



CREST Science Olympiad (CSO)

Previous Year Paper (2022-23)

Class 5 (Set - A)

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 a total of **50 questions** in this booklet comprising **2 sections** 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 / Ball point pen (Blue / Black) 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, digital watches, etc. inside the examination hall.
- The use of unfair means may result in the cancellation of the exam. Any such instances must be reported at **+91-98182-94134** or **info@crestolympiads.com**

DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

FILL IN THE DETAILS

Candidate Name: _____

Class: _____ Section: _____

CREST ID: _____

Practical Science (Each Question is 1 Mark)

1. A body of mass 2 kg is dropped from a height of 1 m. What kind of energy conversion takes place in this process?
 - a. Potential energy to kinetic energy
 - b. Kinetic energy to muscular energy
 - c. Sound energy to potential energy
 - d. Muscular energy to sound energy

2. Choose the correct statement:
 - a. In colder regions, many birds and mammals develop a special horn on their body.
 - b. In birds, the heavyweight and special shape of the feathers help them fly.
 - c. The function of a frog's skin is to regulate the transfer of moisture and fluids.
 - d. A fish scale does not serve any protection against physical harm.

3. Although the machines that transport water through pipes run on electricity, then why on touching those pipes you don't get an electric shock?
 - a. Because the water loses electrons.
 - b. Because pipes are made of metals.
 - c. Because the water runs very fast in those pipes.
 - d. Because the pipes used are insulated.

4. Out of the following, which disease is common among those people who take polished rice?





a. Beri-Beri	b. Scurvy
c. Night blindness	d. Rickets

5. Harry mixed the following substances. Which of the two substances does not mix and forms a heterogeneous mixture?
 - a. Oil and alcohol
 - b. Water and sugar
 - c. Water and oil
 - d. Salt and water

6. Nora lives with six roommates. Suddenly, four of them fell ill. Which out of them will have their effect on Nora and make her ill too?
 - a. Sophie who has anaemia.
 - b. Sara who has scurvy.
 - c. Susan who has dust allergy.
 - d. Midge who has cold.

7. Consider the following statements and choose the correct option:
 Statement 1: Phosphorus works with calcium to help build bones.
 Statement 2: Vitamin C makes skin and gums healthy and heals wounds quickly.
 - a. Statement 1 is correct but statement 2 is incorrect.
 - b. Statement 1 is incorrect but statement 2 is correct.
 - c. Both the statements are correct.
 - d. Both the statements are incorrect.

8. Look at the pictures of the plants given. Which of the following plants do not grow in plain regions?

 Spruce	 Mango
 Banyan	 Teak

9. Match the following:

	Column I		Column II
A	Proteins	(i)	Rice
B	Vitamins	(ii)	Cooking oils, butter and cheese
C	Carbohydrates	(iii)	Pulses
D	Fats	(iv)	Fruits and vegetables

- A-i, B-iv, C-ii, D-iii
- A-iii, B-ii, C-i, D-iv
- A-i, B-iv, C-iii, D-ii
- A-i, B-iv, C-iii, D-ii

10. An organism has four legs. It has two ways of respiration, one with lungs and other with the moist skin. Which among the following classifications can you include this organism?

- Birds
- Fishes
- Amphibians
- Reptiles

11. Robert wanted to separate the solute which was dissolved in water. For this, he took the solution (solute + water) into a beaker and heated the beaker using a Bunsen burner. He saw that the water was converted into water vapour and the substance left in the beaker is the desired solute.

Identify the process used by him:

- Evaporation
- Decantation
- Condensation
- Sublimation

12. Kate has dug up metal from the rocks (a). She wishes to change its shape. Hence, she melted it (b) and changed the shape of the metal (c). Which phases of matter did the metal pass through?

- a- Solid, b- Liquid, c- Gas
- a- Liquid, b- Solid, c- Liquid
- a- Liquid, b- Gas, c- Liquid
- a- Solid, b- Liquid, c- Solid

13. The various resources used can be classified into different groups. A goldsmith uses gold to make different ornaments. Which of the following classifications can we place the gold into?

