THE KENYA NATIONAL EXAMINATIONS COUNCIL
Kenya Certificate of Primary Education

507

— SCIENCE —

Mar. 2021 – 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. Confirm that the answer sheet that you have been provided with has the following:

YOUR INDEX NUMBER
YOUR NAME
NAME OF YOUR SCHOOL

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, 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:

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

The correct answer is D.

On the answer sheet:

In the set of boxes numbered **4**, draw a **dark line** inside the box with the letter D printed in it as indicated below.

4 [A] [B] [C] ~~[D]~~

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.

This Question Paper consists of 7 printed pages.

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1. In which part of the digestive system are mineral salts absorbed?

   A. Mouth.
   B. Stomach.
   C. Small intestines.
   D. Large intestines.

2. Which one of the following is the **correct** order of development after fertilisation in human beings?

   A. Embryo → Zygote → Foetus.
   B. Zygote → Foetus → Embryo.
   C. Zygote → Embryo → Foetus.
   D. Embryo → Foetus → Zygote.

3. Which one of the following is an adaptation of plants in dry areas?

   A. Fewer leaves.
   B. Broad leaves.
   C. Thin cuticle.
   D. Many stomata.

4. The following are some characteristics of weeds:

   (i) strong smell
   (ii) thorns on stem
   (iii) pink flowers
   (iv) purple or white flowers

   Which **two** characteristics are for sodom apple?

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

5. The human tooth that **mainly** helps to tear meat from bones is

   A. incisor
   B. canine
   C. premolar
   D. molar.

6. Which one of the following instruments is used to measure **two** different aspects of weather?

   A. Wind vane.
   B. Thermometer.
   C. Rain gauge.
   D. Windsock.

7. Which one of the following is a proper use of drugs?

   A. Taking more dosage of prescribed medicine to heal faster.
   B. Buying prescribed drugs from the pharmacy.
   C. Borrowing drugs from a neighbour whenever sick.
   D. Taking malaria drugs whenever you have a headache.

8. In Kenya, rivers passing through cities are **mainly** polluted by

   A. industrial wastes
   B. oil spillage
   C. soil erosion
   D. agricultural chemicals.

9. Which one of the following pairs of vaccines is administered at birth?

   A. BCG and DPT.
   B. DPT and measles.
   C. BCG and polio.
   D. Polio and measles.

10. Which one of the following is the **least** effective control measure for sexually transmitted diseases among married couples?

    A. Being faithful to their partners.
    B. Use of sterilised personal items.
    C. Testing and counselling.
    D. Abstinence.

11. Which one of the following statements is **true** about blood vessels?

A. Aorta has valves.
B. Vena cava has thin walls.
C. Pulmonary vein carries deoxygenated blood.
D. Pulmonary artery carries blood to the heart.

12. In order to save soap during washing, the **most** suitable source of water is

A. rain
B. river
C. spring
D. borehole.

13. Pupils observed that some objects with hooks had stuck on their clothes. The objects are likely to have come from

A. sodom apple
B. mexican marigold
C. black jack
D. oxalis.

14. An individual with teeth problems is likely to have started by experiencing

A. bleeding gums
B. tooth decay
C. cavities
D. bad smell.

15. Which one of the following methods can control **both** ticks and liver flukes?

A. Rotational grazing.
B. Dipping.
C. Spraying.
D. Deworming.

16. Which one of the following is the importance of pretest counselling for HIV/AIDs? To

A. avoid spreading the disease to other people
B. understand the risk of contracting the disease
C. understand the importance of good nutrition for healthy living
D. give advice on living positively with the disease.

17. The following are some characteristics of cross pollinated flowers:

(i) small and firmly attached anthers
(ii) produces many pollen grains
(iii) stigma is inside the flower
(iv) stigma is sticky
(v) stigma hangs outside the flower
(vi) flowers are large in size

Which **four** characteristics are **only** for insect pollinated flowers?

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

18. In which one of the following activities is water used for transport?

A. Swimming.
B. Boat crossing a river.
C. Boat racing.
D. Fishing.

19. Which one of the following disease symptoms is for cholera?

A. Vomiting and diarrhoea.
B. Itchiness and coughing.
C. Blood in stool.
D. Blood in urine.

20. Which one of the following parts of the digestive system does **not** produce digestive enzymes?

A. Small intestines.
B. Mouth.
C. Large intestines.
D. Stomach.

21. Which one of the following is the **most** effective control measure against the spread of malaria?

A. Sleeping under a mosquito net.
B. Use of mosquito repellant.
C. Treating of infected persons.
D. Draining of stagnant water.

