

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 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.** The purpose of using salt in food preservation is to:-
- A. add flavour
 - B. inactivate micro-organisms
 - C. lower the temperatures
 - D. remove water

The correct answer is **D (remove water)****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.

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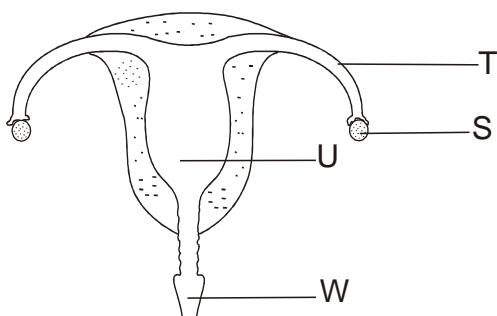
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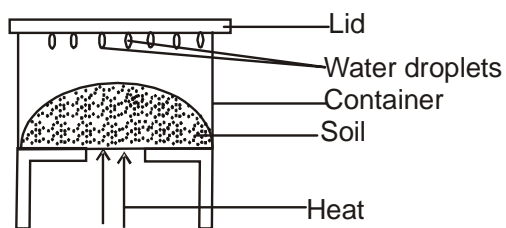
1. The diagram below represents a female reproductive system.



The process taking place in the parts labelled **S, T, U, W** respectively are:-

| | S | T | U | W |
|----|---------------|---------------|--------------|---------------|
| A. | Ovary | Oviduct | Uterus | Vagina |
| B. | Fertilisation | Ovulation | Parturition | Implantation |
| C. | Ovulation | fertilization | Implantation | Parturition |
| D. | Parturition | implantation | ovulation | fertilization |

2. The diagram below is a set up that was used to investigate a certain component of soil.



Which component was being investigated?

- A. Water in soil.
 B. Air in soil.
 C. Organic matter in soil.
 D. Smoke in soil.

3. Which one of the following will **not** change when clay soil is added to sand soil? Soil:-

- A. colour
 B. texture
 C. capillarity
 D. fertility.

4. Which one of the following is **not** true about pressure exerted by liquids? Pressure in liquids increases when:-

- A. diameter of container is reduced
 B. container with liquid is raised
 C. amount of liquid is increased
 D. depth of liquid is increased.

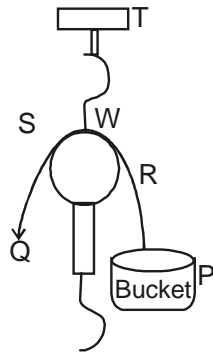
5. The activities below are carried out when separating a mixture of salt, iron filling and sand but not in their correct order.

- (i) Filter the mixture through a sieve.
 (ii) Add water to the mixture.
 (iii) Leave the mixture in the sun.
 (iv) Pass a magnet through the mixture.

The **correct** order of activities is:-

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

6. The diagram below shows a machine that is used to make work easier.



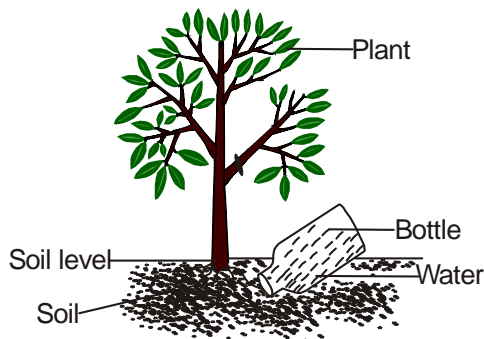
Which one of the following represents the effort distance?

- A. T - W B. W - R
C. P - R D. S - Q

7. Which one of the following groups consist of non-flowering green?

- A. Fern, moss, algae.
B. Moss, cabbage, mould.
C. Cabbage, grass, confers.
D. Moss, grass, puff ball.

8. The diagram below shows a method of conserving water.



The method of water conservation shown above is:-

- A. using water sparingly
B. recycling water
C. re-using water
D. mulching.

