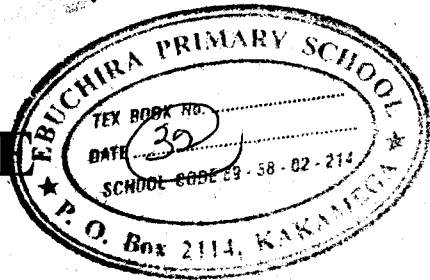


KCPE 2006

SCIENCE



Time: 1 hour 40 minutes

READ THESE INSTRUCTIONS CAREFULLY

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

HOW TO USE THE ANSWER SHEET

4. Use an ordinary pencil only.
5. Make sure that you have written on the answer sheet:
 YOUR INDEX NUMBER *EBUCHIRA*
 YOUR NAME *EB*
 NAME OF YOUR SCHOOL :
6. 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.
7. **Do not make any marks outside the boxes.**
8. **Keep the sheet as clean as possible and do not fold it.**
9. 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.
10. On the answer sheet, show the correct answer by drawing a **dark line** inside the box in which the letter chosen is written.

Example

In the Question Booklet.

4. Which one of the following plants stores food in the stem?
- A. Carrot.
 - B. Onion.
 - C. Sweet potato.
 - D. Irish potato.

The correct answer is D.

On the answer sheet:

4 (A) (B) (C) **D** 14 (A) (B) (C) (D) 24 (A) (B) (C) (D) 34 (A) (B) (C) (D) 44 (A) (B) (C) (D)

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

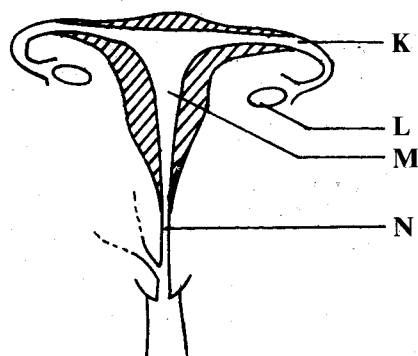
11. Your **dark line** **MUST** be within the box.
12. For each question **ONLY ONE** box is to be marked in **each** set of four boxes.

This Question Paper consists of 6 printed pages and 2 blank pages.

1. Sweat glands in the skin of a human body are located in the
- epidermis
 - dermis
 - pores
 - oil glands.

2. Which one of the following parts of a human body produces urine?
- Bladder.
 - Ureter.
 - Kidney.
 - Urethra.

3. The diagram below represents the reproductive system in the female human body.



Fertilization takes place in the part labelled

- K
- L
- M
- N.

4. The following are some of the physical changes that take place during adolescence.

- Hips become broader.*
- Chest and shoulders become broader.*
- Pimples may appear on the face.*
- Voice breaks.*
- Pubic hair grows.*

Which of the changes take place in a girl?

- (i) (ii) (v).
- (i) (iii) (iv).
- (ii) (iv) (v).
- (i) (iii) (v).

5. Which one of the following groups consists of only diseases that are immunisable?

- Whooping Cough, Tuberculosis, Tetanus.
- Measles, Malaria, Diphtheria.
- Dysentary, Hepatitis B, Poliomyelitis.
- Bilharzia, Yellow Fever, Cholera.

6. The following are stages of HIV infection:

- Window stage.*
- Symptoms.*
- Full blown.*
- Incubation.*

Which one of the following is the **CORRECT** order of the stages?

- (ii) (i) (iii) (iv).
- (iv) (ii) (iii) (i).
- (i) (iv) (ii) (iii).
- (i) (iii) (iv) (ii).

7. The following are effects of drug abuse:

- Rape.*
- Addiction.*
- Lack of concentration.*
- Truancy.*
- Impaired judgement.*

Which of them are all health effects?

- (i) (ii) (iii).
- (ii) (iii) (iv).
- (i) (iv) (v).
- (ii) (iii) (v).

8. One evening, a pupil noticed a bright heavenly body that was not twinkling. The heavenly body was most likely

- Saturn
- Uranus
- Venus
- Neptune.

