

KCPE NOVEMBER 2023 PREDICTION MASTER CYCLE 13

51600613

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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. Which one of the following is an example of a useful animal?
 - A. Termite
 - B. Dog
 - C. Snake
 - D. Tick.

2. Which one of the following is **not** a good behaviour when having meals?
 - A. Eating reasonable quantity of food.
 - B. Chewing food properly before swallowing.
 - C. Licking fingers when eating.
 - D. Keeping food containers close when eating.

3. Which one of the following groups consists of root tubers only?
 - A. Irish potato, yams, sweet potatoes.
 - B. Cassava, carrots, sweet potatoes.
 - C. Arrow roots, yams, sugarcane.
 - D. Carrots, arrow roots, irish potatoes.

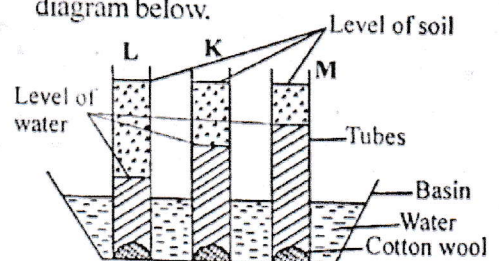
4. The following are characteristics of animals.
 - (i) *Constant body temperature.*
 - (ii) *Have scales.*
 - (iii) *Have no backbone.*
 - (iv) *Breath through lungs.*
 Which two characteristics are for both Lizards and duck?
 - A. (i) and (ii)
 - B. (ii) and (iv)
 - C. (ii) and (iii)
 - D. (i) and (iv).

5. Which one of the following activities does **not** conserve energy?
 - A. Using coal during cement production.
 - B. Planting trees on a hilly slope.
 - C. Using biogas for cooking.
 - D. Using a vacuum flask to store hot water.

6. Which one of the following shows the correct energy transformation when a person eats fresh fruits from a tree?
 - A. Chemical - kinetic - heat
 - B. Light - chemical - electrical
 - C. Chemical - mechanical - kinetic
 - D. Mechanical - kinetic - heat

7. Which one of the following parasites affects the **least** number of animals?
 - A. Round worms
 - B. Liverflukes
 - C. Tsetse flies
 - D. Hook worms.

8. Class five pupils investigated capillarity in different types of soil. The results were as shown in the diagram below.



From the results, the soil sample that cracks when dry is

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

9. Which one of the following statements is **not** true about HIV and AIDS?
- A. HIV and AIDS cannot be spread by deep kissing.
 - B. All HIV and AIDS mothers transmit the disease to their babies.
 - C. HIV and AIDS can be passed from mother to baby.
 - D. A person in incubation stage tests positive.

10. Class four pupils placed a 14cm long piece of wire and a 20cm long piece of plastic rod on water. What factor affecting floating and sinking were they investigating?
- A. Size
 - B. Shape
 - C. Type of material
 - D. Weight.

11. The following are steps followed when making a beam balance.

(i) *Suspend tins on both sides of the arm.*

(ii) *Fix the stand and the arm to the base.*

(iii) *Make a base, stand and the arm.*

(iv) *Suspend the arm to find the balancing point and mark.*

The **correct** order of steps to be followed is

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

12. Which one of the following practices pollute air and water?

- A. Burning of plastic bags.
- B. Overstocking of cattle.
- C. Use of farm chemicals.
- D. Oil spillage.

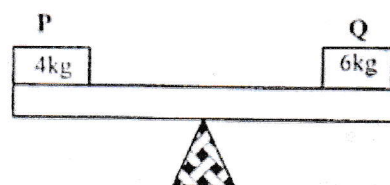
13. Which one of the following pairs of components of the environment do all animals depend on but **not** directly?

- A. Soil and plants
- B. Air and water
- C. Soil and air
- D. Water and plants

14. The function of the amniotic fluid during pregnancy is to

- A. prevent germs reaching the foetus
- B. allow gaseous exchange between mother and the foetus
- C. protect the foetus from shock
- D. pass digested food to the foetus from the mother.

15. Two masses were balanced on a see saw as shown below.



For them to balance

- A. mass **P** should be moved closer to the pivot
- B. mass **Q** should be moved away from the pivot equal
- C. both masses should be placed equal distance from the pivot
- D. mass **P** should be moved away from the pivot.

16. The following are some characteristics of plants.

(i) *Thick cuticle.*

(ii) *Flexible stem.*

(iii) *Broad leaves with many stomata.*

(iv) *Sunken stomata.*

(v) *Hairy leaves with air sacs.*

Which pair of characteristics are for plants adapted to wet areas?