9. Which one of the following is a source of mechanical energy?

- A. Dam.
B. Solar panel.
C. Wind turbine.
D. Biogas plant.

10. Pollution of air, water and soil can be prevented through the following methods.

- (i) Reduce use of farm chemicals.
(ii) Recycling of waste solid products.
(iii) Treating industrial waste gases before disposal
(iv) Treating sewages

Which methods can be used to control air pollution?

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

11. Which one of the following is the **most** effective way of controlling spread of malaria in a place?

- A. Wearing gloves and protective clothes.
B. Destroying mosquito breeding places.
C. Spraying mosquitoes with insecticides.
D. Sleeping inside a mosquito net.

12. Study the food chain drawn below and answer the questions that follow.

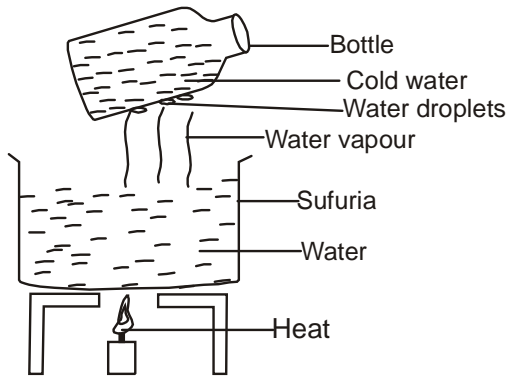
Grass → Grasshopper → Hen
→ Mongoose → Vulture.

What will happen to the food chain if all mongoose were killed?

- A. Grass will decrease.
B. Grasshoppers will increase.
C. Hens will increase.
D. Vultures will increase.

13. Which one of the following pair of diseases consist of communicable disease **only**?
- Chancroid and bilharzia.
 - Tuberculosis and malaria.
 - Syphilis and gonorrhoea.
 - Bilharzia and gonorrhoea.
14. Which one of the following pairs consists of planets with the shortest orbits?
- Venus and Mercury.
 - Mars and Jupiter.
 - Earth and Saturn.
 - Neptune and Uranus.
15. The cloud which is mountaneous in shape and has grey colour is also **likely** to:-
- be found high in the sky
 - show a sign of fine weather
 - be feathery and cotton line
 - show a sign of heavy rainfall.
16. Which one of the following plants is **likely** to grow in areas without nitrogen in the soil?
- Butterwort.
 - Liverwort.
 - Lichens.
 - Algae.
17. In an investigation equal amounts of soap was added to equal amounts of water samples **X** and **Y** obtained from different sources.
- X is not the best for drinking.*
 - Y formed suspended particles.*
- Which of the following statements about **X** and **Y** is **correct**?
- X may have alot of minerals.
 - Y may form lather after boiling.
 - X can form scales and fur in pipes.
 - Y does not waste stop when washing.
18. Which one of the following statements is **true** about solids and gases?
- Solids have indefinite volume.
 - Gases have definite mass.
 - Solids have indefinite shape.
 - Gases have definite mass.
19. In which one of the following activities is water used in industries?
- Watering plants.
 - Washing cars.
 - Making fountain.
 - Swimming.
20. The following are signs and symptoms of a sexually transmitted infections.
- Burning sensation when passing urine.*
 - Thick discharge from genitals.*
 - Swelling of body joints.*
 - Pain in the lower abdomen.*
- The above described STI is **likely** to be:-
- gonorrhoea
 - syphillis
 - genital herpes
 - chancroid.
21. Which one of the following would be observed when two similar balloons are rubbed against the same material then brought close together?
- They would burst.
 - They would repel each other.
 - They will neither attract nor repel.
 - They would attract each other.

