



## CREST Science Olympiad (CSO)

Previous Year Paper (2021-22)

**Class 6**

**Time Allowed: 1 hour**

**Maximum Marks: 60**

- Additional **10 minutes** will be allotted to fill up information on the OMR Sheet, before the start of the exam.
- Fill in all the mandatory fields clearly on the OMR Sheet.
- There are **2 sections** in the question paper namely the **Practical Science & Achievers' Section** consisting of **40 questions (1 mark each) & 10 questions (2 marks each)**, respectively.
- There is no negative marking. The use of a calculator is not permitted.
- There is **only ONE correct option** to a given question.
- Use **HB Pencil or Blue / Black ball point pen only** for marking the correct choice of answers on the OMR Sheet.
- Rough work is to be done in the space provided in the test booklet. Extra plain sheet may be provided by the school for the rough work.
- The OMR Sheet is to be handed over to the invigilator at the end of the exam.
- No candidate is allowed to carry any textual material, printed or written, bits of paper, any electronic device, etc. inside the examination hall.
- The use of unfair means may result in the cancellation of the exam. Any such instances may be reported at **+91-98182-94134** or **info@crestolympiads.com**

**DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO**

**FILL IN THE DETAILS**

Student Name: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_

Enrollment No: \_\_\_\_\_

## Practical Science (Each Question is 1 Mark)

1. State whether the following statements are true or false:
- Magnetic substances are attracted by magnets but non-magnetic substances do not get attracted by magnets.
  - A non-magnetic substance can be magnetized by rubbing it with a magnet or by any other method.
- a. 1. True, 2. True  
c. 1. False, 2. True
- b. 1. False, 2. False  
d. 1. True, 2. False
2. Consider the following clues and identify the vitamin:
- Clue 1: Its function is to keep skin, nervous system and digestive system healthy.  
Clue 2: Whole wheat, other whole cereals, potatoes, tomatoes, meat, fish and peanuts are rich sources of it.  
Clue 3: Deficiency of this vitamin causes pellagra.
- a. Vitamin A  
c. Vitamin B<sub>3</sub>
- b. Vitamin B<sub>12</sub>  
d. Vitamin D
3. Electric heaters used for cooking have a filament or a heating coil placed on a plate made up of clay. Why is this so?
- It is a bad conductor of heat.
  - It is a bad conductor of electricity.
  - It is porous.
- a. Only (1) and (2)  
c. Only (1) and (3)
- b. Only (2) and (3)  
d. (1), (2) and (3)
4. Which of the following is/are the example(s) of a light reflector?
- Fluorescent tube
  - A mirror
  - The moon
- a. 1  
c. 1 and 2
- b. 3  
d. 2 and 3
5. Which of the following statements is/are incorrect?
- Electric current can flow through metals.
  - Instead of metal wires, a jute string can be used to make a circuit.
  - Electric current can pass through a sheet of thermocol.
- a. Only 1  
c. Both 1 and 2
- b. Only 2  
d. Both 2 and 3

6. Which of the following help polar bears to adapt itself to live in extreme cold climate in polar regions?

P – White fur, fat below skin, keen sense of smell

Q – Long tail, blunt claws, thin skin, paws

R – White body, paws for swimming, gills for respiration

S – Thin skin, large eyes, white fur



- a. R only  
c. P only
- b. S only  
d. Both P and Q
7. State which of the following sentences is/are FALSE:
1. The weaving of fabric is done on looms.
  2. Weaving is a process of arranging two sets of fibres together to make a yarn.
  3. Knitting is done by hand and also on machines.
- a. 2 only  
c. Both 1 and 2
- b. 1 only  
d. Both 1 and 3
8. There are four cups as given below. Which of the following is/are not a transparent object(s)?
1. Steel cup
  2. Porcelain cup
  3. Glass cup
  4. Frosted glass cup
- a. Only 1  
c. 1, 2 and 4
- b. 2, 3 and 4  
d. 1, 2 and 3
9. Given below is the wrong statement. Change the word that is underlined and choose the correct option:  
Materials like iron rod do not get attracted towards a magnet are called non-magnetic materials.
- a. Materials like nickel do not get attracted towards a magnet are called non-magnetic materials.
  - b. Materials like rubber do not get attracted towards a magnet are called non-magnetic materials.
  - c. Materials like plastic do not get attracted towards a magnet are called non-magnetic materials.
  - d. Both b and c

10. Choose the correct option and complete the following sentence:  
Handpicking method is effective in \_\_\_\_\_.



- a. solid mixture
  - b. gaseous mixture
  - c. liquid mixture
  - d. solid and liquid mixture only
11. The class teacher was explaining the changes that can be reversed to the students. Tina has doubt and is confused about physical changes. Help her to choose the correct meaning of physical change from the given options:
- a. The material changes after the change as a new substance is formed.
  - b. The material itself is the same before and after the change as no new substance is formed. These changes are reversible but not always.
  - c. These changes are always irreversible.
  - d. The substances present at the beginning of the change is not present at the end of the change.
12. What is common between the two vegetables shown below?