22. Which one of the following is a social effect of drug abuse?

A. Withdrawal.
B. Black out.
C. Impaired judgement.
D. Drug induced accidents.

23. Which one of the following pairs consists **only** of plants with fibrous roots?

A. Sorghum and peas.
B. Millet and mango.
C. Coconut and maize.
D. Onion and potato.

24. Which one of the following practices can **reduce** the pollution of both soil and air?

A. Burying solid waste.
B. Use of incinerators.
C. Proper stocking.
D. Mulching.

25. Pupils put a sample of fresh garden soil in a transparent container, added water, shook the mixture and allowed it to settle for some time. The pupils were investigating soil

A. composition
B. drainage
C. texture
D. capillarity.

26. The soil that has **high** capillarity

A. consist of large particles
B. has high water retention capacity
C. is the best for farming
D. has large air spaces.

27. The type of soil erosion that can occur without its effects being easily noticed is

A. splash
B. gulley
C. sheet
D. rill.

28. In which one of the following practices is energy **best** conserved? Using

A. biogas
B. candle
C. dynamo
D. solar panel.

29. Which one of the following is **not** a reason for breast feeding in human beings? Breast milk is

A. free from germs
B. readily available
C. easily digested
D. at correct temperature.

30. A certain child showed the following signs and symptoms:

(i) protruding bones
(ii) wrinkled face
(iii) eyes popping out
(iv) high appetite

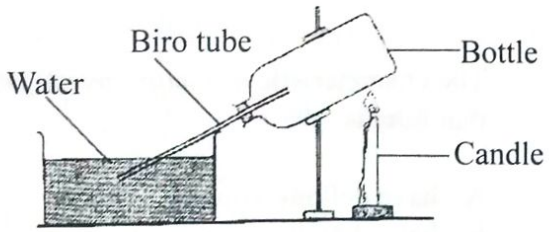
The **most** suitable food for the child is

A. banana, chapati, pawpaw
B. beans, ugali, fish
C. meat, chapati, pawpaw
D. milk, peas, fish.

31. Which one of the following pairs of food is preserved by **both** drying and use of honey?

A. Meat and vegetables.
B. Fruits and fish.
C. Fish and milk.
D. Fruits and vegetables.

32. The diagram below shows a set up that was used by pupils to investigate expansion and contraction.



Which one of the following is a **correct** observation made by the pupils?

A. Water rose up the biro tube on cooling the bottle.
B. Bubbles were observed on cooling the bottle.
C. Water rose up the biro tube on heating the bottle.
D. The biro tube expanded on heating the bottle.

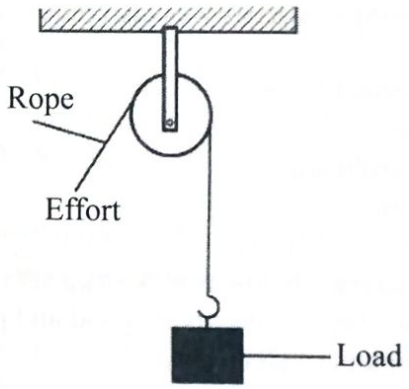
33. Heat transfer through a glass window pane is by

A. radiation and convection
B. radiation only
C. conduction and radiation
D. conduction only.

34. Which one of the following is the **main** reason why tanks are placed on top of buildings? It is to

A. prevent theft of the tank
B. prevent contamination of water
C. completely drain the water
D. increase water pressure.

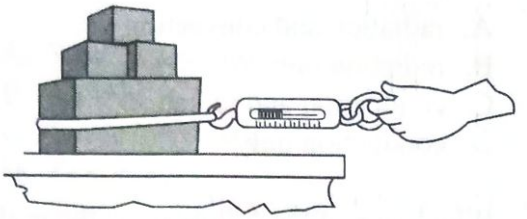
35. The diagram below shows a single fixed pulley in use.



Which one of the following will occur when the rope is pulled down on the effort side?