A. (i) and (ii)

B. (ii) and (v)

C. (iv) and (iii)

D. (iv) and (i).

17. The most effective preventive measure against the spread of bilharzia is

A. using toilets for urination

B. maintaining proper sanitation

C. observing good hygiene by washing hands before eating

D. wearing gumboots when handling stagnant water.

18. Which of the following statements about blood vessels in the human body is **not** correct?

A. Pulmonary veins have valves.

B. Aorta is the largest blood vessel.

C. All arteries carry blood away from the heart.

D. All veins carry blood under low pressure except pulmonary vein.

19. Which one of the following groups of animal feeds provide protein to the animal?

A. Lucerne, clover, desmodium.

B. Sunflower seeds, maize grains, nappier grass.

C. Barley grains, lucerne, maize grains.

D. Sweet potato vines, green vegetables, salt leeks.

20. Which one of the following is **not** an effect of HIV and AIDS infection on an individual?

A. Congestion in hospitals.

B. Loss of income.

C. Withdrawal.

D. Poor health.

21. Which of the following is **not** a way of creating public awareness on HIV and AIDS? By making announcements on

A. crusades

B. televisions

C. market places

D. weddings.

22. Which processes of change of states of matter involves absorption of heat from the environment?

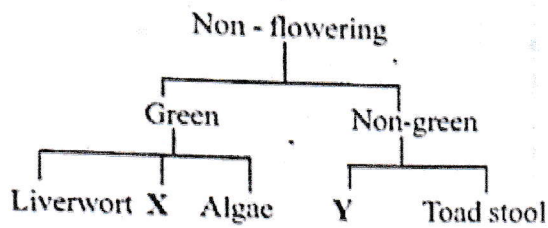
A. Evaporation and freezing

B. Condensation and melting

C. Freezing and condensation

D. Melting and evaporation.

23. The flow chart below shows a simple classification of plants.



Parts labelled X and Y can be best represented by





X	Y
A. Butterwort	Lichen
B. Grass	Yeast
C. Cedar	Fern
D. Moss	Mushroom

24. Which one of the following groups of materials consists of non-magnetic materials?
- Silver, cobalt, copper wire
 - Zinc, copper, aluminium
 - Steel wool, staple pins, nails
 - Paper, iron, plastic.
25. In which one of the following activities is friction **not** required?
- Walking
 - Flying
 - Braking
 - Sharpening a knife.
26. Which of the following statements is **true** about hard water? It
- is good for drinking
 - saves energy during washing
 - does not form scales and fur in water pipes
 - does not lather easily after boiling.

27. Which one of the following is a storage pest?

- Cut worm
- Aphids
- Weaver bird
- White ant.

28. Which one of the following phases of the moon is seen early in the morning?

- 
- 
- 
- 

29. The following are features of clouds.

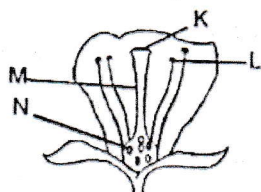
- Mountaneous in shape with flat base.
- Dark grey in colour.
- Appear like bundles of cotton.
- Mountaneous in shape with irregular base.
- Appear high in the sky.

Which pair of features are for cumulus clouds?

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

30. Which of the following planets are in the fourth and seventh position from the sun?
- Mercury and Neptune.
 - Earth and Saturn.
 - Mars and Uranus.
 - Jupiter and Venus.

31. The diagram below shows parts of a flower.



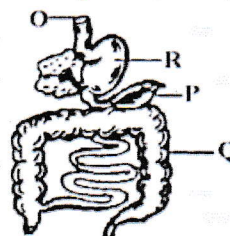
Which one of the following parts represents a place where pollen grains germinate?

- K
 - L
 - M
 - N
32. Which one of the following statements is true about the states of matter?
- Solids have no definite shape.
 - Liquids have definite shape.
 - Solids have definite mass and volume.
 - Liquids have no definite mass and volume.
33. Which one of the following pairs of objects will float on water?
- Coin and rubber band
 - Wood and candle wax
 - Nails and bottle top
 - Needle and feathers

34. The function of fibre in the human diet is to
- help in absorption of food
 - prevent constipation
 - provide the body with nutrients
 - help in digestion of food.

35. The **main** reason why mothers are encouraged to breastfeed their infants is because breast milk
- is free from germs
 - is at the right temperature for infants
 - is easily digested by infants
 - boosts infant's immunity.

