CBSE Sample Question Paper Term 1

Class – VIII (Session : 2021 - 22)

SUBJECT - SCIENCE - 086 - TEST - 04

Class 08 - Science

Time Allowed: 1 hour and 30 minutes **Maximum Marks: 70**

General Instructions:

Attempt all the questions.

1. Read the following statements: **[1]**

   i. Cereals are shrubs.

   ii. Cereals are grown for their nutritious seeds.

   a) Statement i) is wrong and ii) is correct
   b) both are correct
   c) Statement ii) is wrong and i) is correct
   d) both are wrong

2. Read the following statements: **[1]**

   i. Traditional methods of irrigation use manpower or animal power.

   ii. Modern methods of irrigation are based on economic use of water.

   a) Statement ii) is correct and i) is wrong
   b) Statement i) is correct and ii) is wrong
   c) both are wrong
   d) both are correct

3. Terms related to the agricultural practice are given below. Rearrange them in the correct sequence. **[1]**

   harvesting, sowing, manuring, tilling, and ploughing, irrigation, de-weeding.

4. Explain traditional methods of irrigation. **[1]**

5. What is irrigation? Describe two methods of irrigation which conserve water. Give examples. **[3]**

6. TMV will grow : **[1]**

   a) inside the tobacco cells
   b) in the soil surrounding tobacco roots
   c) in the space between tobacco cells
   d) outside the tobacco cells

7. Match the following: **[1]**

i) Penicillin	a) pathogen
ii) blue green algae	b) antibiotic
iii) virus	c) malaria
iv) Plasmodium	d) lack chlorophyll
v) fungi	e) fertiliser

a) i.c,ii.e,iii.d, iv.a, v.b
b) i.b, ii.e,iii.a, iv.c, v.d
c) i.d,ii.a,iii.b, iv.e, v.c
d) i.b,ii.d,iii.e, iv.c, v.a

8. How do microorganisms survive under adverse conditions? **[1]**
9. What are microorganisms? **[1]**
10. Write diseases causing microorganisms in animals and plants. **[3]**
11. We should never dispose off polythenes in the sewage system because: **[1]**

a) all of them
b) release toxic fumes and gases
c) it chokes drains and pollutes the soil.
d) makes sewage non biodegradable

12. Which synthetic material can be moulded into the desired shape when soft and hardened to produce a durable article? **[1]**

a) Acrylic
b) Plastic
c) Polyester
d) Glass

13. Write some properties and uses of melamine. **[1]**
14. Name five articles. Write the type of fibre used? **[1]**
15. Explain the difference in structure of thermoplastic and thermosetting plastic? **[3]**
16. What is the product formed when metals react with dilute acids? **[1]**

a) Metal oxide
b) None of these
c) Metal hydroxide
d) Salt

17. During rusting, which component of air combines with iron in the presence of water? **[1]**

a) Argon
b) Oxygen
c) Carbon dioxide
d) Nitrogen

18. Give reason for foodstuffs with acid components should not be stored in aluminium utensils. **[1]**
19. Explain an activity to test the nature of rust. **[1]**
20. **[3]**
    a. What is the nature of the following oxides ?
        i. Magnesium oxide.
        ii. Sulphur dioxide
    b. Sodium metal reacts vigorously with water.
        i. Name the gas evolved when sodium reacts with water.
        ii. State whether the solution formed by the reaction of sodium with water is acidic or basic.
21. Read the following statements : **[1]**

i) Asphalt is not used for making roads.
ii)Paraffin wax is used to make shoe polish.

a) both are correct
b) both are wrong
c) statement i) is correct but ii) is wrong
d) statement ii) is correct but i) is wrong

22. Coke is used in the manufacture of _____. **[1]**

a) mercury
b) steel

c) sodium d) potassium

23. What are the different tips for the saving of petrol/diesel? **[1]**

24. What are the advantages of using CNG and LPG as fuels? **[1]**

25. We say fossil fuels will last only for a few hundred years. Comment. **[3]**

26. In villages, many people still use coal or wood to cook food. For easy combustion of such fuels : **[1]**

a) air is blown around b) soil is used to make layers

c) sand is thrown on the stove d) water is sprinkled

27. Combustion can be defined as a:- **[1]**

a) physical change b) Periodic change

c) chemical change d) cyclic change

28. Why CNG is preferable for vehicles in respect to petrol and diesel? **[1]**

29. What are the ill-effects due to the increasing consumption of fuel? **[1]**

30. How do the forest fires take place? **[3]**

31. Pressure exerted by water at the bottom of the container depends on the **[1]**

a) Size of the column b) All of these

c) Mass of the column d) Height of the column

32. A boy having area of 70 cm sq. exerts a pressure of 7N/cm sq. on the ground. The Force acting on the ground will be **[1]**

a) 77 N b) 10 N

c) 490 N d) 100 N

33. Have you ever seen a game of tug-of war? In this game two teams pull at a rope in opposite direction. All members of either team try to pull the rope in their direction. Sometimes the rope simply does not move. Explain why? **[1]**

