. Beans, mushrooms, peas.
- D. Euphorbia, cactus, moulds.



17. Which one of the following diagrams represents the shape of the new moon?



18. In the solar system, Jupiter is found between

- A. Mercury and Saturn.
- B. Mars and Earth.
- C. Saturn and Mars.
- D. Earth and Mercury.

19. Pupils observed and classified certain animals into two groups E and F as shown below?

Group E	Group F
Bat	Chameleon
Eagle	Frog
Leopard	Snake

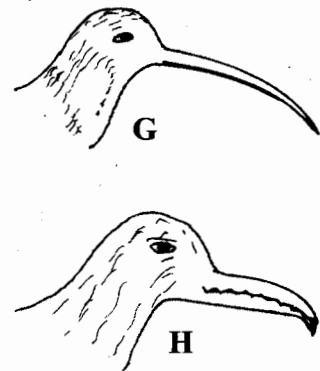
The pupils classified the animals on basis of

- A. carnivorous and herbivorous
- B. animals covered with fur and animals covered with scales
- C. constant and varying body temperature
- D. animals which give birth to young ones and those which lay eggs.

20. Standard five pupils observed a goat tied on a post to graze in the field. This method of grazing is classified as

- A. rotational grazing
- B. zero grazing
- C. strip grazing
- D. paddocking.

21. The diagrams below represents beaks of certain birds.



The birds whose beaks are represented by G and H are

Bird G	Bird H
A. grain eater	flesh eater
B. nectar feeder	filter feeder
C. flesh eater	grain eater
D. filter feeder	nectar feeder

22. Which one of the following methods of controlling animal parasites is correctly matched to the parasite controlled?

Method	Parasite controlled
A. Rotational Grazing	Ticks and tapeworms
B. Dipping	Fleas and tapeworms
C. Deworming	Liver flukes and ticks
D. Spraying	Fleas and liver flukes

23. Pupils gave the following statements about water.

- (i) Lathers easily
- (ii) Has a pleasant taste
- (iii) Has mineral salts
- (iv) Good for cleaning

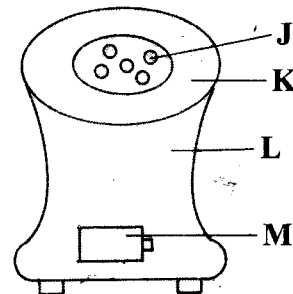
Which two statements describe hard water?

- A. (i) and (ii)
- B. (ii) and (iii)
- C. (iii) and (iv)
- D. (i) and (iv)



24. Which one of the following pairs of diseases is as a result of drinking polluted water?
- Bilharzia and typhoid.
 - Typhoid and cholera.
 - Cholera and bilharzia.
 - Malaria and cholera.
25. In which one of the following practices is water recycled?
- Storing water for future use.
 - Recovering clean water from dirty water.
 - Harvesting rain water from roof tops.
 - Fetching water from a well.
26. Which one of the following pairs of signs and symptoms is for cholera?
- Skin rash and diarrhoea.
 - Blood in stool and abdominal pains.
 - Abdominal pain and diarrhoea.
 - Skin rash and blood in stool.
27. Large furrows in the soil indicate
- rill erosion
 - gully erosion
 - splash erosion
 - sheet erosion.
28. Which one of the following statements is **true** about clay soil?
- Has small air spaces.
 - Retains low amount of water.
 - Allows water to drain through easily.
 - Has large soil particles.
29. Which one of the following soil conservation measures conserves soil in the same way as mulching?
- Planting cover crops.
 - Contour farming.
 - Use of gabions.
 - Terracing.

30. The following statements are true about breast milk **except**
- it cannot transmit diseases
 - it allows the mother and the baby to bond
 - its available in the correct form and at right temperature
 - its easier for infants to digest.
31. A child who appears old with a wrinkled face is also likely to
- lack blood
 - have swollen abdomen
 - have bow legs
 - cry often.
32. Which one of the following groups consists **only** of foods that will provide energy to the body?
- Maize, rice, milk.
 - Cassava, beans, fish.
 - Ground nuts, coconut, sunflower.
 - Meat, wheat, peas.
33. The diagram below illustrates a jiko.



