

SIGNAL EXAMS 2020
SECOND 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 boxes.
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 answers 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. Which one of the following plants is a cereal crop?
- A. Simsim
 - B. Groundnut
 - C. Coffee
 - D. Maize

The correct answer is **D (Maize)**

On the answer sheet:

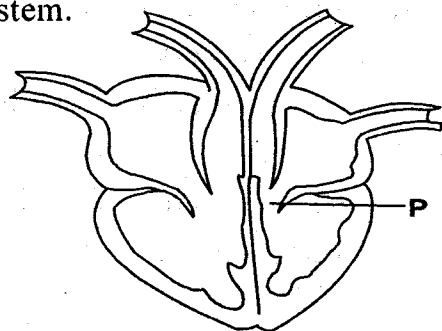
4. [A] [B] [C] [D] 14. [A] [B] [C] [D] 24. [A] [B] [C] [D] 34. [A] [B] [C] [D] 44. [A] [B] [C] [D]

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.

1. The diagram below shows a body system.



The function of the part marked P is to

- A. receive blood from the lungs
 B. remove carbon dioxide from blood
 C. prevent blood from flowing backwards
 D. pump blood to the other parts of the body.
2. Which one of the following foods is **not** correctly matched to its group?
 A. Groundnuts - Proteins
 B. Cashew nuts - Carbohydrates
 C. Termites - Proteins
 D. Spinach - Vitamins.
3. Which one of the following levers is **not** correctly matched with the position of the load, effort and fulcrum when in use?
 A. Crowbar - Load, fulcrum, effort.
 B. Wheelbarrow - Fulcrum, load, effort.
 C. Claw hammer - Effort, load, fulcrum.
 D. Spade - Load, effort, fulcrum.
4. Standard five pupils put sand particles in a transparent glass container filled with water and heated it gently at the bottom. Which one of the following aspects of matter were they investigating?
 A. Convection in air
 B. Convection in liquids.
 C. Conduction in solids.
 D. Radiation in air.

5. Which one of the following is a function of the placenta in foetal development?
 A. Carrying food and oxygen to the foetus.
 B. Allowing the embryo to attach itself.
 C. Carrying waste materials away from the foetus.
 D. Acting as a source of food and oxygen.

6. The following are components of air and their uses. Which one is **not** correctly matched?
 A. Oxygen - Preserving soft drinks.
 B. Nitrogen - Making proteins in plants.
 C. Carbon dioxide - Extinguishing fire
 D. Inert gases - Used in electric bulbs.

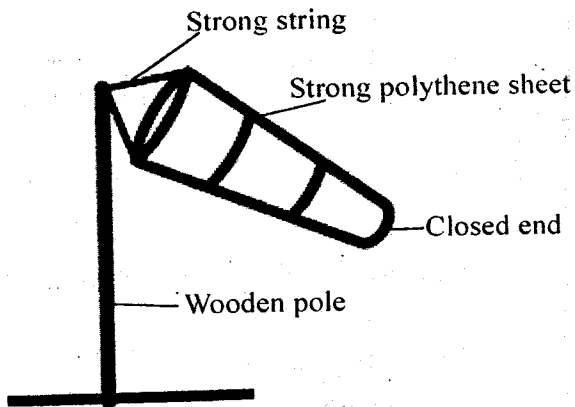
7. Standard five pupils classified different animals and their characteristics as shown in the table below.

Newt	Snake	Tilapia
No scales	Q	Breathe through gills
Lays eggs	Has scales	X
R	Lives on land	Lays eggs.

Which one of the following would **correctly** fit into R, Q and X respectively?

- A. Warm blooded, do not lay eggs, has scales.
 B. Internal fertilization, breathes through lungs, cold blooded.
 C. External fertilization, breathes through lungs, cold blooded.
 D. Moist skin, lays eggs in water, constant body temperature.

8. Standard five pupils improvised the weather instrument drawn below.

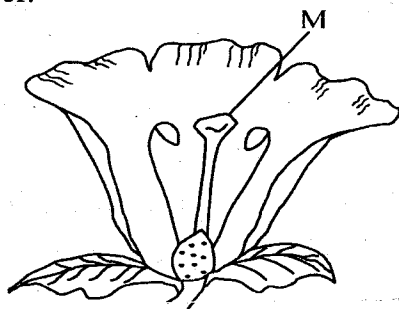


- Which mistake did the pupils make during the construction?
- A. Closing the narrow end.
B. Using a strong string instead of wire.
C. Using a thin wooden pole.
D. Using a polythene sheet.
9. Which one of the following pairs consists of planets with the shortest orbits?
- A. Earth and Uranus.
B. Saturn and Jupiter.
C. Neptune and Saturn.
D. Venus and Mars.
10. In a certain female body, the ovary released an ovum on 16th January. When is the next ovum **likely** to be released?
- A. 30th January.
B. 13th February.
C. 28th February.
D. 15th March.