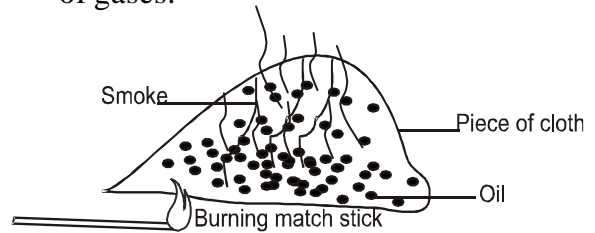
22. The diagram below represents a set up that is used to demonstrate a certain process.



The process investigated is:-

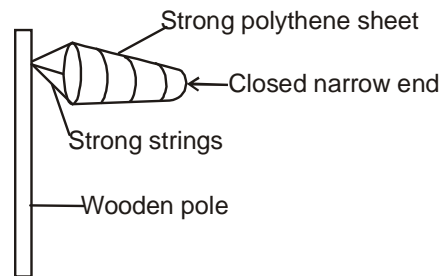
- A. evaporation
 - B. freezing
 - C. condensation
 - D. convection.
23. Which one of the following is a renewable source of energy?
- A. Natural gas.
 - B. Petrol.
 - C. Biogas.
 - D. Diesel.
24. Which one of the following levers has the position of effort between the load and fulcrum?
- A. Wheelbarrow.
 - B. Spade.
 - C. Claw hammer.
 - D. Crow bar.
25. Which one of the following animals lay eggs, has constant body temperature and its body is covered with fur?
- A. Bat.
 - B. Whale.
 - C. Shark.
 - D. Duck-billed platypus.

26. The diagram below is a set up that was used to investigate a certain property of gases.



The aspect investigated is:-

- A. gases occupy space
 - B. oil produce smoke on heating
 - C. gases have mass
 - D. gases expand on heating.
27. Standard five pupils made an improvised weather instrument below.



Which mistake did the pupils make during the construction?

- A. closing the narrow end.
 - B. using a thin wooden pole.
 - C. using a wooden pole instead of metal.
 - D. using a strong polythene sheet.
28. Class four pupils put a long piece of metal rod in water. It sank. They cut the same piece of rod into two pieces, they still sank. Which factor affecting floating and sinking were they investigating?
- A. Material
 - B. Size
 - C. Weight
 - D. Shape

29. Which one of the following parts of a bean seed is **correctly** matched with its function?

- | <u>Part</u> | <u>Function</u> |
|--------------|------------------------|
| A. Endosperm | - Stores food. |
| B. Radicle | - Develops into shoot. |
| C. Cotyledon | - Stores food. |
| D. Plumule | - Develops into roots. |

30. Which one of the following group consists of body protective food?

- A. Carrots, kales, tomatoes.
- B. Peas, beans, meat.
- C. Maize, pawpaw, sweet potatoes.
- D. Beef, cassava, potatoes.

31. The following are symptoms of some food deficiency diseases.

- (i) *Pot-belled.*
- (ii) *Pale eyes.*
- (iii) *Increased heart beats.*
- (iv) *Breathlessness.*
- (v) *Swollen face.*

Which pair represents a child suffering from kwashiorkor?

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

32. The following are some effects of drug abuse.

- (i) *Truancy.*
- (ii) *Addiction.*
- (iii) *Rape.*
- (iv) *Drug induced accidents.*
- (v) *Withdrawal symptoms.*

Which one of the following consists **only** of health effects?

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

33. In the human body, food that is **not** digested is stored in the:-

- A. small intestines
- B. rectum
- C. large intestine
- D. stomach.

34. The diagram below represents a certain type of human teeth.



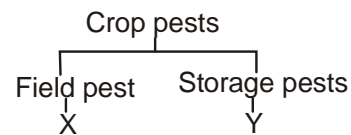
The function of the tooth is:-

- A. crushing and grinding
- B. grinding and biting
- C. crushing and tearing
- D. tearing and gripping.

