



CREST Science Olympiad (CSO)

Previous Year Paper (2023-24)

Class 8 (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)

- Fill in the blank:
Aluminium is more reactive than iron but aluminium is less easily corroded than iron, because _____.
 - oxygen forms a protective oxide layer over aluminium surface
 - aluminium is a noble metal
 - iron undergoes reaction easily with water
 - iron forms ions
- Which of the followings is/are the correct statement?
 - Animal grazing can be used to control weed growth.
 - Fish farming of *Gambusia* can be used to control the spread of malaria.
 - Bombyx mori* is the widely used honey bee variety used for apiculture.
 - Both a and b
- Fill in the blank:
In the preparation of H_2SO_4 , the catalyst and the inhibitor, respectively, are _____.
 - platinum, molybdenum
 - iron, arsenic oxide
 - platinum, arsenic oxide
 - iron, molybdenum
- Read the following statements and choose the correct option:
Statement 1: If the loudness of two persons is equal, then their amplitude of the sound is equal.
Statement 2: Sound waves are mechanical waves.
 - Statement 1 is correct and statement 2 is incorrect
 - Statement 1 is incorrect and statement 2 is correct
 - Both the statements are correct
 - Both the statements are incorrect
- The speed of a falling body increases continuously. This is because:
 - no force acts on it
 - it is very light
 - air exerts a frictional force along the direction of motion
 - the earth attracts it
 - Only 1
 - Only 3
 - Only 4
 - Both 1 and 2
- Read the following statements and choose the correct option:
Statement 1: With the increase in the weight of an object the pressure increases.
Statement 2: Liquid pressure at a point in a liquid depends only on the density of the liquid.
 - Statement 1 is correct and statement 2 is incorrect
 - Statement 1 is incorrect and statement 2 is correct
 - Both the statements are correct
 - Both the statements are incorrect
- Which of the following statements about human eye is NOT true?
 - The iris gives a distinct colour to the eye.
 - The yellow spot is extremely sensitive to light.
 - The space between lens and cornea is filled with ciliary muscles.
 - The optic nerves enter the eye near the blind spot.

8. What happens when an ebonite rod rubbed with fur and a glass rod rubbed with silk cloth are brought nearer to each other?
- They will attract each other.
 - They will repel each other.
 - Nothing will happen to them
 - They will get heated up.
9. Which of the following is most likely to be in the 'eye' of a cyclone?
- It is an area of high pressure.
 - It is an area of low pressure.
 - It has lots of clouds and rains.
 - It has high-speed winds.
10. Fill in the blank:
A spring balance is graduated on sea level. If a body is weighed at a consecutively increased height from the earth's surface, the weight indicated by the balance _____.
- will go on increasing continuously
 - will go on decreasing continuously
 - will remain the same
 - will first increase and then decreases
11. Which of the following statements is correct?
- Prokaryotic cells do not have a cell membrane.
 - A prokaryotic lysosome is bounded by tonoplast.
 - Protein synthesis takes place in mitochondria.
 - Eukaryotic cells have membrane-bound organelles.
12. Why do scientists think that human-induced global warming will be more harmful to plants and animals than were past, natural climate fluctuations?
- Because temperature will change faster
 - Because the temperature will not change
 - Because species now are less adaptable than species in the past
 - Because ecosystems are now more complicated than they used to be
13. Which of the following is/are the property of non-metals?
- Low densities
 - High melting points
 - Good conductor of electricity
- Only 1
 - Only 2
 - Only 3
 - All the three
14. If you squeeze a balloon in the middle, what happens to the air pressure inside the balloon?
- It increases only in the middle.
 - It decreases only in the middle.
 - It increases throughout.
 - It decreases throughout.
15. In the following question, an assertion and a reason are given. Choose the correct option:
Assertion: There is danger of a vehicle skidding on a wet road.
Reason: The tyres of the vehicle lose their grip on the road due to increase in friction because of the presence of water on the road.
- Both assertion and reason are correct and reason is the correct explanation of the assertion
 - Both assertion and reason are correct, but reason is not the correct explanation of the assertion
 - Assertion is correct, but reason is incorrect
 - Assertion is incorrect, but reason is correct