11. The following activities can be used to demonstrate refraction of light **except**
- A. using a periscope to observe things around corners
B. inserting a slanting ruler in a clear basin of water
C. observing water in a pool
D. putting a coin in a glass of water.
12. Which one of the following nutritional deficiency diseases is **not** correctly matched with its deficiency?
- A. Anaemia - Lack of iron.
B. Kwashiorkor - Lack of proteins.
C. Rickets - Lack of carbohydrates.
D. Marasmus - Starvation.
13. Which one of the following materials is opaque?
- A. Paraffin
B. Tracing paper
C. Window pane
D. Mirror.
14. The following are advantages of a certain method of grazing.
- (i) *Animals are more productive.*
(ii) *Many animals can be fed from a very small area.*
- The grazing method described above is **most likely** to be
- A. stall feeding
B. tethering
C. paddocking
D. herding.

15. Mass education is a control measure for HIV and AIDS. It can be done through the following **except**
- seminars
 - public rallies
 - workshops
 - banners.
16. The correct procedure of separating a mixture of salt, sand and coffee beans is
- Winnowing → dissolving → filtering → evaporation.
 - Picking → dissolving → filtering → evaporation.
 - Dissolving → filtering → picking → evaporation.
 - Sieving → dissolving → picking evaporation.
17. Which one of the following is **not** an advantage of using farm yard manure?
- They are cheap to make.
 - They release nutrients to crops immediately.
 - They encourage soil micro-organisms.
 - They improve the soil structure.

18. The diagram below shows parts of a flower.

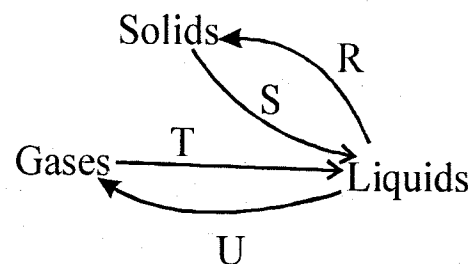


The **main** function of the part labelled **M** is to

- receive pollen grains
- produce ovules
- join stigma to the ovary
- support the anthers.

19. The **main** reason why ball bearings are used between parts that are in contact is to
- absorb unnecessary heat
 - make the machine last longer
 - reduce frictional force
 - increase the grip between the parts.

20. The illustration below shows the processes involved in change of states of matter.

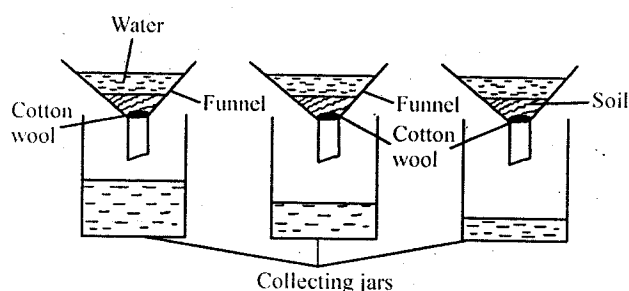


Which of the above processes are **not** correctly matched to temperature change that enables them to take place.

	Decrease	Increase
A	T	R
B	R	S
C	T	U
D	R	U

21. Which one of the following practises will effectively control liverfluke and worms in livestock?
- Rotational grazing and spraying.
 - Dipping and deworming.
 - Deworming and rotational grazing.
 - Picking and dipping.

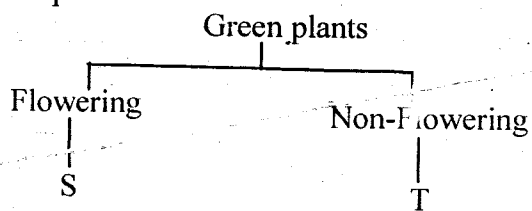
22. Standard five pupils did an experiment on soil as shown below.



Which one of the following was **not** necessary for correct results in the above set - up?