- a. Both have fibrous roots
  - b. Both have adventitious roots
  - c. Both have taproots
  - d. Both have aerial roots
13. Given below are two groups of food items namely group X and group Y:  
Group X – Milk, eggs, pulses, meat  
Group Y – Yellow fruits, spinach, carrots  
On what basis have they been grouped?
- a. Group X – They are all rich source of vitamin D.  
Group Y – They are all rich sources of vitamin B.
  - b. Group X – They are all rich sources of carbohydrates.  
Group Y – They are all rich sources of vitamin C.
  - c. Group X – They are all rich source of vitamin C.  
Group Y – They are all rich sources of vitamin D.
  - d. Group X – They are all rich sources of proteins.  
Group Y – They are all rich sources of vitamin A.

14. Spot the INCORRECT match from below:

- a. Sieving – Bigger particles remain on top while fine particles pass-through
- b. Winnowing – Separates heavier and lighter components of a mixture by wind
- c. Handpicking – Process that is used to separate grains from stalks
- d. Distillation – Method of obtaining pure liquid from a solution by using a special apparatus

15. Identify the animals that are found only in mountain regions:



1



2



3



4

- a. 1 and 2
- b. 1 and 3
- c. 3 and 4
- d. 2 and 4

16. Read and identify the INCORRECT statements:

- P: Evaporation and condensation processes are reverse of each other.
- Q: Ripening of fruits is an irreversible process.
- R: Reversible changes take place only in one direction.
- S: All chemical changes are changes in shape, size etc. only.

- a. R and S
- b. Q and R
- c. P and R
- d. P and Q

17. What is the similarity seen between the two pictures shown below namely motion of the swing and pendulum of a clock?



- a. Both represent rotational motion
- b. Both represent circular motion
- c. Both represent rectilinear motion
- d. Both represent oscillatory motion

18. What is the device shown in the picture used for?



- a. Spinning
- b. Shearing
- c. Scouring
- d. Weaving

19. Given below are two groups of materials namely group X and group Y:

Group X – Paper, Cotton, Sponge

Group Y – Glass plate, Key, Piece of wood

On what basis have they been grouped?

- a. Group X – These are all insoluble materials, Group Y – These are all soluble materials.
- b. Group X – These are all hard materials, Group Y – These are all soft materials.
- c. Group X – These are all soft materials, Group Y – These are all hard materials.
- d. Group X – These materials sink in water, Group Y – These materials float in water.

20. What is the difference between baking a cake and formation of clouds?



- a. Baking a cake is a chemical change whereas formation of clouds is a physical change.
  - b. Baking a cake is a physical change whereas formation of clouds is a chemical change.
  - c. Baking a cake is an irreversible change whereas formation of clouds is a reversible change.
  - d. Both a and c
21. Adam wanted to gift his friend a dress made out of plant fibre instead of animal fibre. Which one of the following would suit his requirement?
- a. Silk scarf
  - b. Cotton shirt
  - c. Woollen jacket
  - d. Leather jacket

22. Which of the following group contains only conductors?

G: Thermocol, wood, ocean water

H: Nickel, aluminium, silver

I: Rubber, iron, graphite

J: Copper, gold, plastic

- a. H
- b. J
- c. I
- d. G

23. Fill in the blanks with suitable terms and select the correct option:

- 1. Jute fibre is obtained from the \_\_\_\_\_ part of the jute plant.
- 2. \_\_\_\_\_ process is used for making yarns from fibres.