A. The load reduces.
B. Direction of effort changes.
C. Effort reduces.
D. Direction of the load changes.

36. The diagram below shows a set up used by pupils in a certain investigation.



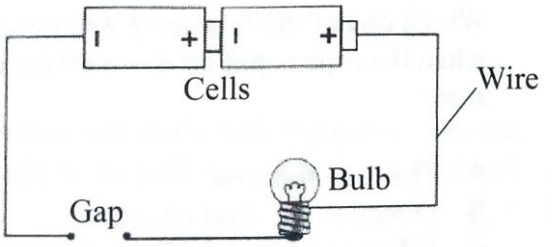
The pupils were investigating

A. mass
B. length
C. friction
D. motion.

37. In order to make a beam balance, pupils were provided with strings, plank of wood, nails and timber. Which one of the following materials was also required?

A. Pointer.
B. Scale.
C. Cardboard.
D. Tins.

38. The diagram below represents a set up that can be used to investigate good and poor conductors of electricity.



Which one of the following materials when connected to the wire at the gap will **not** make the bulb to light?

A. Thread.
B. Keys.
C. Razor blade.
D. Pencil tip.

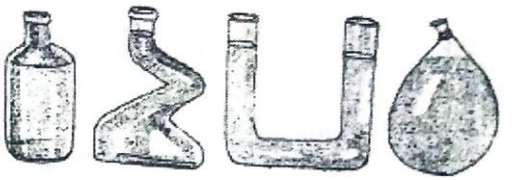
39. Which one of the following processes on change of states of matter does **not** involve absorption of heat from the environment?

A. Leaning against walls.
B. Walking on open areas.
C. Wearing shoes with rubber soles.
D. Using an umbrella.

40. The component of air that is 0.03% by volume is used for the following **except**

A. putting out fire
B. germination
C. making of plant food
D. preserving soft drinks.

41. In an investigation on characteristics of matter, pupils filled different shaped containers with water as shown in the set up below.



The characteristic of matter investigated is that liquids

A. have definite volume
B. have definite mass
C. occupy space
D. have definite shape.

42. The diagram below shows a certain livestock parasite.



The livestock parasite is

A. tsetse fly
B. tick
C. mite
D. flea.

43. Which one of the following methods of grazing is recommended for a farmer who wants to keep many animals on his farm?

A. Herding.
B. Tethering.
C. Paddocking.
D. Zero-grazing.

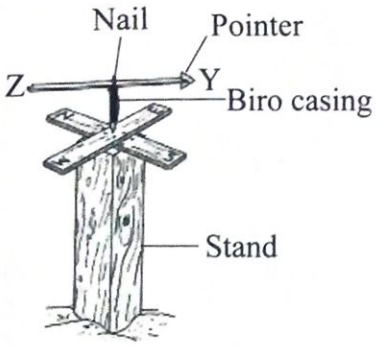
44. Which one of the following is an adaptation for hopping and leaping animals?

A. Long and strong hind limbs.
B. Streamlined bodies.
C. Short and muscular front legs.
D. More weight on the front legs.

45. Which one of the following groups of animals consist **only** of invertebrates?

A. Salamander, newt, toad.
B. Tilapia, scorpion, grasshopper.
C. Snail, crab, spider.
D. Fly, bat, mosquito.

46. The diagram below shows a wind vane that was constructed by pupils.



The wind vane will **not** work properly because

A. of using the nail as a pivot
B. part **Z** is smaller than part **Y**
C. compass direction is below the pointer
D. of using the biro casing at the top.

47. Which one of the following is a source of heat?

A. Mirror.
B. Moon.
C. Firefly.
D. Star.

48. In a certain investigation on sound energy, a teacher rang a bell, and then whistled as the pupils listened. Which one of the following was being investigated?

A. Types of sounds.
B. Special sounds.
C. Sound pollution.
D. Direction of sound.

49. Which one of the following occurs as a result of reflection?

A. Apparent bending of a ruler in water.
B. Formation of shadow by objects.
C. Formation of a rainbow.
D. Seeing objects.

50. Which one of the following is **not** a reason for mulching?

A. Prevent soil erosion.
B. Prevent loss of moisture.
C. Avoid strong sunlight.
D. Control growth of weeds.