

KENYA NATIONAL PREDICTION TESTS

KCPE

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. 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
YOUR NAME
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 you have chosen is written.

Example

In the Question Booklet.

5. Which one of the following components of blood is involved in clotting after an injury?
A. White blood cells.
B. Red blood cells.
C. Plasma.
D. Platelets.

The correct answer is D.

On the answer sheet:

A B C D A B C D A B C D A B C D A B C D

In the set of boxes numbered 5, 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 8 printed pages.

- The **main** function of the white blood cells is to
 - fight germs and diseases in the body
 - help in transportation of digested food
 - carry oxygen from the lungs to the body
 - help in blood clotting
- Which of the following effects of drug abuse is **correctly** matched with its cause?

Effect	Cause
A. Drowsiness	Injecting of cocaine
B. Cirrhosis	Smoking of cigarettes
C. Addiction	Chewing of miraa
D. Lung cancer	Inhaling of cobbler's glue
- The teeth of carnivores are well spaced to
 - enable them to penetrate into the flesh
 - enable them to slice and crack bones easily
 - prevent flesh from getting stuck between them
 - enable them to catch and hold the prey
- The diagram below represents a certain type of human tooth.



Which one of the following statements is **not true** about the above tooth?

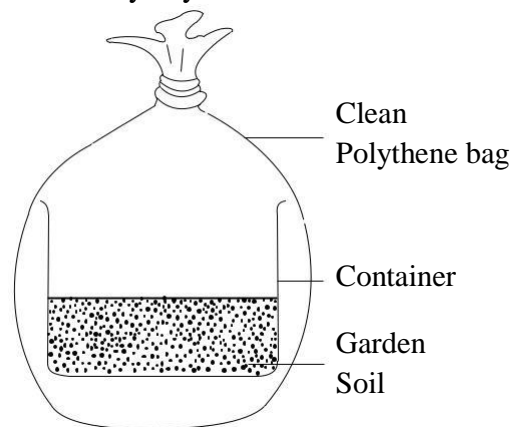
- It has an uneven top
- It is used for crushing food
- It is in the deciduous set of teeth
- It is used for grinding food

- The following are some characteristics of certain group of animals:
 - Breathe by lungs
 - Have scales
 - Lay eggs
 - Have a backbone

Which one of the following pairs of animals has **all** the characteristics listed above?

- Fish and birds
 - Amphibians and reptiles
 - Reptiles and birds
 - Fish and amphibians
- Which one of the following maintenance practices should be carried out on cutting tools?
 - Using regularly
 - Sharpening the cutting edge
 - Cleaning them regularly
 - Storing them in a safe place
 - Which one of the following is the **best** way of managing domestic waste in urban areas?
 - Reducing its generation
 - Using local authority
 - Making compost manure
 - On-site treatment

- The diagram below shows a set-up that was used by a standard four pupil to investigate a certain component of soil. The set-up was kept out for some time in a hot sunny day.



What component of soil were the pupils investigating?

- Living organisms
- Humus
- Air
- Moisture

9. Why do the tanks have taps at the bottom?
This is because
- the water flows freely from the top to the bottom
 - of the force of gravity
 - the pressure of water increases with depth
 - more water will pass through the bottom than at the top

10. Birds that feed on flesh have
- strong, short, curved beaks
 - long, straight, broad beaks
 - long, slender, curved beaks
 - straight, short, slender beaks

11. Plants **Q**, **R**, **S** and **T** had the following characteristics:

Q - Needle-like leaves, thick cuticle

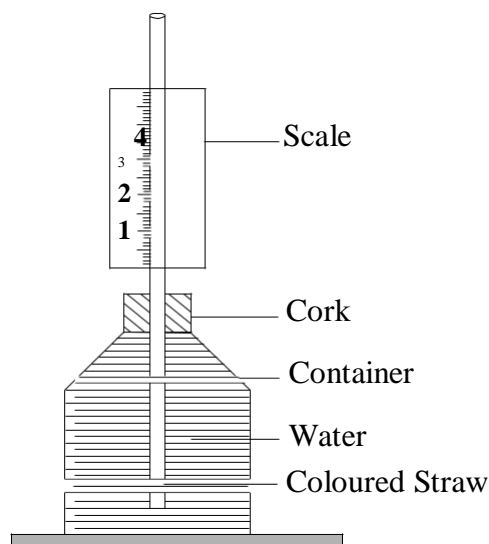
R - Flexible stem, floating leaves **S** -

Deep rooted, sunken stomata **T** -

Many stomatas, air sacs

Which pair of plants are adapted to the same habitat?