- a. 1. flower, 2. Ginning
- b. 1. seed, 2. Knitting
- c. 1. fruit, 2. Weaving
- d. 1. stem, 2. Spinning

24. Given below are a few food items.  
Identify the similarity between these food items correctly:



- a. They are all rich sources of proteins.  
b. They are all rich sources of carbohydrates.  
c. They are all rich sources of fats.  
d. They are all rich sources of vitamins and minerals.
25. Observe the two pictures shown below and identify the similarity between them related to the characteristics of all living things:
- a. All living things excrete or give out wastes.  
b. All living things respond to stimuli.  
c. All living things reproduce for the maintenance of its generation.  
d. All living things respire.
26. Read the sentence below and identify Z:  
Z is used in fire extinguishers because it does not support combustion. This component of air is used by green plants to make their food as well.
- a. Oxygen  
b. Carbon dioxide  
c. Nitrogen  
d. Water vapour
27. In the given question, an assertion and a reason are given. Choose the correct option;  
**Assertion (A):** Temperature is a fundamental quantity in SI system.  
**Reason (R):** SI unit of temperature is Celsius.
- a. A and R is correct and R is the correct explanation of A.  
b. Both A and R are incorrect.  
c. A and R are correct but R is not the correct explanation of A.  
d. A is correct, R is not correct
28. Susan is a journalist. She used a pen camera to capture the photographs of a crime that took place on the way to her office. Which of the following is the source of the electrical energy which must be used in the said camera?
- a. Lead-acid batteries  
b. Button cells.  
c. Alkaline cells  
d. Nickel-cadmium cells
29. Fill in the blank:  
Decantation can be used to separate \_\_\_\_\_.
- a. sugar from sugar solution (solid dissolves in the liquid)  
b. two miscible liquids, i.e., which mix with each other, like alcohol and water  
c. two immiscible liquids, i.e., liquids which do not mix together like oil and water  
d. solid-solid mixture

**30.** Fill in the blank:  
Alum particles are deposited on suspended clay particles of muddy water to make them heavy so that they settle down rapidly. The process is called \_\_\_\_\_.

- a. sedimentation
- b. filtration
- c. loading
- d. sieving

**31.** Alice stored some blue crystals in water. She obtained a clear, blue liquid. Which of the following is correct about the change that took place?

- a. The crystals melted and spread out in water to give a solution.
- b. The crystals dissolved in water to give a solution.
- c. The crystals were absorbed by water to give a suspension.
- d. The crystals dissolved in water to give a suspension.

**32.** Which of the following is an endothermic reaction?

- a. Formation of curd from milk
- b. Production of gas when quicklime is added to water
- c. Opening of a soda bottle with production of gas
- d. Evaporation of water

**33.** Which of the following statement is correct?

- a. Urine and sweat are the products of excretion.
- b. In plants, respiration occurs during night time only.
- c. Breathing in cockroach occurs through gills.
- d. All living organisms move from one place to another.

**34.** In the following question, an assertion and a reason are given. Choose the correct option:

**Assertion:** Plastic and metal wastes should be discarded separately and should not be mixed with kitchen waste.

**Reason:** Most of the kitchen waste is biodegradable so can be composted but plastic and metal items do not decompose hence there are separate provisions for their disposal such as recycling, etc.

- a. Both assertion and reason are true and reason is the correct explanation of assertion.
- b. Both assertion and reason are true and reason is not the correct explanation of assertion.
- c. Assertion is true but reason is false.
- d. Both assertion and reason are false.



**35.** Kevin was making a chart of non-periodic changes happen around us. Given are some examples of periodic and non-periodic changes. Identify how many are non-periodic:  
Change of weather, Sneezing, Day and Night formation, Heartbeat, Volcano, Change in phases of the moon, Melting of glaciers, Burning of fossil fuels.

- a. 1
- b. 5
- c. 3
- d. 4

**36.** Which of the following statement(s) is/are correct?

- a. Xerophytes refers to desert plants and animals.
- b. There are no roots in desert plants.
- c. Desert plants do not show the process of transpiration.
- d. In mountains regions, we see different kinds of adaptations at different heights.

**37.** We develop composting areas near the landfill.

Which of the following could be the reason for the above statement?

- a. To make the look of landfill beautiful.
- b. Such sites make the land fertile.
- c. To utilize some useful components of the garbage.
- d. None of the above is the correct reason

**38.** A measuring cylinder has  $125 \text{ cm}^3$  of water. When 2 pebbles of the same mass and density are dropped into the cylinder, the water level rises to  $150 \text{ cm}^3$ . What is the volume of each pebble?

- a.  $12.5 \text{ cm}^3$
- b.  $25 \text{ cm}^3$
- c.  $50 \text{ cm}^3$
- d.  $150 \text{ cm}^3$

**39.** Which of the following statements is NOT correct with regard to the interaction between two substances during a change?

