

KCPE NOVEMBER 2023 PREDICTION MASTER CYCLE 3

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KENYA NATIONAL PREDICTION TESTS
KCPE



516006

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:

5. (A) (B) (C) (D) 15. (A) (B) (C) (D) 25. (A) (B) (C) (D) 35. (A) (B) (C) (D) 45. (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.



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This question paper consists of 8 printed pages.

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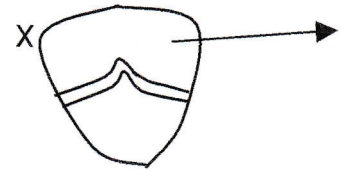
1. The main function of a swim bladder in fish is to _____
 - A. Help the fish to float even when not swimming.
 - B. Help the fish to balance in water and propel.
 - C. Enable the fish to swim swiftly.
 - D. Reduce friction when the fish is swimming.

2. The following changes take place during the process of breathing
 - i. Diaphragm becomes dome shaped.
 - ii. Diaphragm contracts.
 - iii. Lungs shrink.
 - iv. Chest volume increases.
 - v. Chest volume decreases.

4. During which stage of HIV infection does the patient test positive with no visible signs of the infection?
 - A. Window stage
 - B. Asymptomatic stage
 - C. Symptomatic stage
 - D. Full blown stage

5. If medicine remains after taking the recommended dose it is advisable to:
 - A. Keep it safely for future use.
 - B. Continue taking it until finished.
 - C. Give it to someone with similar symptoms.
 - D. Dispose of the medicine

6. The diagram below shows a maize seed. Name the part labeled X.



Which one of the following changes takes place during breathing out respectively?

- A. (i) ,(iii)
 - B. (v) ,(i)
 - C. (i) , (ii)
 - D. (v) , (iii)
3. Which of the following drugs have similar effects to tobacco when abused?
 - A. Alcohol
 - B. Cocaine
 - C. Khat
 - D. Bhang

 7. Which of the following statements about insectivorous plants is **INCORRECT?**
 - A. They trap insects with their flowers.
 - B. They grow in nitrogen deficient soils.

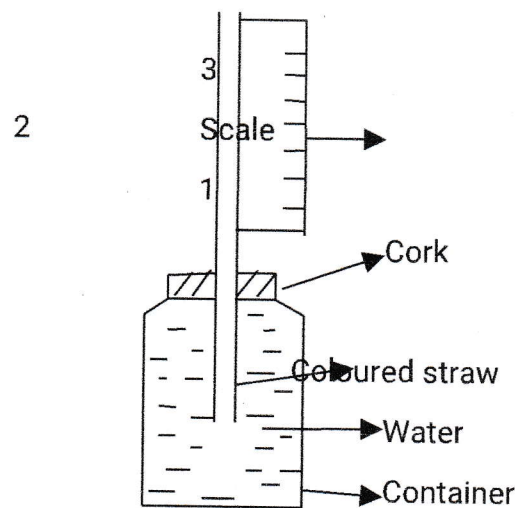
- C. They convert nitrogen to proteins.
- D. They trap insects with their leaves.
8. Which one of the following structures makes up the female parts of a flower?
- Anther, style, ovary
 - Stigma, filament, ovary
 - Anther, filament, ovary
 - Stigma, style, ovary
9. Which one of the following statements is ***CORRECT*** about fertilization in plants?
- When a pollen grain falls on the stigma fertilization takes place.
 - The pollen tube begins growing into the style after pollination.
 - Fertilization takes place when a pollen grain reaches the ovary.
 - The male gametes are called ovules.
10. The following are steps to be carried out when modeling the solar system.
- Model the sun and the planets using clay as plasticine.
 - Draw circles on Manila paper to show orbits.
 - Mount the planets on their orbits.
 - Paste the Manila paper on

soft board using glue.

- Put name tags on models of planets and the sun.

Which arrangement shows the correct order from the last to the first step?

- (i), (iii), (ii), (v), (iv)
 - (v), (iii), (ii), (iv), (i)
 - (i), (iv), (ii), (iii), (v)
 - (v), (ii), (i), (iii), (iv)
11. The diagram below shows an experiment that was set by pupils during a science practical lesson.