36. The diagram below shows the human digestive system.



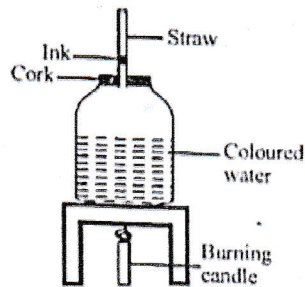
The part that produces the enzymes which digest fats and oils is

- O
 - P
 - Q
 - R
37. Which one of the following **correctly** shows the classification of farm animals according to their products?

Farm animal	Products
A. Poultry	Dairy and meat
B. Cattle	Beef and mutton
C. Sheep	Beef and wool
D. Goats	Dairy and mutton

38. Which of the following sources of sound does not have a special meaning?
- Screaming.
 - Car hooting.
 - An aeroplane flying.
 - A dog barking.

39. The diagram below shows a set up that was used to investigate a certain aspect of heat.



Which aspect was being investigated?

- Evaporation of liquids.
 - Contraction of air.
 - Convection in liquids.
 - Expansion of liquids.
40. Which one of the following groups consists of sources of electricity only?
- Bicycle dynamo, dry cells, battery.
 - Solar heater, solar panel, biogas.
 - Windmill, generator, water heater.
 - Generator, dam, dry cells.
41. Which one of the following lists consists of a balanced diet?
- Yam, fish, eggs.
 - Mango juice, irish potato, milk.
 - Ugali, liver, meat.
 - Kale, cabbage, spinach.

42. A child with swollen face, arms and legs requires food rich in
- fats and oils
 - vitamins and minerals
 - proteins
 - carbohydrates.

43. Rill erosion can **best** be controlled by
- planting cover crops
 - building gabbions
 - plating trees
 - constructing terraces.

44. The **main** waste products excreted by the kidney is
- Carbon dioxide
 - Excess salts
 - Urine
 - Excess water.

45. The following activities were done when it was raining.
- Lying flat on the ground.
 - Wearing gumboots while walking on the road.
 - Sheltering under a huge tree.
 - Sitting at the middle of a classroom.

In which activities is one **least** likely to be struck by lightening?

- (i) and (iii)
- (ii) and (iii)
- (iv) and (i)
- (ii) and (iv)

46. The following are signs and symptoms of a certain disease.

- (i) Burning sensation when urinating.
- (ii) Swelling of genitals.
- (iii) Lower abdominal pains.
- (iv) Discharge of thick yellowish pus.

The disease described above is likely to be

- A. Gonorrhoea
- B. Chancroid
- C. HIV and AIDS
- D. Syphilis.

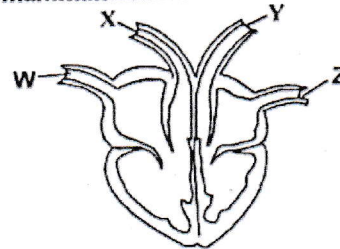
47. A mixture of sugar solution, beans and iron fillings can be separated by

- A. decanting, picking, winnowing
- B. filtering, use of magnet, evaporation
- C. winnowing, use of magnet, evaporation
- D. filtering, evaporation, decanting.

48. What is the percentage of air used in making plant food?

- A. 21%
- B. 0.97%
- C. 78%
- D. 0.03%

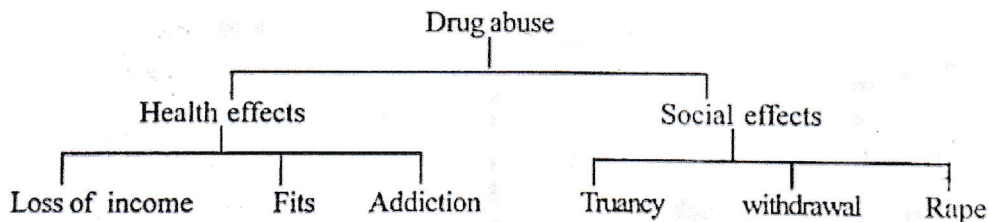
49. The diagram below represents a mammalian heart.



Which vessels carry blood under low pressure?

- A. Y and Z
- B. Y and W
- C. W and Z
- D. X and Y.

50. The chart below shows effects of drug abuse.



Which pair of effects was **wrongly** classified?

- A. Withdrawal and loss of income.
- B. Rape and truancy.
- C. Fits and loss of income.
- D. Truancy and fits.