- Q** and **R**
 - Q** and **S**
 - Q** and **T**
 - S** and **R**
12. The diagram below shows an experiment that was set by pupils during a Science practical lesson.



Pupils observed that the weather instrument was **not** functioning well. Which mistake were they likely to have made?

- Using a wrong scale
- Using a narrow straw
- Using a thin walled glass bottle
- Using a coloured straw

13. A small piece of stone sinks in water while a log of wood floats. This is because of the difference in their
- size
 - mass
 - shape
 - material

14. The soil that allows water to rise highest has three of the following characteristics **except**

- large particles
- small air spaces
- cracks when dry
- makes long ribbons

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

- Aphids - Stems
- Cutworms - Grains
- Weaver birds - Cereals
- Stalkborers - Roots

16. The force that opposes motion can be increased in three of the following ways **except**

- making treads on wheels
- streamlining bodies
- spreading coarse material on the point of contact
- making the surfaces that are in contact rough.

17. The following materials were collected by pupils during a Science practical lesson:

- Water in a basin*
- A clean mirror*
- White board*

Which aspect of light were they investigating?

- Dispersion of light
- Refraction of light
- Reflection of light
- How light travels

18. Which of the following organic manures takes the longest time to prepare and release nutrients to crops?

- Organic mulches
- Farm Yard Manure
- Compost manure
- Green manure

19. The following are characteristics of matter:

- (i) Have definite shape
- (ii) Have definite volume
- (iii) Have definite mass

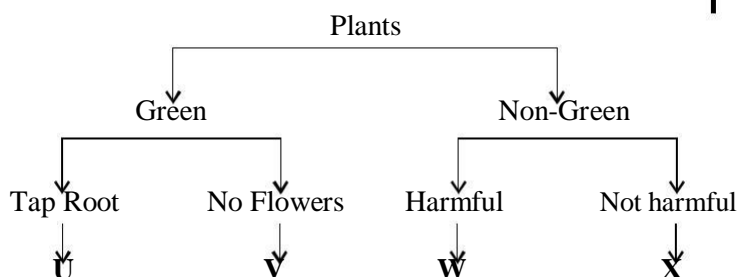
Which materials have **all** the above characteristics?

- A. Flour and sand
- B. Milk and kerosene
- C. Water and air
- D. Steam and stones

20. Which materials are **correctly** matched in the table below?

	Transparent	Translucent	Opaque
A. Milk	Mirror	Light cloth	
B. Air	Clean water	Mirror	
C. Clean water	Frosted glass	Heavy cloth	
D. Sky light	Heavy cloth	Milk	

21. The chart below shows classification of plants.



Which plants are represented by letters **U, V, W** and **X** respectively?

- A. Maize, pine, mould, yeast
- B. Peas, mushroom, athlete's foot, penicillin
- C. Carrot, cedar, ringworm, mushroom
- D. Algae, beans, onion, moss

22. Which one of the following uses of the components that make up 78% and 0.03% of air is **correctly** placed?

78% **0.03%**

- A. Making proteins Putting out fires
- B. Putting out fire Germination
- C. Supporting burning Making proteins
- D. Germination Supporting burning

23. Which list consists of various ways in which plants depend on each other for survival?

- A. Habitat, shade, food
- B. Pollination, manure, medicine
- C. Decomposition, pollination, support
- D. Support, shade, habitat

24. The following are some safety measures:

- (i) Never overload sockets
- (ii) Avoid walking in open fields
- (iii) Fit tall buildings with arrestors
- (iv) Never put sticks in sockets
- (v) Never put up building under electricity masts
- (vi) Never lean on the wall

Which list consists of safety measures to be taken against lightning when it is raining?