16. In the following question, an assertion and a reason is given. Choose the correct option:
Assertion: Friction is a force which acts in the direction of motion of a body.
Reason: Polishing a surface reduces the friction of the surface.
- Both assertion and reason are correct and reason is the correct explanation of the assertion
 - Both assertion and reason are correct, but reason is not the correct explanation of the assertion
 - Assertion is correct, but reason is incorrect
 - Assertion is incorrect, but reason is correct
17. When iron filings are heated in a stream of dry hydrogen chloride, the compound formed is FeCl_x . Identify x:
- 1
 - 2
 - 3
 - 4
18. Identify the incorrect statement among the following:
- CNG is the least polluting fuel.
 - Coke is almost pure form of carbon.
 - Petroleum is a naturally occurring oil found beneath the earth and under the sea bed.
 - Besides road surfacing, bitumen is also used in making perfumes.
19. Charcoal does not produce a flame. Which of the following is the reason for the above-given statement?
- It is a solid fuel.
 - It has a very high calorific value.
 - It does not vaporise.
 - It is black in colour.
20. One of the following crops is not cultivated by sowing its seeds directly into the soil. Identify this crop:
- Wheat
 - Gram
 - Paddy
 - Maize
21. Consider the following statements and choose the correct option:
Statement 1: Sprinkler irrigation system is preferred for the uneven land.
Statement 2: Drip irrigation system is preferred for watering fruit plants.
- Statement 1 is correct and statement 2 is incorrect
 - Statement 1 is incorrect and statement 2 is correct
 - Both the statements are correct
 - Both the statements are incorrect
22. Which of the following increases the fertility of soil?
- Lactobacillus bacteria
 - Rhizobium bacteria
 - Spirogyra algae
 - Blue-green algae
- A and B
 - B and C
 - A and D
 - B and D
23. Which of the following plastics do not have cross-links between their polymer chains?
- Nylon
 - Melamine
 - Terylene
 - Bakelite
- A and B
 - B and C
 - A and C
 - C and D
24. Consider the following statements and choose the correct option:
Statement 1: Blue-green algae and bacteria are prokaryotes.
Statement 2: When our cells are filled with dead or damaged organelles like mitochondria, endoplasmic reticulum, etc. the degradation of these

organelles is mainly performed by ribosomes.

- a. Statement 1 is correct and statement 2 is incorrect
- b. Statement 1 is incorrect and statement 2 is correct
- c. Both the statements are correct
- d. Both the statements are incorrect

25. When we press the bulb of a dropper with its nozzle kept in water, air in the dropper is seen to escape in the form of bubbles. Once we release the pressure on the bubble, water gets filled in the dropper. The rise of water in the dropper is due to:

- a. pressure of water
- b. gravity of the earth
- c. shape of rubber bulb
- d. atmospheric pressure

26. The speeds of sound in four different media are given below. Which of the following is the most likely speed in m/s with which the two underwater whales in a sea talk to each other when separated by a large distance?

- a. 340
- b. 5170
- c. 1280
- d. 1530

27. Which of the following changes occur when you walk out of bright sunshine into a poorly lit room?

- a. The pupil becomes larger.
- b. The lens becomes thicker.
- c. The ciliary muscle relaxes.
- d. The pupil becomes smaller.

28. Which of the following are luminous objects?

- A. Orion
- B. Morning star
- C. Moon
- D. Pole star

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

29. Which of the following constellations are visible in the summer season?

- A. Cassiopeia
- B. Orion
- C. Leo Major
- D. Big Bear

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

30. Which of the following is the most appropriate description of the biosphere reserves?

- a. The affected areas of deforestation
- b. Biogas producing areas
- c. Study's areas of sustained growth and development
- d. Reserves of mineral's shortage

31. Fill in the blank:

A person looks into the mirror by placing it close to his face. The image of his face was erect, laterally inverted and of the same size. Then, the mirror must be _____.