- A. Using the same amount of soil.
 B. Using the same size of collecting jars.
 C. Using equal amount of cotton wool.
 D. Using identical funnels.
23. Which one of the following steps of making a beam balance comes third in order?
- A. Fixing the arm to the stand.
 B. Suspending the tins on both sides of the arm.
 C. Finding the balancing point of the arm.
 D. Fixing the stand and the arm to the base.

24. The following is a simple classification of plants.



Which one of the below plants will **not** fit into **T** and **S** respectively?

- A. Algae, grass.
 B. Fern, maize.
 C. Moss, avocado.
 D. Mould, groundnut.

25. In which of the following practices is water re-used?

- A. Using just enough water to water crops.
 B. Using harvested rain water to water animals.
 C. Using dirty laundry water to clean toilet.
 D. Using drip irrigation instead of overhead irrigation.

26. Which one of the following characteristics are **correctly** grouped?

	Nimbus clouds	Cumulus clouds
A.	Appear low in the sky.	White in colour.
B.	Appear like feathers.	Mountainous in shape.
C.	Resembles cotton wool.	Appear high in the sky.
D.	Indicate a heavy down pour	Spreads fast in the sky

27. Which one of the following sources of electricity contains special chemicals that produce electricity?

- A. Wind-driven turbines.
 B. Hydro-electric generators
 C. Solar panel.
 D. Car battery.

28. Which one of the following modes of protection is used by the wasp to protect itself?

- A. Flying off.
 B. Stinging.
 C. Biting.
 D. Coiling.

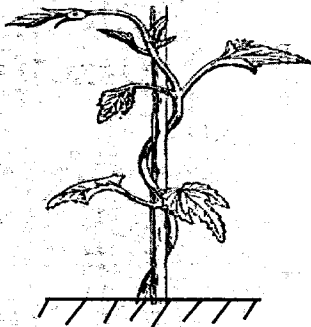
29. A blood component has the following characteristics.

- (i) Prevents excessive loss of blood.
- (ii) Blocks entry of germs.

The blood component described above is

- A. white blood cells
- B. red blood cells
- C. plasma
- D. platelets.

30. The diagram below shows an interdependence between plants.



The interdependence shown is

- A. tendrils
- B. habitat
- C. support
- D. shade.

31. Which one of the following correctly shows effects of HIV to an individual and the family?

	On individual	On family
A.	Poor health	Embarrassment
B.	Low production	Low self esteem
C.	Low living standards	Stigmatization
D.	Poor economy	Loss of man power.

32. The following are factors to consider when choosing a method of separating solid mixtures. Which one is not?

- A. Weight of the mixtures.
- B. Size of the solid particles.
- C. Solubility of the solids.
- D. Magnetic or non magnetic.

33. An HIV patient had the following signs and symptoms.

- (i) Looked healthy and strong.
- (ii) Medical tests did not indicate he was positive.

Which stage of HIV and AIDS infection was he in?

- A. Asymptomatic.
- B. Window stage.
- C. Symptomatic.
- D. Full blown.

34. A group of class six pupils assembled the following materials.

- (i) A mirror
- (ii) A basin
- (iii) Water
- (iv) Spotlight
- (v) White manillar paper.

What investigation were they going to make?

- A. How to make a rainbow.
- B. How light travels
- C. Refraction of light in water.
- D. Uses of light.

35. The diagram below shows a type of weeds.



One of the characteristics of the weed shown above is that it

- A. has a nut at the base
- B. produces seeds on its head
- C. has purple flowers
- D. produces big white flowers.

36. The following are ways used to control the spread of water borne diseases.

- (i) *Draining stagnant water.*
- (ii) *Proper disposal of human waste.*
- (iii) *Covering pit latrines.*
- (iv) *Wearing protective clothing when working on stagnant water.*

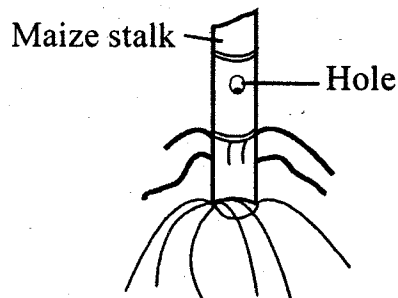
Which two practices will **mainly** help to prevent the spread of cholera?

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

37. Which one of the following is a compound fertilizer?

- A. Single super phosphate.
- B. Calcium ammonium nitrate.
- C. Mono-ammonium phosphate
- D. Urea.

38. The following diagram shows a damage caused by a certain crop pest.



Which one of the following pests may have caused the damage?

