

**SIGNAL EXAMS 2020****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 ode 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.** Water can be conserved through the following ways **except** by
- A. mulching
  - B. recycling
  - C. harvesting
  - D. adding chemicals.

The correct answer is **D (adding chemicals)****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 7 printed pages.**

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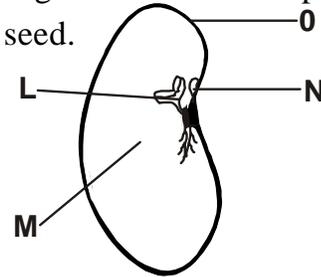


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- Which one of the following is **not** a function of the amniotic fluid?
  - Allows for the free movement of the foetus.
  - Prevents the foetus from shock.
  - Moistens the foetus.
  - Provides food nutrients to the foetus.
- Which of the following is **not** a sexually transmitted infection?
  - Bilharzia
  - Chancroid
  - Syphilis
  - Gonorrhoea.
- Blood from the lungs enters the heart through the
  - aorta
  - pulmonary artery
  - venacava
  - pulmonary vein
- Which of the following crop pests makes large holes in leaves?
  - Weevils
  - Weaver birds
  - Aphids
  - Cutworms.
- The following are some of the effects of drug abuse.
  - Unconsciousness*
  - Brain damage.*
  - Poor relationship with family members.*
  - Rape.*
 Which pair consists of the social effects of drug abuse?
  - (i) and (iii)
  - (i) and (ii)
  - (iii) and (iv)
  - (ii) and (iv)

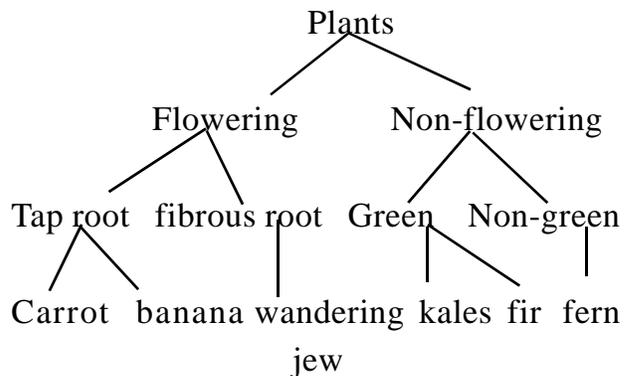
- Which of the following parts of the reproductive system produces sex cells?
  - Vagina and penis.
  - Testis and ovary.
  - Uterus and urethra.
  - Oviduct and penis.

- The diagram below shows parts of a bean seed.



Which letter represent the seed leaves?

- M
  - L
  - N
  - O
- The chart below shows classification of plants.



Which group of plants were **wrongly** classified?

- Carrot, kales, wandering jew
- Kales, bananas, fern.
- Fir, banana, fern.
- Wandering jew, carrot, fir.

9. During a Science practical lesson, class six pupils put maize seeds in boiled water and added to it a layer of cooking oil. What condition necessary for germination were they investigating?

- A. Warmth
- B. Moisture
- C. Light
- D. Air.

10. Mass is measured using a

- A. spring balance
- B. newton
- C. standard weight
- D. weighing scale

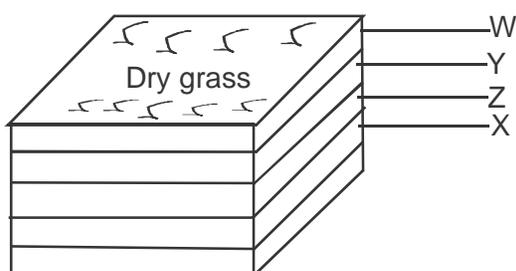
11. Which one of the following is **not** a living component of the environment?

- A. Earthworms
- B. Cactus
- C. Water
- D. Bacteria.

12. Class four pupils put soil in a clear container and added water. They stirred the mixture then left it to settle. They investigated all the following components **except**

- A. air
- B. mineral particles
- C. water
- D. organic matter

13. The diagram below shows a compost heap.



Which letter represents the layer that consists of the old compost manure?