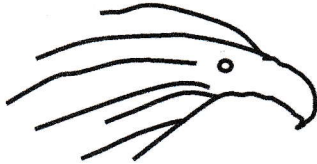
Pupils observed that the weather instrument was not functioning well. Which mistake were they likely to have made?

- Using a wrong scale.
 - Using a thick walled glass bottle.
 - Using a narrow tube.
 - Using a coloured straw.
12. Which of the following livestock

parasites attack the liver and small intestines?

- A. Tapeworms and roundworms.
- B. Tapeworm and liver flukes.
- C. Hookworms and tapeworms.
- D. Roundworms and hookworms.

13. The diagram below shown a beak of a certain bird



The beak is likely to be of a

- _____
- A. Sunbird
 - B. Hen
 - C. Kite
 - D. Duck

14. In strip grazing, a farmer is likely to feed his animal on:

- A. Fodder only
- B. Fodder and concentrates
- C. Pasture and hay
- D. Pasture and concentrates

15. Which one of following statements is **TRUE** about amphibians and reptiles?

- A. Are invertebrates
- B. Are cold blooded
- C. They live in water
- D. Have constant body

temperature

16. Which one of the following statements is **CORRECT** about the circulatory system?

- A. Deoxygenated blood flows from the heart to all parts of the body.
- B. Dark red blood enters the heart through the pulmonary vein
- C. The left ventricle pumps blood to all parts of the body
- D. The right ventricle is thicker than the left ventricle

17. Which one of the following attaches itself on the wall of the uterus?

- A. Zygote
- B. Foetus
- C. Embryo
- D. Baby

18. The work of the lungs in the breathing system is to:

- A. Clean air
- B. Expand and contract
- C. Expel oxygen from the chest cavity
- D. Allow exchange of gases

19. The flat and sharp teeth are used for:

- A. Cutting and biting
- B. Holding and tearing
- C. Chewing and grinding
- D. Crushing and grinding

20. Which one of the following pair of effects of drugs consists of social effects of drug only?
- A. Rape and addiction.
 - B. Truancy and marital conflicts.
 - C. Withdrawal symptoms and stealing.
 - D. Coma and loss of concentration.

21. Three of the following are requirements of maintaining strong teeth **EXCEPT?**

- A. Eating balance diet
- B. Brushing teeth regularly and properly
- C. Exercising teeth by eating hard foods such as chocolates and sweets
- D. Flossing teeth regularly

22. Which one of the following is the most effective way of preventing the spread of HIV/AIDS from mother to child?

- A. Having voluntary counseling and testing
- B. Avoiding breastfeeding
- C. Being faithful
- D. Creating public awareness

23. Which one of the following is NOT a disadvantage of using hard water?

- A. May have a pleasant taste
- B. Wastes soap
- C. Wastes time and energy

D. Makes cleaning hard

24. Which one of the following is not a recreational use of water?

- A. Making fountains
- B. Surfing
- C. Swimming
- D. Watching fountains

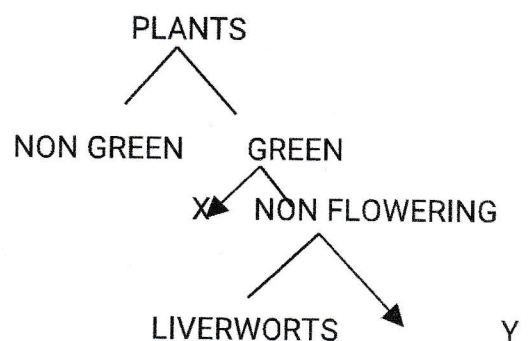
25. Typhoid can be controlled by:

- A. Covering pit latrines
- B. Wearing protective clothing
- C. Draining stagnant water
- D. Drinking boiled water

