

SIGNAL EXAMS 2022
FINAL K.C.P.E SIGNAL
SCIENCE

Time: 1hr 40min

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 the question booklet.

HOW TO USE THE ANSWER SHEET

4. Use an ordinary pencil.
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 box.
8. Keep your answer 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 is correct. Choose the correct answer.
10. On the answer sheet the correct answer is to be shown by drawing a dark line inside the box in which the letter you have chosen is written.

Example**In the question booklet:**

4. The quantity of matter in an object is referred to as

- A. weight
B. volume
C. size
D. mass

The correct answer is D (mass)

On the answer sheet:

In the set of boxes numbered 4, the box with the letter D is 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.

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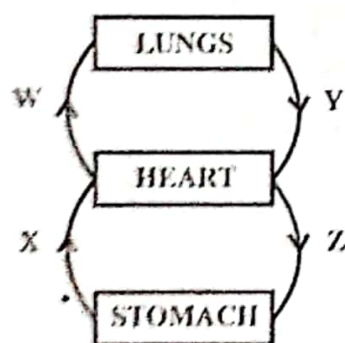
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1. Which one of the following excretory organs is not correctly matched with its excretory products?

Organ	Product
A. Lungs	Carbon dioxide
B. Skin	Sweat
C. Skin	Carbon dioxide
D. Kidney	Urine

2. The teeth that have three roots and uneven tops are used for
- A. tearing and gripping
B. chewing and grinding
C. cutting and holding
D. chewing and cutting.
3. The diagram below shows a simplified blood circulatory system.

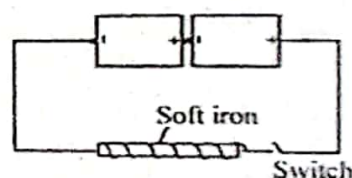


Which pair of blood vessels carry oxygenated blood?

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

4. The most effective way of preventing sexually transmitted infections among the adolescents is by
- A. having one partner
B. abstinence
C. being faithful
D. using condoms.
5. The following are signs of a certain deficiency disease.
- (i) *Thin brownish hair.*
(ii) *Swelling of the face and hands.*
(iii) *Protruding stomach.*
- The deficiency disease described above is
- A. Rickets
B. Marasmus
C. Kwashiorkor
D. Anaemia

6. The figure below shows a simple electromagnet.

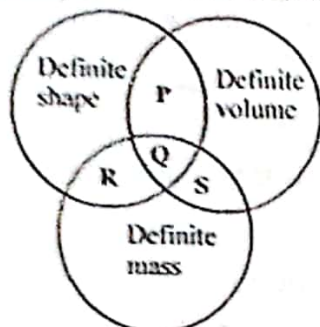


Which of the following describes the energy transformation in the figure above when the switch is on?

- A. Chemical \rightarrow electrical \rightarrow heat \rightarrow Kinetic.
B. Chemical \rightarrow electrical \rightarrow magnetic.
C. Chemical \rightarrow kinetic \rightarrow magnetic.
D. Chemical \rightarrow electrical \rightarrow kinetic.

7. Which of the following is **not** a way of controlling air pollution?
- Using well maintained engines in vehicles.
 - Avoid burning plastic materials.
 - Reducing the use of farm chemicals.
 - Avoid burning vegetation cover.

8. The chart below shows how Muchiri grouped certain materials.



Which pair of materials can be represented by letter S?

- Water and methylated spirit.
 - Water and smoke.
 - Oxygen and dust.
 - Stone and steam.
9. Which of the following crop pests is **not** correctly matched with the damage it causes?

Crop pest	Damage caused
A. Weevils	Bore holes in grain
B. Aphids	Suck plant sap
C. Stalk borers	Make holes in stems
D. Rodents	Cut stems of seedlings

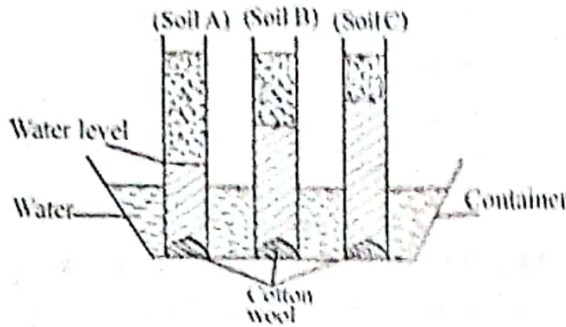
10. An astronaut travelled from Mars to Neptune. Which of the following planets did he **not** pass on his journey?
- Saturn
 - Earth
 - Jupiter
 - Uranus

11. Which one of the following is **not** true about hard water? Hard water
- forms scum in water pipes
 - requires alot of soap for washing
 - can cause bleaching of clothes
 - can be softened by boiling.