- a. plane
- b. concave
- c. convex
- d. plane of concave

32. Which of the following statement is correct regarding metals and non-metals?

- a. All metals are brittle.
- b. All non-metals are ductile.
- c. Generally, metals are ductile.
- d. Non-metals are good conductor of electricity.

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

Statement 1: Aluminium is found in a free state.

Statement 2: A student puts one big iron nail each in four test tubes containing solutions of zinc sulphate, aluminium sulphate, copper sulphate and iron sulphate. A reddish-brown coating was observed only on the surface of the iron nail which was put in the solution of aluminium sulphate.

- Statement 1 is correct but statement 2 is incorrect.
 - Statement 1 is incorrect but statement 2 is correct.
 - Both statement 1 and 2 are correct
 - Both statement 1 and 2 are incorrect
34. Fill in the blank:
A lens behaves as a diverging lens in air and converging lens in water. The refractive index of the material of the lens is _____.
- greater than refractive index of water
 - equal to refractive index of water
 - between 1 and refractive index of water
 - equal to unity
35. Iron nails are dipped into blue copper sulphate solution. What will happen after some time?
- Iron nails are dissolved and the blue colour is discharged.
 - Iron nails are dissolved but the blue colour is not discharged.
 - Iron nails are not dissolved and the blue colour is not discharged.
 - Iron nails are not dissolved but the blue colour is discharged.

36. Which of the following statements is true?

- During electrolysis, charge flows through electrolyte solution via electrons.
- The randomly moving electrons in a metal wire will start moving in a particular direction when a potential difference is applied across it.
- A negatively charged particle has higher electric potential than a positively charged particle.
- Charge flows only through negative charge carriers like electrons.

37. Which of these is the correct sequence of steps to develop a new plant variety?

- A - Evaluation
B - Multiplication of improved seeds
C - Selection
D - Distribution of improved seeds
E - Development of gene variation

- C, E, B, A, D
- A, E, C, B, D
- D, E, A, B, C
- C, E, A, B, D

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

Assertion: In the case of mammals, testes are situated in extra abdominal scrotal sacs.

Reason: Scrotal sacs have less temperature than abdomen, which is essential for maturation of sperms.

- Both assertion and reason are correct and reason is the correct explanation of the assertion
- Both assertion and reason are correct but reason is not the correct explanation of the assertion
- Assertion is correct but reason is incorrect
- Assertion is incorrect but reason is correct

39. In the given question, an assertion and the reason are given. Choose the correct option:

Assertion: Fallopian tube is lined by ciliated epithelium whose cilia beats towards the uterus.

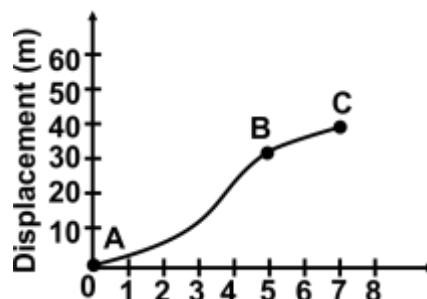
Reason: Ciliated lining of the Fallopian tube helps to pick up and push the released ovum into the oviduct.

- Both assertion and reason are true and reason is the correct explanation of assertion.
- Both assertion and reason are true, but reason is not a correct explanation of the assertion.
- Assertion is correct, but reason is incorrect.
- Both assertion and reason are incorrect.

40. The displacement-time graph of a lift climbing from the ground floor to the top of the building is given here. Which

of the following statements are true about the graphs?

- At point A, the lift is stationary.
- The velocity of lift is decreasing from point B to C.
- At point C, the lift is at zero velocity.
- Velocity of lift is minimum at B.