9. The reason for using a biro pen cap as a pivot in the construction of an improvised wind vane is to make the arrow

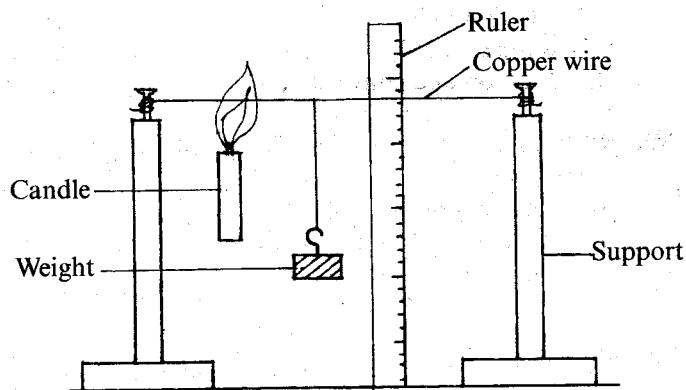
- rotate freely.
- balance on the stand
- tail show the direction of wind
- head heavy.

10. Which one of the following statements is **TRUE** about the planet Mars? It is

- nearest to the sun
- the brightest planet
- nearest to the earth
- the smallest planet

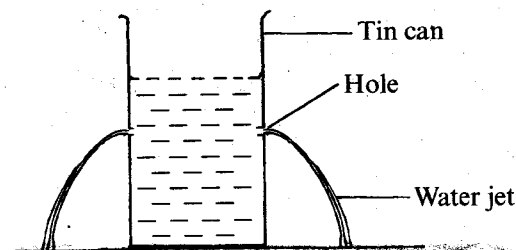
11. Which one of the following is a leguminous plant?
 A. Cabbage.
 B. Maize.
 C. Groundnut.
 D. Tomato.
12. Fertilization in plants takes place when
 A. a pollen tube enters the ovule
 B. reproductive cells in pollen grain and ovule fuse
 C. a pollen grain falls on the stigma and germinates
 D. a pollen tube enters the ovary.
13. Which of the following groups only consists of non-flowering plants?
 A. Pine, Cedar, Cypress
 B. Sugar cane, Sisal, Onion.
 C. Cedar, Moss, Kale.
 D. Carrot, Cassava, Cactus.
14. Which of the following groups of plants have the same type of root system?
 A. Tomato, Maize, Peas.
 B. Bean, Black jack, Cabbage.
 C. Groundnuts, Rice, Sugar cane.
 D. Millet, Cassava, Carrot.
15. Which one of the following parasites destroys wool in sheep?
 A. Mites.
 B. Lice.
 C. Fleas.
 D. Ticks.
16. The toothless gap in the lower jaw of herbivores is for
 A. turning plant material in the mouth for proper chewing
 B. holding food material
 C. allowing space for more food
 D. preventing the animals from biting their tongues.
17. Which one of the following animals has the same number of legs as the tick?
 A. Weevil.
 B. Crab.
 C. Scorpion.
 D. Cockroach.
18. Which one of the following is a filter feeder?
 A. Kingfisher.
 B. Hawk.
 C. Duck.
 D. Sunbird.
19. Which one of the following is NOT an immediate sign of ill health in livestock?
 A. Coughing.
 B. Blood in stool.
 C. Rough coat.
 D. Loss of weight.
20. Which one of the following is a method of softening hard water?
 A. Filtering.
 B. Boiling.
 C. Decanting.
 D. Sieving.
21. Which one of the following practices will help to prevent the spread of cholera?
 A. Spraying chemicals in stagnant water.
 B. Wearing protective shoes when passing through water.
 C. Drinking filtered water.
 D. Covering pit latrines after use.
22. Which one of the following NEED NOT be the same when investigating drainage in different types of soil?
 A. Amount of soil in the funnels.
 B. Size of funnels.
 C. Size of bottles collecting the draining water.
 D. Amount of water added to the funnels.
23. The following are effects of soil erosion:
 (i) Small holes in the ground.
 (ii) Top layer of soil missing.
 (iii) Small and shallow channels in the ground.
 (iv) V-shaped trenches in the ground.
 Which effects are as a result of splash and rill types of erosion?
 A. (i) and (iv).
 B. (i) and (iii).
 C. (ii) and (iii).
 D. (ii) and (iv).
24. Which of the following liquids mix?
 A. Kerosene and water.
 B. Water and milk.
 C. Milk and kerosene.
 D. Cooking oil and milk.