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

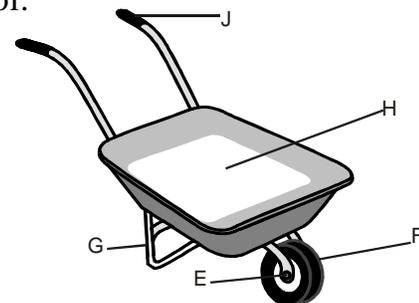
14. A mixture of husks and maize flour can be best separated by

- A. filtering
- B. sieving
- C. winnowing
- D. decanting.

15. What is the total percentage of the two gases used by plants to make food?

- A. 1.0%
- B. 78.03%
- C. 21.03%
- D. 99%

16. The diagram below shows a simple tool.



Which pair of letters represents parts on which friction has to be increased for the lever to work effectively?

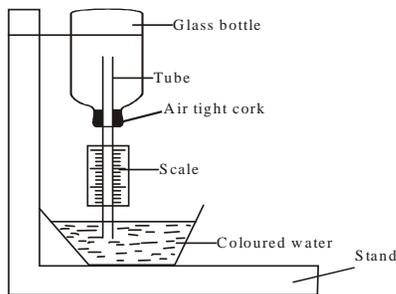
- A. G and E
- B. F and E
- C. G and H
- D. J and F

17. Rollers are used to

- A. reduce the weight of an object
- B. reduce the force that hinders motion
- C. increase the friction of an object
- D. reduce the mass of an object.

18. Which one of the following is the third step when modelling the solar system?
- Pasting manila paper on the soft board.
  - Modelling the sun and the planets.
  - Drawing circles to represent the orbit.
  - Pasting name tags against each planet.

19. The diagram below shows a simple weather instrument.



The weather instrument above works under the principle that

- air exerts pressure
  - air is a good conductor of heat
  - liquids contract when cooled
  - matter expands when heated.
20. Which one of the following is **not** an effect of parasites on livestock?
- Irritation.
  - Poor quality products.
  - Increased appetite.
  - Anaemia.
21. Which one of the following is the **most** expensive method of grazing?
- Strip grazing.
  - Herding.
  - Paddocking.
  - Stall feeding.

22. The following are signs and symptoms of certain water-borne diseases.
- Blood in urine and faeces.
  - Muscular pains.
  - Red spots on the chest.
  - Itching at the anus.
- Which ones are **not** signs of typhoid?
- (ii) and (iii)
  - (i) and (iv)
  - (ii) and (iv)
  - (i) and (iii)

23. Which of the following methods of food preservation works the same way as use of honey?
- Smoking
  - Refrigeration
  - Salting
  - Drying.

24. Which one of the following is a common characteristic in rat, duck and gecko?
- They lay eggs.
  - Their bodies are covered with scales.
  - They have constant body temperature.
  - They breathe through lungs.

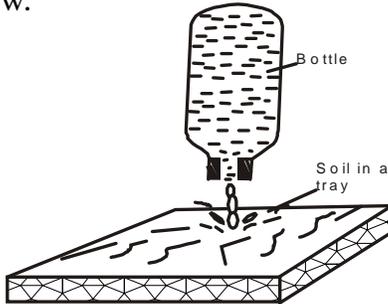
25. After fertilization, all the following parts of a flower dries up **except** the
- style
  - petals
  - sepals
  - stigma.

26. Which of the following is **not** an immunizable disease?
- Hepatitis B
  - Bilharzia
  - Measles
  - Tuberculosis

27. The following are importance of taking a HIV test **except** that it helps
- A. in administering proper treatment
  - B. to know one's status
  - C. in behavioural change
  - D. to overcome fear.

28. Which one of the following food nutrients is **not** absorbed in the intestine?
- A. Fats and oils.
  - B. Carbohydrates
  - C. Proteins
  - D. Calcium.

29. Standard six pupils poured water on a flat soil surface. They used a bottle which had a hole in the lid as shown below.



Which type of erosion were they **likely** to be investigating?

- A. Rill erosion
  - B. Gully erosion
  - C. Splash erosion
  - D. Sheet erosion.
30. In a convection box, a burning candle is **mainly** used to
- A. produce smoke
  - B. light the box
  - C. warm the air
  - D. colour the air.

31. Which one of the following is a poor conductor of electricity?
- A. Pencil
  - B. Razor blade
  - C. Copper iron
  - D. Marble.