- (i) and (iii) only
- (ii) and (iv) only
- (i), (ii) and (iii) only
- (ii), (iii) and (iv) only

Achievers' Section (Each Question is 2 Marks)

41. Which of the following conditions(s) is/are necessary for combustion?

- Presence of combustible substance.
- Heating the combustible substance to its ignition temperature.
- Presence of a supporter of combustion.

- Only I
- I and II
- I and III
- I, II and III

42. Which of the following statements is/are incorrect?

- Ribosomes are covered by a double-layered membrane.
- Ribosomes are composed of RNA and proteins.
- Chlorophyll is absent in chromoplast.
- Elaioplasts store protein.

- A and D
- B and C
- C and D
- B and D

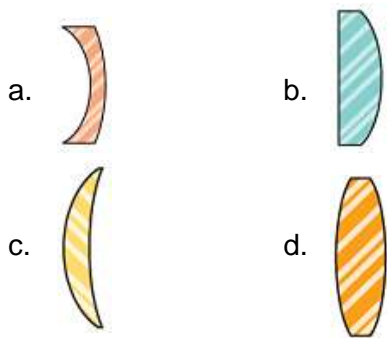
43. Arrange the given combustible substance in decreasing order of calorific value:

- Hydrogen
- Charcoal
- Petrol
- LPG
- Wood

- 1, 4, 5, 2, 3
- 1, 4, 3, 2, 5
- 2, 1, 4, 5, 3
- 2, 1, 3, 5, 4

44. Arrange the following incidents in the increasing order of time taken:
- The sound produced under a liquid at a depth of 100 m to reach the surface of liquid if the velocity of sound in the given liquid is 1500 m s^{-1} .
 - A wave of frequency 100 Hz and wavelength 2 m to travel through a distance of 50 m.
 - A seconds pendulum to complete 50 oscillations.
 - Light to reach on the surface of the earth from the sun. [Distance between the sun and the earth is approximately $1496 \times 10^5 \text{ km}$]
- CDBA
 - ABCD
 - ACBD
 - DCBA
45. An iron block of sides 45 cm x 6 cm x 20 cm has to be pushed along the floor. The force required will be minimum when the surface in contact with the ground is:
- 6 cm x 20 cm surface
 - 45 cm x 20 cm surface
 - 6 cm x 45 cm surface
 - same for all surface
46. **Water should never be used to extinguish an oil fire.**
Which of the following is the best explanation of the statement given above?
- Water is heavier than oil. On spraying water on an oil fire, water sinks and oil floats, and the fire continues.
 - Water is lighter than oil. On spraying water on an oil fire, water sinks and oil floats and the fire continues.
 - Water reacts with oil and forms a new flammable compound.
 - Oil fire is very intense it converts water into steam and evaporate it off.
47. Which of the following statement(s) are incorrect for sound?
- Sound can propagate through a vacuum.
 - The loudness of the sound depends on its amplitude.
 - The pitch of the sound depends on its frequency.
 - Sound waves generally propagates as longitudinal waves.
- Only i
 - i, ii and iii
 - i, ii, iii, iv
 - None of the statement is incorrect
48. If two plane mirrors are placed with the reflecting surfaces perpendicular to each other, which of the following statement is true?
- The rays incident on the first mirror and the rays reflected from the second mirror are always parallel.
 - The rays incident on the first mirror and the rays reflected from the second mirror are perpendicular.
 - The angle of deviation lies between 90° and 180° .
 - None of the above
49. If the length of a seconds pendulum is first decreased by 10 cm and its time period is measured and then increased by 15 cm and the time period is measured, then the ratio of the time periods in two cases is _____. (Take $g = 9.8 \text{ m/s}^2$)
- $6:\sqrt{7}$
 - $\sqrt{6}:7$
 - $\sqrt{42}:1$
 - $\sqrt{6}:\sqrt{7}$

50. Which one of the following four glass lenses is a diverging lens?



Answer Key

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