25. The diagram below represents a setup that can be used to demonstrate a certain property of metals.



Which property of metals was being demonstrated?

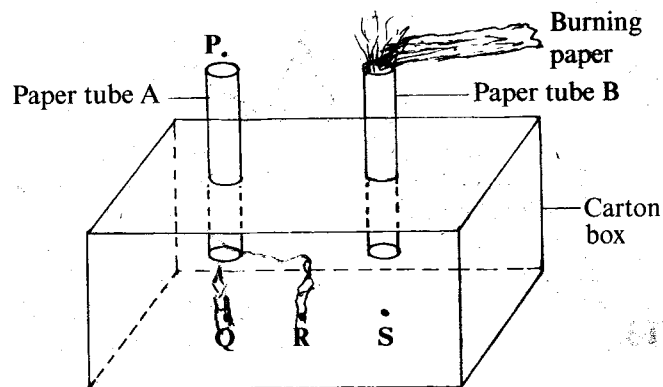
- A. Metals expand when heated.
 - B. Metals bend when heated.
 - C. Solids conduct heat.
 - D. Hot metals are pulled down by weight.
26. A pupil investigating a certain aspect of pressure in a liquid used a setup shown in the diagram below.



What conclusion could the pupil make from the investigation?

- A. Air exerts pressure on the surface of a liquid.
 - B. Pressure in a liquid increases with depth.
 - C. Pressure in a liquid is equal at the same depth.
 - D. Pressure in a liquid is exerted on the sides only.
27. The temperature at which a substance freezes is the same temperature at which the substance
- A. condenses
 - B. evaporates
 - C. boils
 - D. melts.
28. Which one of the following consists only of substances that have no definite shape but have definite volume?
- A. Stone, kerosene, carbon dioxide.
 - B. Oil, toothpaste, glue.
 - C. Clay, flour, cement.
 - D. Nitrogen, oxygen, water vapour.

29. The diagram below represents a setup that can be used to demonstrate heat transfer in air.

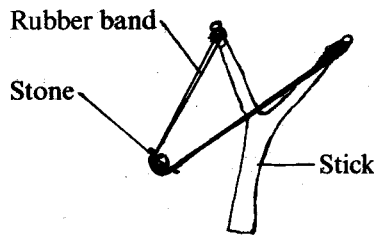


For the demonstration to work a burning candle must be placed at

- A. P
 - B. Q
 - C. R
 - D. S.
30. The percentage of the component of air that is fixed by bacteria in root nodules to make nutrients for the plant is
- A. 0.03%
 - B. 0.97%
 - C. 21%
 - D. 78%.
31. Which one of the following is the last step when separating a mixture of sand and salt?

- A. Dissolving.
- B. Filtering.
- C. Evaporating.
- D. Decanting.

32. The diagram below shows a stone being thrown using a catapult.



The form of energy in the rubber band before the stone is released is

- A. kinetic
B. potential
C. chemical
D. sound.
33. Which one of the following is **CORRECT** about a solar heater? A solar heater changes
- A. heat energy to electrical energy
B. light energy to electrical energy
C. chemical energy to heat energy
D. light energy to heat energy.
34. Tall buildings are fitted with sharp pointed metal rods at their tops and connected to the ground. The rods are for
- A. protecting the buildings against lightning
B. protecting electricity users from being electrocuted
C. fixing aeriels for radios and televisions
D. allowing expansion of walls during hot weather.
35. Which one of the following is **TRUE** about the rainbow? It forms
- A. before heavy rainfall
B. when it rains while the sun is shining
C. when the sky is covered with thick clouds
D. when it rains in the afternoon.
36. Which one of the following energy transformations takes place when a radio that uses cells is operating?
- A. Chemical → electrical → magnetic → kinetic → sound.
B. Magnetic → electrical → kinetic → chemical → sound.
C. Electrical → chemical → kinetic → magnetic → sound.
D. Kinetic → chemical → electrical → magnetic → sound.
37. Which one of the following sources of energy **DOES NOT** contain chemical energy?
- A. Car battery.
B. Bicycle dynamo.
C. Food.
D. Firewood.