- Renewable resources
- Non-renewable resources
- Biotic resources
- Abiotic resources

- 1 and 3
- 2 and 3
- 1 and 4
- 2 and 4

14. The bones in our body are essential for various purposes. The joints help the movement of these bones. Among the given options, which part of the body is an immovable joint?

- Lower jaw
- Upper jaw
- Neck
- Fingers

15. Different ways can be used to purify drinking water. Which among the following can be used for obtaining pure water free from bacteria?

- Chlorination
- Boiling
- Filtration
- Both a and b

16. Animals that lay eggs are known as oviparous animals. Which among the following cannot be called as an oviparous animal?

- Peacock
- Kangaroo
- Snake
- Cockroach

17. On observing the Moon for a few days, a kid saw the new moon, crescent moon and full moon on different days. Which among the following is responsible for his observation?

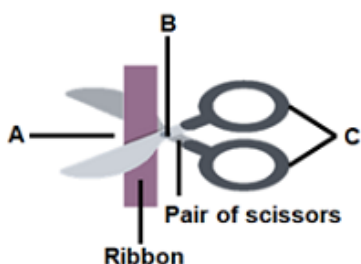
- Lunar eclipse
- Solar eclipse
- Phases of Moon
- Tectonic plate movement

- 18.** A wheelbarrow is used to carry small loads. Which of the following simple machines are used in the working of a wheelbarrow?
- Lever
 - Wheel and axle
 - Pulley
 - Both a and b
- 19.** Our solar system comprises of 8 planets, the Sun and other celestial bodies. Which of the following statement(s) is/are correct about the four celestial bodies shown below?
- These have a solid rocky surface and are known as the inner planets.
 - They have no ring at all.
 - They have few or no moons.
 - All the above
- 20.** How are cactus plants are adapted to survive in a desert?
- Leaves are reduced to spines. This helps to reduce water loss.
 - The stem is a green leaf-like structure which prepares food for the plant.
 - The stem is covered with a thick waxy layer which helps to retain water.
 - All of the above
- 21.** Read the following clues about a type of joint and answer the question that follows:
- This joint allows up and down, left and right and rotational movement.
 - In this type of joint, rounded end of one bone fits into a shallow depression in another bone.
- Identify the type of joint and location of such joint in human body:
- Ball and socket, Shoulder
 - Gliding joint, Wrist
 - Pivot joint, Neck
 - Hinge joint, Elbow
- 22.** Some plants known as leguminous plants incorporate certain bacteria in their roots. The bacteria convert X present in the air into a usable form for the host plant. Identify the X component of the air:
- Nitrogen
 - Oxygen
 - Carbon dioxide
 - Sulphur dioxide
- 23.** As the rainy season approaches, the local governing bodies urge us to keep our premises clean and hygienic to prevent the spread of malaria and dengue. Which among the following is the cause of malaria disease?
- Contaminated food
 - Contaminated water
 - Both contaminated food and water
 - Mosquito bite
- 24.** Why is sandy soil so well aerated?
- Due to large spaces between particles.
 - Presence of air in smaller spaces between the particles.
 - Presence of water in large spaces available between the particles.
 - Due to less space between the particles.
- 25.** Select the option that includes primary consumers:
- White-tailed deer, rabbit, elephant
 - Grass, parrot, snake
 - Snake, hawk, tiger
 - Bacteria, fungi, viruses
- 26.** When water freezes into ice, its volume increases. Which of the following is true?
- Water is denser than ice.
 - Water and ice are equally dense.
 - Ice is denser than water.

- d. The mass of ice is larger than that of water.

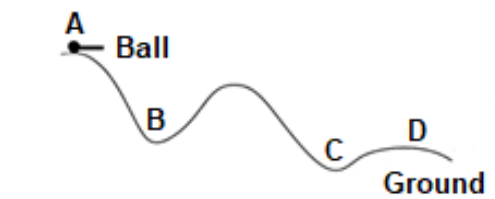
27. Study the diagram below.

At which part is the effort applied?



- a. A b. B
c. C d. Either A or C

28. A ball is being released from rest at the top of a cliff as shown in the diagram below. At which of the following points is its kinetic energy at its maximum?