35. Which one of the following statements is **true** about incubation stage of HIV infection?

- A. There are visible signs.
- B. The body is weak and cannot fight diseases.
- C. If HIV test is carried out the result is positive
- D. This is the dangerous stage of infection.

36. The illustration below shows classification of crop pests.



Which one of the following would fit into Y and X **respectively**?

- A. weevil, aphids.
- B. stalkborer, armyworm.
- C. white ants, mouse.
- D. cutworm, rodents.

37. The following are characteristics of a certain animal

- (i) Has blubber.
- (ii) Gives birth to youngones.
- (iii) Has constant body temperature.

The animal described above is:-

- A. eagle
- B. duck-biled platypus
- C. whale
- D. newt.

38. The diagram below represents a beak of a certain bird.



The bird represented is a:-

- A. fish eater
- B. filter feeder
- C. grain eater
- D. nectar eater.

39. Std. 6 pupils collected the following materials.

- (i) Clean water.
- (ii) Basin.
- (iii) White sheet of paper.
- (iv) Mirror.

Which one of the following aspects of light were they investigating?

- A. Reflection of light.
- B. Making a rainbow.
- C. Refraction of light.
- D. Absorption of light.

The chart below represents a weather record for five days.

| DAY | MORNING | AFTERNOON |
|------|---------|-----------|
| MON | | |
| TUE | | |
| WED | | |
| THUR | | |
| FRI | | |

40. Three of the following are false about the weather chart above **except** whenever it was:-

- A. sunny in the morning, it was windy in the afternoon
- B. cloudy in the morning, it was sunny in the afternoon
- C. calm in the morning, it was sunny in the afternoon
- D. windy in the morning, it rained in the afternoon.

41. The following are characteristics of plants found in a certain environment

- (i) *Sunken stomata.*
- (ii) *Thick waxy cuticle.*
- (iii) *Long and spread roots.*

Which one of the following plants does **not** have the above characteristics?

- A. Euphorbia.
- B. Baobab.
- C. Cactus.
- D. Duckweed.

42. A person was found to have the following signs and symptoms

- (i) *Itching in the bowels.*
- (ii) *Blood in urine.*
- (iii) *Rashes on the body.*
- (iv) *Blood in stool.*

The person was **likely** suffering from:-

- A. cholera.
- B. malaria.
- C. bilharzia.
- D. typhoid.

43. The **main** reason of including food rich in phosphorous and calcium in the diet of pregnant women is **mainly** to:-
A. replace the blood during birth
B. promote production of quality milk
C. help in the formation of strong bones of unborn child
D. help in the formation of blood of the mother.
44. Which of the following is **not** a function of force?
A. Change direction of a body in motion.
B. Start a body in rest.
C. Stop a body in motion.
D. Increase amount of work done.
45. Which one of the following pairs of machines do **not** work using the same principle?
A. Crowbar and wheelbarrow.
B. Claw hammer and spade.
C. Ladder and staircase.
D. Road winding uphill and flagpost.
46. Which one of the following forms of energy can be transmitted in vacuum and gases?
A. Sound and heat.
B. Light and sound.
C. Heat and light.
D. Electricity and heat.
47. Which one of the following is not an effect of moving air?
A. Blowing away soil.
B. Sailing boats and canals.
C. Blowing roofs off.
D. felling of trees
48. Which one of the following lists of animal feeds will provide the animal with energy?
A. Glycerine, desmodium, clovers.
B. Desmodium, oats, glycerine.
C. Maize germ, wheat bran, nappier grass.
D. Lucern, clovers, fodder.
49. Which one of the following lists consists of internal parasites that are found in the small intestines?
A. Liverfluke, tapeworms, lungworm.
B. Tapeworms, roundworms, hookworms.
C. Lungworms, tapeworms, hookworms.
D. Roundworms, liverflukes, lungworms.
50. Which one of the following materials is magnetic?
A. Copper.
B. Silver.
C. Cobalt.
D. Alluminium.