26. Which of the following shows using water sparingly?

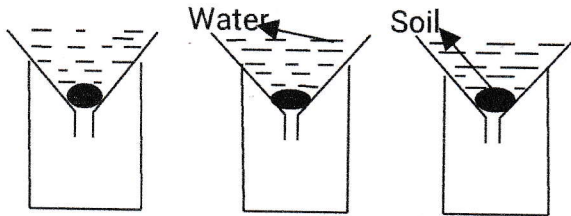
- A. Water in cleaning clothes is used to clean the floor
- B. Treating water so that it becomes safe for use
- C. Closing taps when not in use
- D. Trapping rain water from the roofs of a house and storing in tanks

27. Which groups of plants can be represented by Y and X respectively in the illustration below?



- A. Yeast, mushroom
- B. Pine, flowering
- C. Flowering, pine
- D. Algae, non flowering

28. Std five pupils added equal amount of water to three equal amounts of soil J, K, L in funnel as shown below.



J K L

After 10 minutes the pupils measured the amount of water that had drained through each sample and the results were as shown below.

Soil sample	J	K	L
Amount of water collected (cm ³)	28	19	3

Which of the following statement is the **CORRECT** conclusion from the results obtained?

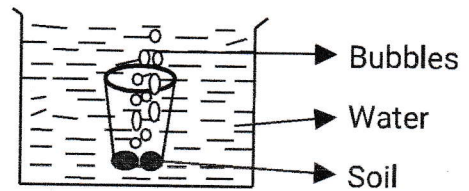
- A. J has larger particles than L
- B. L has larger particles than J and K

- C. K has larger particles than J and L
- D. L has smaller particles than K

29. Which one of the following pairs contains only macro nutrients?

- A. Potassium, calcium, boron
- B. Magnesium, phosphorus, nitrogen
- C. Carbon, magnesium, sulphur
- D. Oxygen, zinc, calcium

30. Bahati placed a lump of soil in a glass containing water. He then observed bubbles coming to the surface of the water.



After the bubbles stopped coming out, which one of the following statements would be **CORRECT** to make;

- A. The mass of the soil increased.
 - B. The volume of the soil remained same.
 - C. The volume of the water increased
 - D. The volume of water decreased
31. Which of the following methods of food preservation is food preserved by making the bacteria inactive?

- A. Drying
- B. Smoking

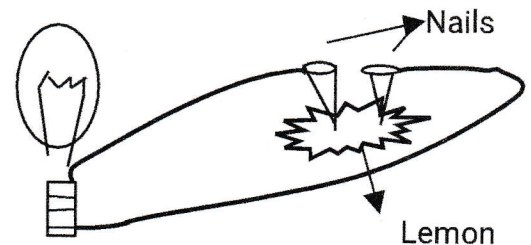
- C. Canning
 - D. Use of low temperatures
32. Which pairs of diseases given below are caused by lack of minerals in the body?
- A. Marasmus and kwashiorkor
 - B. Anaemia and rickets
 - C. Rickets and marasmus
 - D. Anaemia and kwashiorkor
33. Which one of the following is not a main reason for including water to the diet?
- A. Helps in digestion of food
 - B. Helps in transportation of indigested food.
 - C. Helps in transportation of digested food
 - D. Helps in transportation of waste products.
34. The following materials were collected by pupils during a science practical lesson.
- a) Water in basin
 - b) A clean mirror
 - c) A white board

Which aspect of light were they investigating?

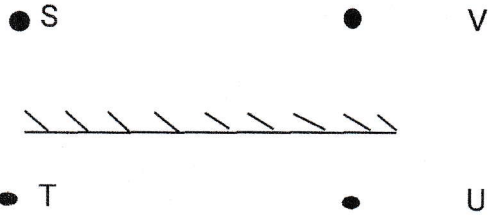
- A. Dispersion of light
- B. Refraction of light
- C. Reflection of light
- D. How light travels

35. Which one of the following pairs of materials allows current electricity to pass through?
- A. Steel spoon and shoe sole
 - B. Pin and paper
 - C. Carbon rod and razor
 - D. Glass and coin

36. Examine the set up below and state what is not likely to happen in the circuit.



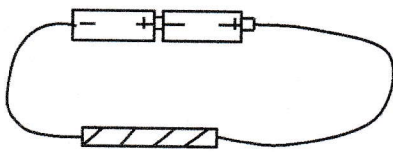
- A. Chemical energy will be changed to electrical energy.
 - B. Filament will glow
 - C. Heat energy will come after light energy.
 - D. Bulb will light.
37. Which one of the following groups of materials is opaque only?
- A. Oiled paper, frosted glass, sky lights.
 - B. Clear water, clear glass, clear air
 - C. Mirror, muddy water, milk
 - D. Oiled paper, air, metal
38. The diagram below represents a set up to investigate formation of images.