- a. A b. B
c. C d. D

29. A student measured and recorded the growth of two flowering plants every other day for 10 days. According to the given diagram, which feature is being tested?



- a. Flowering plants grow better when watered with salt water
b. Amount of fertilizer flowering plants need
c. Fertilizer added to the soil lead to taller and healthier flowering plants
d. Flowering plants grow taller

30. Which of the following is/are not the correct about the part labelled as Y in the given figure?

- The air enters the leaves through the tiny pores called stomata.
- The chlorophyll gives green colour to the leaves.
- Solar energy is essential to make sugar from water and carbon dioxide.
- By releasing oxygen during night time, leaves purify air.



- a. (i) and (iv) b. Only (iv)
c. (i), (ii) and (iv) d. Only (iii)

31. Consider the following statements and choose the correct option:

- Tidal energy is a solar-based source of energy.
- Tidal energy is a lunar-based source of energy.
- Tidal energy is an earth-based source of energy.
- Tidal energy is a geothermal-based source of energy.

- a. Only 1 is correct
b. Only 2 is correct
c. Only 2 and 3 are correct
d. 1, 2, 3 and 4 are correct

32. Rebecca is mixing sugar in water after some time she notices that no more sugar can be dissolved in the water. In such conditions what she should do to add more sugar?

- a. Increase the surface area of solution.
b. Increase the amount of water.
c. Increase the temperature.
d. Both b and c

33. Identify the correct pattern:

- a. Ploughing the field → Sowing the seed → Addition of fertilizers → Irrigation → Harvesting
- b. Sowing the seed → Ploughing the field → Addition of fertilizers → Irrigation → Harvesting
- c. Sowing of the seed → Addition of fertilizers → Ploughing the field → Irrigation → Harvesting
- d. Ploughing of the field → Addition of the fertilizer → Sowing of the seed → Irrigation → Harvesting

34. Soil conservation refers to the protection of soil against pollution and calamities. This can be done in which of the following ways?

- 1. After harvesting and before raising the next crop, farmers should grow cover crops such as grass, and creepers to prevent soil erosion.
 - 2. Building embankments among river banks prevent floods. This holds the water between the banks and prevents soil erosion.
 - 3. Terrace farming in hilly areas prevents soil erosion.
- a. Only 1 is correct
 - b. Only 2 is correct
 - c. Only 3 is correct
 - d. 1, 2 and 3 are correct

35. The brain is made up of three parts. Each part has its own work to do. Name the part of the brain that controls voluntary movements like walking, running etc.:

- a. Cerebellum b. Cerebrum
- c. Medulla d. All of these

36. A child has is showing the following symptoms. Identify the disease he is most likely suffering from:

- Child has poor growth and gets tired easily.

- Skin gets dried and wrinkled.
- He has sunken eyes

- a. Marasmus b. Diarrhoea
- c. Anaemia d. Goitre

37. This food chain is an example of :
Litter → Earthworms → Chicken → Hawk

- a. Grazing food chain
- b. Detritus food chain
- c. Detritus food web
- d. Grazing food web

38. Consider the following statements and choose the correct option:

- 1. Most seeds can germinate in the absence of water.
 - 2. Cone-shaped trees grow in a rainforest habitat.
 - 3. Whales and dolphins breathe in oxygen from the water through their gills.
 - 4. Desert rats and snakes remain inactive during the day and stay in their burrows.
- a. Only 1 is correct
 - b. Only 4 is correct
 - c. Both 1 and 3 are correct
 - d. Both 2 and 4 are correct

39. There are three states of matter with a different energy. Which state of matter has the least amount of kinetic energy?

- a. Solid
- b. Liquid
- c. Gas
- d. All have same amount of energy.