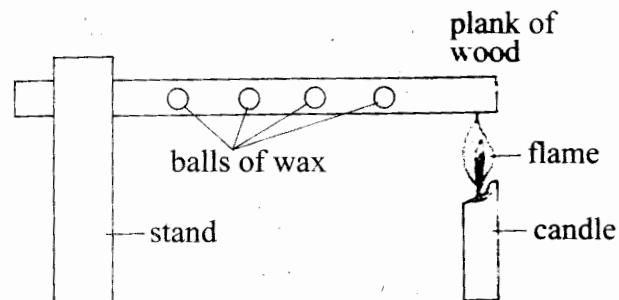
It is an improved jiko because the part labelled

- J takes less charcoal
 - K is made of clay
 - L is metallic
 - M is closed.
34. Which one of the following sources of energy is exhaustible?
- Petroleum
 - Wind
 - Biogas
 - Trees.



35. Which one of the following is an efficient way of using energy?
- Drying grain using solar.
 - Using a vacuum flask to keep tea hot.
 - Using biogas.
 - Putting off wood fire when not in use.
36. The following can produce electricity **except**
- solar drier
 - biogas
 - torch battery
 - dynamo.
37. A card with the word TEACHER written on it was placed in front of a mirror. Which three of the letters did **not** change in appearance?
- R, A and C.
 - T, A and H.
 - H, E and R.
 - C, H and T.
38. Which one of the following materials works in the same way as frosted glass?
- Sky light.
 - Mirror.
 - Clear water.
 - Car windscreen.
39. The property of light used in the working of a lamp in a room is that light
- travels in a straight line
 - spreads in all directions
 - bends as it passes from one media to another
 - forms shadows with opaque objects.
40. In which one of the following processes is carbon dioxide used?
- Making electric bulbs.
 - Burning substances.
 - Fixing soil nutrients.
 - Preserving soft drinks.

41. After using a magnet, the next stage of separating a mixture of salt, sand and iron fillings is to
- filter the mixture
 - decant the mixture
 - add water to the mixture
 - sieve the mixture.
42. The diagram below shows a set up used by pupils to demonstrate a certain property of matter.



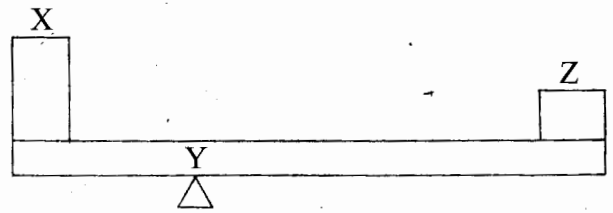
The mistake made in the set up was to

- use balls of wax of the same size
 - place balls of wax at equal intervals
 - use a plank of wood
 - place the candle at the end of the plank of wood.
43. Which one of the following groups of materials are **correctly** matched to magnetic and non magnetic?
- | Magnetic | Non magnetic |
|-------------------|---------------------|
| A. Office pins | steel wool |
| B. Staples | copper coin |
| C. Aluminium foil | nails |
| D. Silver coin | glass |
44. Which one of the following machines works in the same way as a staircase?
- Spade.
 - Claw hammer.
 - Crowbar.
 - Ladder.



45. Which one of the following practices will help to control soil pollution?
- Burning wastes in dump sites.
 - Using organic fertilisers.
 - Grouping wastes into categories.
 - Planting cover crops.
46. Which one of the following pairs **correctly** represents living and non-living components of the environment?
- | Living | Non-living |
|---------------|-------------------|
| A. Soil | bat. |
| B. Chameleon | mushroom plant. |
| C. Earthworm | water. |
| D. Oxygen | mineral salts. |
47. The following are some ways by which soil is conserved.
- Reducing speed of surface runoff
 - Trapping soil
 - Reducing evaporation of soil water
 - Reducing impact of rain drops.
- Which two ways are as result of contour farming?
- (i) and (ii)
 - (ii) and (iii)
 - (iii) and (iv)
 - (i) and (iv)
48. Which one of the following practices would help in maintaining strong teeth in humans?
- Drinking milk.
 - Using tooth picks after meals.
 - Using teeth to break hard objects.
 - Eating of bread.

49. The diagram below represents a lever in use.



If the lever is to make work easier, which one of the following will **correctly** represent the position of load, fulcrum and effort?

- | | Load | Fulcrum | Effort |
|----|-------------|----------------|---------------|
| A. | X | Y | Z |
| B. | Z | Y | X |
| C. | Y | Z | X |
| D. | Z | X | Y |
50. In which one of the following is friction reduced by streamlining?
- Biro pen casing.
 - Skating shoes.
 - Shoe soles.
 - Vehicle bodies.