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

25. A class seven pupil accidentally mixed sand, salt and aluminium pieces of metal. Which is the correct order to follow for the pupil to obtain salt only?

- A. Use of a magnet, dissolving, filtering and evaporation
- B. Dissolving, use of a magnet, filtering and evaporation
- C. Dissolving, filtering and evaporation
- D. Dissolving, evaporation and filtering

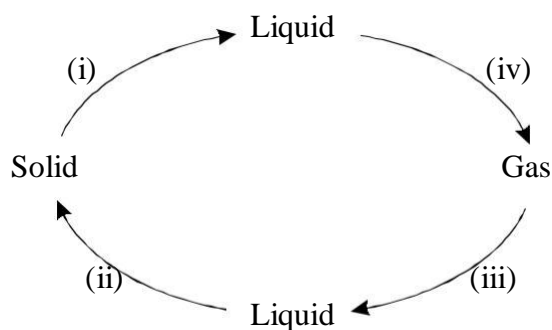
26. Which one of the following types of soil erosion is **most** likely to cause a landslide?

- A. Rill erosion
- B. Sheet erosion
- C. Splash erosion
- D. Gully erosion

27. Pupils observed a house girl in a nearby school compound using the same water she used to wash clothes to clean the house. In this activity, the house girl was

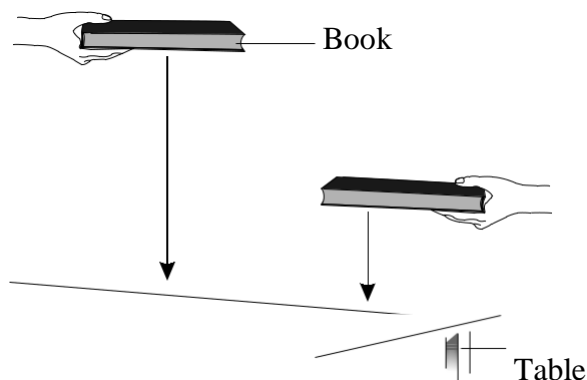
- A. recycling water
- B. storing water
- C. re-using water
- D. using water sparingly

28. The illustration below shows the processes that bring about changes in states of matter.



Which letters represent a pair of processes that require an increase in temperature?

- A. (ii) and (iii)
 B. (i) and (iii)
 C. (i) and (iv)
 D. (ii) and (iv)
29. The diagram below represents a set-up that was used to show how pupils dropped a textbooks from different heights from the surface of a table.



Which aspect of sound was being investigated?

- A. Noise pollution
 B. Special sounds
 C. Direction of sound
 D. Loud and soft sound

30. Standard seven pupils prepared the table below on the advantages and disadvantages of friction.

Group	Advantage	Disadvantage
M	Walking on roads	Causing tear
N	Erasing with a rubber	Making work hard
O	Lighting a match box	Riding bicycles
P	Braking a bicycle	Causing wearing out

Which group gave an **incorrect** answer?

- A. Group M
 B. Group N
 C. Group O
 D. Group P
31. What is the purpose of valves in the veins in blood circulation?
- A. They increase the blood pressure
 B. They guide the blood flow
 C. They stop the blood from flowing backward
 D. They maintain the blood pressure which is high

32. The following are some planets in the solar system:

- (i) *Jupiter*
 (ii) *Neptune*
 (iii) *Saturn*
 (iv) *Uranus*

Arrange them in order, starting from the one furthest from the sun

- A. (ii), (iii), (iv), (i)
 B. (iv), (ii), (iii), (i)
 C. (i), (iii), (iv), (ii)
 D. (ii), (iv), (iii), (i)
33. Which of the following animals are **correctly** placed under component of the environment they depend on for shelter?

Soil	Plants
A. Termites	Bacteria
B. Rats	Monkeys
C. Moles	Termites
D. Bacteria	Birds

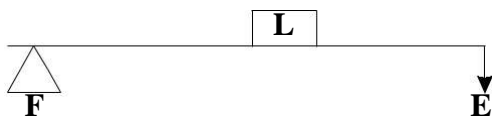
34. Which one of the following is the **most** important to consider when buying medicine from a chemist?