40. Gynoecium is very important part of the plant. Which of the following form the part of the gynoecium of a plant?

- a. Style b. Anther
- c. Filament d. Sepals

Achievers' Section (Each Question is 2 Marks)

- 41.** Consider the following statements and choose the correct option:
1. Liver helps in the digestion of food by producing salivary juice.
 2. Excretion is the removal of the metabolic wastes of an organism.
 3. Arteries carry information from body parts to the brain.
- a. Only 1 is correct
 - b. Only 2 is correct
 - c. Both 1 and 2 are correct
 - d. Both 2 and 3 are correct

- 42.** Four students made the following statements:
 Susan: The Earth rotates on its own axis.
 Peter: The Earth revolves around the Sun.
 Kevin: The Moon spins on its own axis.
 Rachel: The moon orbits the Earth.
 Who among them made the incorrect statement(s)?
- a. Only Susan
 - b. Only Rachel
 - c. Only Kevin and Rachel
 - d. All of them are correct

- 43.** Various organisms adopt different mechanisms to breathe. Fish is an aquatic animal that uses gills for breathing. How do the gills help them?
- a. The gills possess tiny holes that help it to absorb oxygen from water.
 - b. The blood vessels in the gills help them to absorb dissolved oxygen from the water taken through the mouth.
 - c. The gills lack blood vessels but have other fluid vessels that help it to absorb dissolved oxygen from water.

- d. The gills possess tiny holes that help it to absorb carbon dioxide from water.

- 44.** Match the following:

Column I	Column II
1. Highly tilted planet	a. Earth
2. Satellite of Jupiter	b. Titan
3. Constellation	c. Halley
4. Third planet from the sun	d. Io
	e. Uranus
	f. Ursa Major
	g. Sirius

- a. 1-e; 2-d; 3-f; 4-a
- b. 1-f; 2-a; 3-d; 4-a
- c. 1-a; 2-d; 3-f; g; 4-b
- d. 1-c; 2-d; 3-f; g; 4-b

- 45.** Consider the adaptation shown by plants in a particular habitat 'X':
1. Most trees are deciduous. They have thin, broad leaves that allow them to easily capture sunlight.
 2. Trees shed their leaves in winter to prevent the damage by the freezing winter.

Identify the habitat:

- a. Mountain region
- b. Temperate forest
- c. Grasslands
- d. Rainforest

- 46.** Different animals have different locomotory organs. Identify the animals X, Y and Z on the basis of their movement:
 X - Muscles along with tiny bristles present on the underside of the body, help in the movement from one place to another.

Y - Presence of streamlined body, hollow and light bones, wings and feathers.
Z - Have three pair of legs for walking and wings for flying.

- a. X - Earthworm, Y - Fish, Z - Snake
- b. X - Snake, Y - Fish, Z - Snail
- c. X - Earthworm, Y - Birds, Z - Cockroach
- d. X - Snail, Y - Birds, Z -Cockroach

47. Fill in the blanks:

When the steam touches the _____ surface it condenses to form _____.
This process is known as _____.

- a. hot, solid, evaporation
- b. cold, solid, condensation
- c. warm, liquid, evaporation
- d. cold, liquid, condensation

48. Which of the following are the correctly categorised?

	Water-soluble vitamins	Fat-soluble vitamins
1.	C, D, K	A, B
2.	A, B	C, D, E, K
3.	A, D, K, E	B, C
4.	B, C	A, D, E, K

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

49. Choose the correct option and complete the following energy conversion:

In a moving car, ____a____ energy stored in petrol → ____b____ energy released as petrol burns → ____c____ energy in engine parts + ____d____ and ____e____ energy

- a. a-chemical, b-heat, c-mechanical, d-heat, e-sound
- b. a-gravitational, b-heat, c-mechanical, d-heat, e-sound
- c. a-gravitational, b-heat, c-potential, d-heat, e-kinetic
- d. a-heat, b-heat, c-kinetic, d-heat, e-kinetic

50. Jasper wrote a few lines about a type of pollution.

1. This pollution is caused by burning firecrackers and stubble burning.
2. Volcanic eruption adds to this type of pollution.
3. Wood or coal used in some houses releases smoke that harms the environment.
4. This type of pollution has created holes in the ozone layer.

Here, Jasper is most likely referring to which type of pollution?

- a. Air pollution
- b. Water pollution
- c. Soil pollution
- d. Noise pollution

Answer Key

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