- A. Cutworm
- B. Stalkborer
- C. Aphids
- D. Weevil

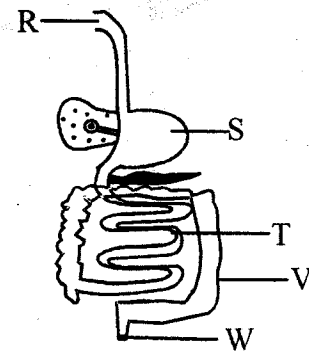
39. Which one of the following is a living component of the environment?

- A. Water
- B. Air
- C. Soil
- D. Plants.

40. The tendency of a body to resist change of state of whether at rest or in motion is known as

- A. friction
- B. gravity
- C. weight
- D. inertia.

41. The diagram below shows digestive system in a human being.



Which one of the following parts is **not** correctly matched with its function?

	Part	Function
A.	W	Completes digestion.
B.	R	Produces digestive juice.
C.	S	Digests proteins.
D.	V	Absorption of water.

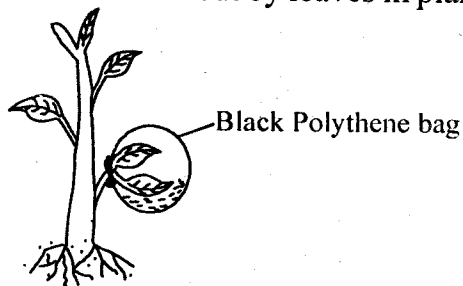
42. Which one of the following methods of preserving food is **not** correctly matched with its principle of preserving food?

- A. Use of honey - Kills bacteria.
- B. Drying - Removes water.
- C. Salting - Removes moisture.
- D. Canning - Removing air.

43. Which of the following lists of animal feeds consists of feeds that are all rich in proteins?

- A. Fish meal, wheat bran, banana stem.
- B. Glycine, fishmeal, lucerne.
- C. Sunflower seeds, wheat bran, glycine.
- D. Napier grass, molasses, lucerne.

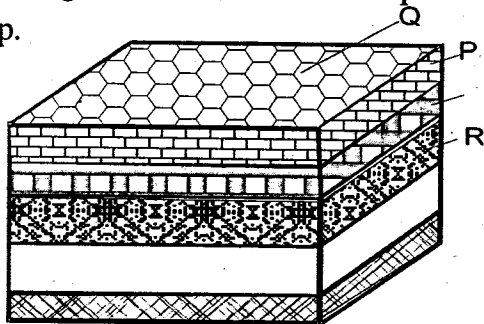
44. The diagram below shows a certain process carried out by leaves in plants.



What was the function of the black polyethylene bag? To

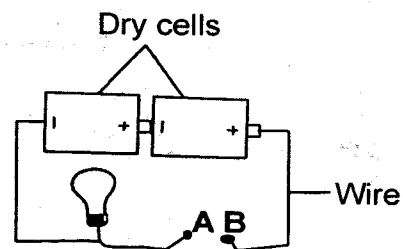
- A. prevent entry of sunlight.
 B. prevent water from escaping.
 C. encourage loss of water
 D. demonstrate breathing.
45. Which one of the following pairs of diseases is an infant immunized against at the 14th week?
 A. Whooping cough and tuberculosis.
 B. Tuberculosis and polio.
 C. Measles and malaria.
 D. Tetanus and polio.
46. Which one of the following lists consists of a well balanced diet?
 A. Liver, cabbage, rice.
 B. Fish, ugali, red meat.
 C. Honey, oats, millet.
 D. Milk, fish, beans.

47. The diagram below shows a compost heap.



From the above diagram, it is **true** to say that

- A. the manure releases nutrients instantly
 B. the layer marked R feeds the decomposers
 C. layer Q is made of top soil
 D. the manure is made by animals waste.
48. The following are reasons why tools should be properly stored **except**
 A. for safety of people
 B. to avoid theft
 C. for the tool to serve efficiently
 D. to enable the tool last longer.
49. Standard five pupils tied a deflated balloon on the mouth of a glass bottle and then immersed the bottle into hot water. What observation did they make at the end of the experiment?
 A. Air expands when heated.
 B. Glass bottles are good conductors of heat.
 C. Air bubbles were seen in water.
 D. The balloon got inflated.
50. Below is a diagram of a simple circuit.



Which one of the following is **not** the best material to place at point AB for the bulb to light?

- A. Nail
 B. Rubber
 C. Carbon
 D. Graphite

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.