38. Heat reaches the feet of a person seated by the side of a fire by
- A. conduction and convection
B. radiation only
C. convection only
D. radiation and convection.

39. Which one of the following **DOES NOT** pollute the air?
- A. Exhaust gases from aeroplanes.
B. Smoke from burning charcoal.
C. Smoke from burning domestic wastes.
D. Gases from decaying animals.

40. The **MAIN** reason why it is advisable to spray crops in the direction of the wind is to avoid
- A. the chemicals getting into contact with the skin
B. wastage of chemicals
C. polluting the air
D. inhaling the chemicals.

41. The following signs and symptoms were observed in a certain child:
- (i) *Thin and weak.*
(ii) *Wrinkled face.*
(iii) *Pot bellied.*
(iv) *Hungry and crying a lot.*

The child was most likely suffering from

- A. anaemia
B. rickets
C. kwashiorkor
D. marasmus.
42. Which one of the following groups consists only of foodstuffs that protect the body against diseases?
- A. Lemon, cabbage, carrot.
B. Beans, groundnuts, fish.
C. Maize, potatoes, rice.
D. Meat, orange, spinach.

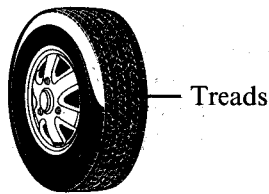
43. The purpose of salt in food preservation is to
- A. remove water
B. add flavour
C. remove air
D. lower the temperature.

44. The most likely reason why some expectant mothers crave for soil is to
- A. increase breast milk production after delivery
B. increase appetite
C. help in digestion of food
D. provide sufficient mineral nutrients.

45. Which one of the following levers when in use has the position of the effort between the load and the fulcrum?
- A. Spade.
B. Wheelbarrow.
C. Claw hammer.
D. Crowbar.

46. A single fixed pulley
- changes direction of force
 - increases effort distance
 - reduces effort required
 - reduces load distance.

47. The diagram below represents a tyre of a vehicle.



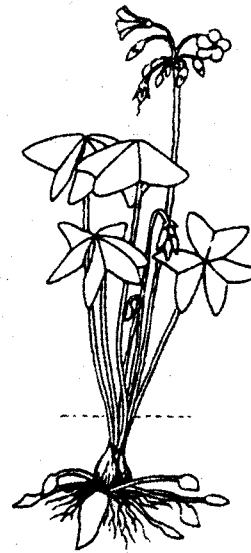
The purpose of treads in the vehicle tyre is to

- make them last longer
 - increase grip on the road
 - reduce surface area
 - make them lighter.
48. The following activities are carried out when making a beam balance but not in the correct order:
- Suspend the arm to find balance point and mark.*
 - Make a base, a stand and the arm.*
 - Fix the stand and the arm to the base.*
 - Suspend tins on both sides of the arm.*

Which one of the following is the **CORRECT** order in which the activities are carried out?

- (iii) (i) (ii) (iv).
 - (ii) (i) (iii) (iv).
 - (iii) (ii) (iv) (i).
 - (ii) (i) (iv) (iii).
49. Which one of the following statements is **CORRECT** about a stone thrown a few metres directly upwards by a passenger in a moving lorry? The stone will fall
- in front of the person
 - behind the person
 - on the person
 - behind the lorry.

50. The diagram below represents a certain weed.



The weed is

- Pigweed
- Mexican marigold
- Black jack
- Oxalis.