- A. The date of expiry
 B. The date of manufacture
 C. How to store the medicine
 D. The dose

35. A child's skin appeared pale. His eyes and fingernails appeared white. The child is also likely to have
- sores at the corners of the mouth
 - looked like an old person
 - felt like fainting and dizzy
 - had visible bones underneath the skin

36. Which one of the following pairs of forms of energy can be transmitted only when there is a medium?
- Heat and light
 - Sound and electricity
 - Sound and light
 - Heat and electricity

37. The following shows the arrangement of the load, effort and fulcrum in a certain lever.



Which one of the following levers is illustrated above?

- Wheelbarrow
 - Crowbar
 - Spade
 - Claw hammer
38. The following are functions of stems in plants:
- Holding the branches*
 - Storage of food*
 - Transportation of water and mineral salts*
 - Breathing*

Which one of the following is performed by **all** stems?

- (i) and (iii)
 - (ii) and (i)
 - (i) and (ii)
 - (ii) and (iv)
39. Which one of the following pairs consists only of materials that are magnetic?
- Aluminium foil and silver shilling coin
 - Shilling coin and sewing needle
 - Sewing needle and office pins
 - Office pins and aluminium foil

40. Four children **X, Y, W** and **Z** all under four years eat the following types of food daily:
- X** - Potatoes, rice, spinach
Y - Oranges, beans, cabbage
W - Fish, eggs and ugali
Z - Chapati, cabbage, tomatoes

Which two of the children are likely to suffer from kwashiorkor?

- X** and **Z**
 - Y** and **Z**
 - X** and **W**
 - Y** and **W**
41. Clouds which most often give rise to rainfall are
- thick, white and appear like bundles of cotton wool
 - high, feathery and made up of rounded masses
 - low, grey and have a mountainous shape
 - thick, grey, feathery and have a mountainous shape

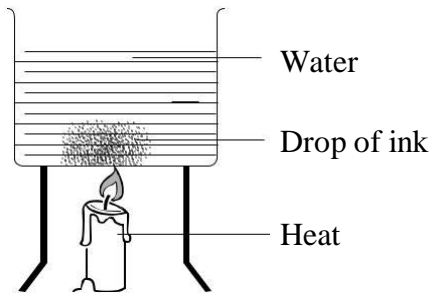
42. The method used to remove permanent hardness in water is
- filtering
 - distilling
 - boiling
 - using chemicals

43. Tamsi kicked a ball along a flat floor. The ball rolled and eventually stopped on its own. The **main** reason was that
- the force of gravity enabled it to stop
 - there was wind acting in the opposite direction
 - air in the ball increased resistance
 - the force of friction was acting on the ball

44. Which method of food preservation is **wrongly** matched with its mode of preservation?
- Canning** - kills bacteria and removes air
 - Freezing** - kills bacteria and fungi
 - Smoking** - keeps off bacteria and fungi
 - Use of low temperature** - discourages growth of bacteria and fungi

45. Educating masses is a way of controlling HIV/AIDS. It could be carried out through all the following **except**
- public rallies
 - workshops
 - weddings
 - seminars

46. The diagram below represents a set-up that can be used to demonstrate a certain process.



Which of the following processes is being demonstrated?

- Diffusion
 - Radiation
 - Conduction
 - Convection
47. Which of the following groups of animal feeds provide livestock with mineral salts only?
- Green fodder, fruits, honey
 - Bonemeal, fish meal, salt lick
 - Maize germ, bran, molasses
 - Fish meal, legumes, banana stem

48. Which one of the following parasites do not attack a pig?
- Lice
 - Fleas
 - Ticks
 - Mites

49. The following practices help to prevent the spread of diseases:

- Covering pit latrines after use*
- Spraying chemicals in stagnant water*
- Wearing protective clothing when walking in stagnant water*
- Draining stagnant water*

Which two practices help to prevent the spread of **both** malaria and bilharzia?

- (ii) and (iv)
 - (i) and (ii)
 - (iii) and (iv)
 - (ii) and (iii)
50. In which of the following sources of energy is **correctly** placed under renewable and non-renewable?

Renewable	Non-renewable
A. Wind	Charcoal
B. Coal	Petrol
C. Water fall	Firewood
D. Biogas	Cooking gas