12. The following are signs and symptoms of a certain disease.
- Violent diarrhoea with mucus.*
 - Severe abdominal pains.*
- The disease described above is likely to be
- cholera
 - typhoid
 - malaria
 - bilharzia.

13. Which of the following groups of animal feeds constitutes of a balanced diet?
- Fish meal, molasses, cotton seed cakes, fruits.
 - Honey, molasses, maize germ, rice husks.
 - Banana stem, green fodder, fruits, succulents.
 - Sunflower seeds, legumes, fish meal, cotton seeds.

14. The diagram below represents a set-up that can be used to investigate capillarity in different types of soils.



Which one of the following should not be the same in order to make the correct conclusion?

- A. Amount of soil.
 - B. Type of soil.
 - C. Size of cotton wool.
 - D. Size of glass tube.
15. Which one of the following is an effect of HIV and AIDS infection to an individual?
- A. School drop out.
 - B. Low self-esteem.
 - C. Poor economy.
 - D. Low agricultural products.
16. Hamisi saw a cow sheltering under a big tree on a hot day. The characteristic of animals the cow demonstrated was
- A. reaction to changes in the environment
 - B. movement
 - C. protection
 - D. feeding.

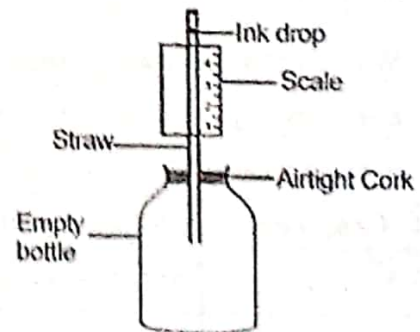
17. Which one of the following is a correct food chain?

- A. Nectar → butterflies → eagles → chameleon.
- B. Eagle → chameleon → butterflies → nectar.
- C. Butterflies → nectar → chameleon → eagle.
- D. Nectar → butterflies → chameleon → eagle.

18. Which one of the following materials can be made to float by changing its shape?

- A. Metallic ball
- B. Plastic
- C. Wood
- D. Paper.

19. The diagram below shows a set-up that can be used to investigate a certain effect of heat on matter.



The aspect being investigated is that

- A. liquids expand when heated
- B. liquids change state when heated
- C. gases expand when heated
- D. air occupies space.

20. Which of the following pairs of components of environment consist of components which plants and animals depend on directly?

A. Soil and water.
B. Water and air.
C. Air and soil.
D. Buildings and rocks.

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

A. Addiction
B. Lack of concentration
C. Truancy
D. Fits

22. Which one of the following farming activities is done during the wet season?

A. Land preparation.
B. Weeding.
C. Irrigation.
D. Harvesting.

23. Which of the following pairs of liquids are immiscible?

A. Milk and spirit.
B. Water and ink.
C. Spirit and kerosene.
D. Cooking oil and kerosene.

24. The diagram below shows a man warming himself beside a fire.



The heat reaches his legs through

A. convection
B. expansion
C. conduction
D. radiation.

25. The following are characteristics of a certain type of cloud.

(i) *Has irregular shape.*
(ii) *Appears low in the sky.*
(iii) *Looks like mountains.*

The cloud described above is also likely to

A. have a flat bottom
B. have rounded masses
C. look like bundles of cotton wool
D. cover the whole sky.

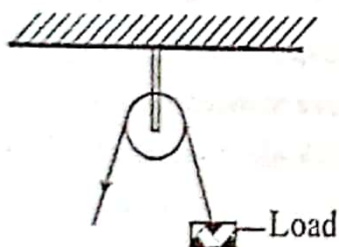
26. Which of the following statements is true about immunization schedule for infants?

A. DPT is a vaccine given against tuberculosis at birth.
B. BCG is a vaccine given against tuberculosis at birth.
C. DPT is a vaccine against diphtheria, whooping cough and tuberculosis.
D. Measles vaccine is given at birth and nine months.

27. Which one of the following is a use of water for recreation?
- A. Washing farm tools.
 - B. Rearing fish.
 - C. Making fountains.
 - D. Boat racing.