If the image is at position V, the observer is at position _____

- A. S
- B. T
- C. U
- D. V

39. Study the diagram below.



In order to reduce the power of a magnet in the nail one should _____

- A. Reduce the number of coils.
- B. Increase the number of coils.
- C. Use more dry cells.
- D. Put the switch closed all through.

40. Heat reaches a person settled by the fire **MAINLY** through _____

- A. Radiation only
- B. Convection only
- C. Conduction and convection
- D. Radiation and convection

41. Which one of the following groups consists of non – magnetic materials only?

- A. Paper clip, razor blade, steel wool.
- B. Sewing needle, metal scissors, staple pins.
- C. Cobalt rod, brass bowl, copper ring.
- D. Silver coin, aluminium plate, zinc strip

42. The following are substances mixed with water in drinking glasses labeled K, L, M, and N by some pupils.

K – Chalk powder

L – Salt

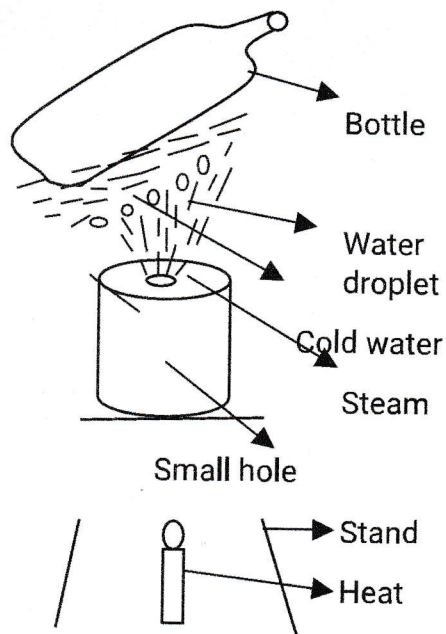
M – Wood ash

N – Glucose

Which two glasses contain substances that will form solutions when the mixture is stirred well?

- A. K and M
- B. L and N
- C. K and N
- D. L and M

43. The diagram below represents a set up that is used to demonstrate a certain process involved in change of state of matter.



The water droplets appear on the surface of the bottle due to_____

- A. Freezing and condensation.
- B. Evaporation and melting.
- C. Melting and freezing.
- D. Evaporation and condensation.

44. Liquids and gases have no definite:

- A. Volumes but have definite
- D. Passing the string through the pulley

47. A road winding up a hill makes work easier by_____

- A. Decreasing the effort distance
- B. Decreasing the load distance
- C. Decreasing the slope
- D. Changing direction of the force

48. The best method of managing waste

mass.

- B. Shape but have definite volume.
- C. Volumes but have definite shape.
- D. Shape but have definite mass.

45. Which lever given below has the effort between load and fulcrum.

- A. Wheelbarrow
- B. Spade
- C. Claw hammer
- D. Crowbar

46. Which one of the following is the second step when investigating the force required lifting the load using a single fixed pulley?

- A. Fixing the pulley on the support
- B. Pulling the spring balance and measuring
- C. Tying the load with a string

in urban centres is by_____

- A. Recycling
- B. Use of local authority
- C. Reducing
- D. Converting into compost

49. Excessive use of pesticides mostly pollute_____

- A. Air
- B. Soil

C. Water

D. Air and soil

50. The following are effects of force that opposes motion

EXCEPT _____

A. It can be reduced by streamlining.

B. It affects the speed of a moving object.

C. It causes wear and tear

D. It changes direction of a moving object