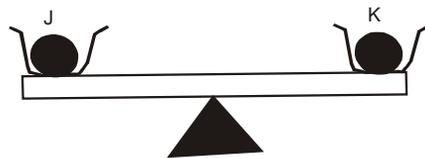
32. All the following animals have the same way of movement **except**
- A. scorpion
  - B. cockroach
  - C. ant
  - D. chicken.

33. Which of the following liquids are **correctly** classified?

Immiscible	Miscible
A. Petrol, cooking oil	Spirit, diesel
B. Milk, kerosine	ink, water
C. Water, milk	Spirit, kerosine
D. Petrol, ink	Diesel, milk.

34. Water vapour has definite
- A. density
  - B. mass
  - C. volume
  - D. shape.

35. Two pieces of stones were placed in tins and balanced on a see-saw as shown below.



What is likely to happen if stone **J** is broken into small pieces?

- A. **K** will move upwards.
- B. **J** will move downwards.
- C. The see-saw will tilt towards **K**.
- D. There will be no change.

36. Which one of the following is the **best** way of controlling both external and internal livestock parasites?

- A. Clearing bushes around the farm.
- B. Practising rotational grazing.
- C. Deworming.
- D. Dipping and spraying.

37. All the following are characteristics of cumulus clouds **except** that they

- A. indicate fine weather
- B. appear low in the sky
- C. have flat base
- D. look like bundles of cotton wool.

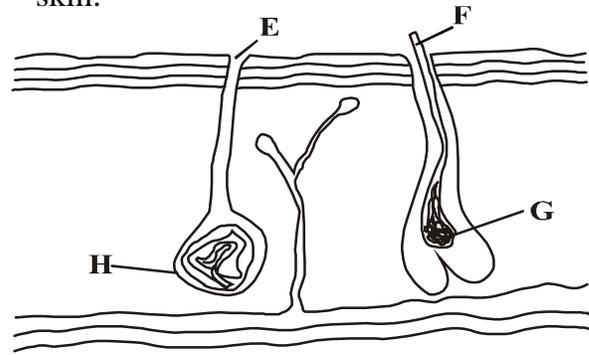
38. The following are all excretory products **except**

- A. excess salt
- B. lactic acid
- C. faeces
- D. carbon dioxide.

39. Which of the following water pollutants is **likely** to increase the growth of water weeds?

- A. Oil spillage.
- B. Floods.
- C. Excess farm chemicals.
- D. Raw industrial sewage.

40. The diagram below shows parts of the skin.



Which letter represents the part that produces sweat?

- A. H
- B. G
- C. E
- D. F

41. A patient with pale eyes and rapid heartbeat should take a diet rich in

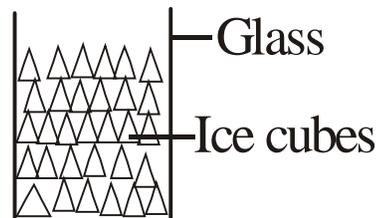
- A. calcium
- B. iron
- C. proteins
- D. fibres and water.

42. Which of the following animal feeds is **not** suitable to use as pasture?

- A. Desmodium
- B. Napier grass
- C. Lucerne
- D. Kikuyu grass

43. A mouse was seen basking in the sun. It is true to say that the body temperature of the mouse
- rose
  - dropped
  - dropped and then rose steadily
  - did not change.
44. Which one of the following is **not** a fibre crop?
- Sunflower
  - Sisal
  - Cotton
  - Flax
45. Which one of the following is **not** true about the first stage of HIV infection?
- It has no visible signs.
  - The patient has no AIDS.
  - HIV shows positive results.
  - It is most dangerous stage.
46. Which one of the following is **not** a function of the largest component of blood?
- Maintains blood pressure.
  - Suspends red blood cells.
  - Transports waste products.
  - Helps in clotting of blood.
47. The following materials are needed when investigating refraction of light **except**
- pencil
  - water
  - mirror
  - coin.

48. Which one of the following is **not** a source of heat?
- Moon
  - Sun
  - Electricity
  - Gas.
49. Which of the following groups of materials **cannot** sink in water?
- Marble, feathers and paper.
  - Stone, rice and pin.
  - Leaf, bottle and wire.
  - Wood, leaf and rubber.
50. Class five pupils placed a glass full of ice cubes in the sun.



- Which of the following processes did **not** take place after some time?
- Melting.
  - Expansion.
  - Evaporation.
  - Condensation.