28. Energy can be conserved by the following ways **except** using
- A. energy sparingly
 - B. non-renewable sources of energy
 - C. energy efficient devices
 - D. renewable energy.

29. The diagram below shows a machine that can be used to make work easier.



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

- A. The effort distance is equal to the load distance.
- B. It can be used to raise a flag.
- C. The effort applied is equal to the load lifted.
- D. The effort and the load moves in the same direction.

30. Which of the following groups contains food rich in proteins?
- A. Meat, sweet potatoes, rice.
 - B. Groundnuts, peas, eggs.
 - C. Cheese, bananas, fish.
 - D. Maize, kales, meat.

31. All the following are special sounds **except**
- A. car hooting
 - B. ambulance siren
 - C. screaming
 - D. an aeroplane flying low in the sky.

32. The following are signs of ill-health in animals. Which one is **not**?
- A. Low quality products
 - B. Diarrhoea
 - C. Coughing
 - D. Blood in stool.

33. Soil can be conserved through all the following ways **except**
- A. ploughing across the slopes
 - B. terracing steep slopes
 - C. planting cover crops
 - D. clearing bushes by burning vegetation.

34. Lactating mothers need foods rich in roughages in their diet in order to
- A. make a lot of breast milk
 - B. help in getting rid of undigested food
 - C. help to prevent dehydration
 - D. boost body immunity.

35. The experiment below was performed by standard four pupils.



Which of the following statements is **not** true about the above set-up?

- A. The candle went off immediately.
- B. The level of water in the basin dropped.
- C. The level of water in the glass rose.
- D. They concluded that part of air supports burning.

36. Flesh eaters have beaks that are

- A. short, straight and conical
- B. long, broad and serrated
- C. strong, short and hooked
- D. long, slender and curved.

37. Which one of the following pairs of animals consists of herbivores **only**?

- A. Chimpanzee and pigs.
- B. Horse and zebra.
- C. Lion and dog.
- D. Hyena and pigs.

38. The figure below shows a plant growing in a certain habitat.



- A. thick waxy cuticle
- B. succulent stem
- C. broad leaves
- D. silvery shiny hairs.

39. In human reproduction, the fusion of male and female sex cells takes place in the

- A. uterus
- B. oviduct
- C. ovary
- D. vagina.

40. Which one of the following methods of separating mixtures is **best** in separating a mixture of wheat flour and husks?

- A. Winnowing
- B. Sieving
- C. Use of magnet
- D. Filtering.

41. Which one of the following is **not** a cause of food poisoning?

- A. Chemicals.
- B. Sprouting parts of Irish potato.
- C. Decomposing fruits.
- D. Sealed canned foods.

42. When modelling the solar system, which step comes after pasting the manilla paper onto a soft board?

- A. Putting name tags.
- B. Drawing circles to show orbits.
- C. Modelling the planets.
- D. Mounting the planets onto the orbits.

43. The following are functions of the stem in plants **except**
- transportation of water
 - supporting the crown
 - storage of food in some plants
 - absorption of minerals.
44. Which one of the following levers has the position of the effort between the fulcrum and the load when in use?
- Claw hammer
 - Spade
 - Wheelbarrow
 - Crowbar.
45. Which one of the following pairs comprises of sources of electricity?
- Torch and solar panels.
 - Dam and dry cells.
 - Bulb and geothermal generator.
 - Car battery and bicycle dynamo.
46. Which of the following groups of plants consists of non-flowering plants **only**?
- Sisal, cactus, cedar.
 - Carrot, onions, tomatoes.
 - Cypress, cedar, pine.
 - Millet, grass, cabbage.
47. Which one of the following is **not** an importance of lighting a house? To
- keep the house warm
 - keep off pests
 - read comfortably
 - avoid accidents in the house.
48. Which one of the following animals gives us mutton and milk?
- Sheep
 - Goat
 - Cow
 - Camels.
49. The following are conditions necessary for a seed to germinate **except**
- water
 - warmth
 - air
 - soil.
50. Which one of the following methods does **not** reduce friction?
- Using ball bearing.
 - Using rollers.
 - Treading
 - Oiling.

NB: For a comprehensive revision in Science get yourself a copy of 'SIGNAL K.C.P.E REVISION SCIENCE' from Signal Publishers. AVAILABLE AT BOOKSHOPS COUNTRYWIDE.