- a. The interaction must be under the right physical conditions.
- b. The substances must be directly in contact with each other.
- c. Right substances must be used to bring about the desired change.
- d. All of the above

40. Match the following columns:

Column I	Column II
A. Conductor	p. Plastic
B. Insulator	q. Negative terminal
C. Cathode	r. Positive terminal
D. Anode	s. Rechargeable
E. Primary cell	t. Non-rechargeable
F. Secondary cell	u. Copper

a. A – p, B – u, C – q, D – r, E – t, F – s  
 c. A – u, B – p, C – q, D – r, E – t, F – s

b. A – u, B – p, C – q, D – s, E – t, F – r  
 d. A – t, B – p, C – q, D – r, E – s, F – u

## Achiever's Section (Each Question is 2 Marks)

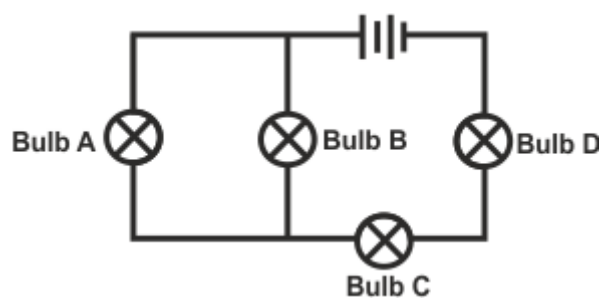
41. Choose the correct option and complete the following sentences:

1. We keep water to boil in a vessel. Before it starts boiling, we see tiny bubbles on the inside. These bubbles come from \_\_\_\_\_.
2. During heavy rainfall, earthworms and rodents come out of the soil because water fills up all the spaces occupied by \_\_\_\_\_.

a. 1. the vessel, 2. air in the rain  
 c. 1. water dissolved in air, 2. air in water

b. 1. air dissolved in water, 2. air in the soil  
 d. 1. the vessel, 2. air in the water

42. The diagram below shows four bulbs connected to two batteries. If bulb D fuses how many bulbs would still light up?



a. 0  
 c. 2

b. 1  
 d. 3



**47.** Robert is a student of class 6. One day, his science teacher taught him electricity. After that, he had many doubts about the electrical appliances and measuring devices that are used in his home. He observed that a wire from an electric pole is connected to a joule meter, fixed to the wall in the veranda, and from there to the main switch, and then to the main fuse. To this main fuse, a refrigerator, a microwave oven, a fan and a bulb are connected in parallel.

Identify the appliance that consumes the least electric power among them:

- a. Bulb
- b. Fan
- c. Microwave oven
- d. Refrigerator

**48.** Jack is measuring how fast bacteria grow in a dish by measuring the area that the bacteria cover. On day 1, the bacteria cover  $0.35 \text{ cm}^2$ . On day 2, they cover  $0.70 \text{ cm}^2$ . On day 3, they cover  $1.40 \text{ cm}^2$ . What is the best prediction for the area covered on day 5?

- a.  $5.60 \text{ cm}^2$
- b.  $3 \text{ cm}^2$
- c.  $2.80 \text{ cm}^2$
- d.  $2.90 \text{ cm}^2$

**49.** What is common among the following changes?

1. Blinking of traffic light
  2. Motion of fan blades while rotating
  3. Swinging of a pendulum
  4. Striking of a clock every one hour
- a. They are all chemical changes.
  - b. They are all natural and periodic changes.
  - c. They are all man-made and periodic changes.
  - d. They are all undesirable periodic changes.

**50.** A toy car (made of soft iron) and two bar magnets are arranged as shown in the figure. What would happen if the magnet 'A' is moved towards the car as shown in the figure?



- a. The car will not have any impact due to the motion of the magnet.
- b. The car moves away from magnet A.
- c. The car moves towards magnet A.
- d. The car moves till it is exactly mid-way between the two magnets.

## Answer Key

1. d   2. c   3. a   4. d   5. d   6. c   7. a   8. c   9. d   10. a  
11. b   12. c   13. d   14. c   15. d   16. a   17. d   18. a   19. c   20. d  
21. b   22. a   23. d   24. c   25. b   26. b   27. d   28. b   29. c   30. c  
31. b   32. d   33. a   34. a   35. b   36. d   37. c   38. a   39. b   40. c  
41. b   42. a   43. b   44. d   45. c   46. b   47. a   48. a   49. c   50. b