34. What do you know by the state of motion? **[1]**

35. When a person stands on a cushion, the depression is much more than when he lies down on it. Explain with a reason. **[3]**

36. Friction of air can be observed if a falling object is **[1]**

a) Light b) Small

c) Heavy d) Large

37. Ball bearing is used in cycles because **[1]**

a) Rolling friction is more than sliding friction b) Rolling friction is less than sliding friction

c) Ball bearing increase the wheel size d) Ball is used to make attractive

38. We have two identical metal sheets. One of them is rubbed with sandpaper and the other with ordinary paper. The one rubbed with sandpaper shines more than the other. Give reason. **[1]**

39. Why can't we write with a chalk if there were no friction? **[1]**

40. Show with the help of activity that friction depends on the nature of two surfaces? **[3]**

41. When the amplitude is doubled than its loudness **[1]**

a) Decrease 2 times b) Decrease 4 times

c) Increase 4 times d) Increase 2 times

42. Which of the following vibrates with a low frequency? **[1]**

a) Whistle b) Sitar

c) Flute d) Drum

43. Write any five sources of noise in your surroundings. **[1]**

44. What is ultrasound and where it is used? **[1]**

45. How does human produce sound? **[3]**

46. Which of the following gas is responsible for ozone layer depletion? **[1]**

a) Chlorofluorocarbon gas b) Argon gas

c) Carbon dioxide gas d) Sulpher dioxide gas

47. Which of the following is not a greenhouse gas? **[1]**

a) Methane b) Oxygen

c) Sulphur dioxide d) Carbon dioxide

48. How can ground water get polluted by sewage? **[1]**

49. Write some effects of global warming. **[1]**

50. **Read the paragraph and answer the questions following it:** **[3]**

Many industries are responsible for causing air pollution. Petroleum refineries are a major source of gaseous pollutants like Sulphur dioxide and nitrogen dioxide. Sulphur dioxide is produced by combustion of fuels like coal in power plants. It can cause respiratory problems, including permanent lung damage.

a. Name the gaseous pollutants produced by petroleum refineries?
b. Name the other sources of air pollution?
c. What steps can be taken to reduce it?

Solution

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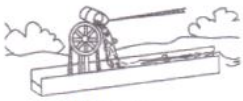
Class 08 - Science

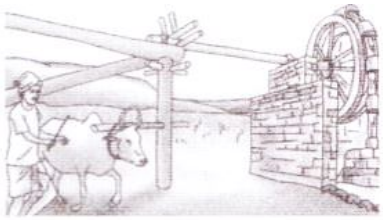
1. **(a)** Statement i) is wrong and ii) is correct
   Explanation: Cereals are grasses. Cereals are grown for their nutritious seeds containing mainly carbohydrates. Rice, wheat and maize are main cereal crops.
2. **(d)** both are correct
   Explanation: Traditional methods of irrigation use manpower or animal power to driven water wheels but modern method of irrigation is based on economic use of water using modern technique.
3. The correct sequence is **Tilling and ploughing, sowing, manuring, irrigation, de-weeding, harvesting**. First, the soil is tilled and ploughed. Then they are leveled. Seeds are then sown followed by adding manures and water. From time to time weeds are removed and finally, harvesting of crops is done.
4. The water available in wells, lakes and canals is lifted up by different methods in different regions, for taking it to the fields. Cattle or human labour is used in these methods. These methods are cheaper but less efficient. The various traditional ways are:
   i. Moat (Pulley system)
   ii. Chain pump


Moat

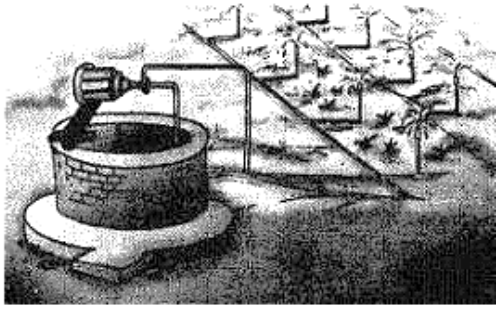

Chain pump

   iii. Dheki
   iv. Rahat (Lever system)


Dheki


Rahat

5. Supply of water to crops at appropriate intervals is called irrigation. Two methods which help us to use water economically are :
   1. **Sprinkler System:** This system is more useful on the uneven land where water is available in smaller quantity. The perpendicular pipes, having rotating nozzles on the top, are joined to the main pipeline at regular intervals. When the water is allowed to flow through the main pipe with the help of a pump, is escapes from the rotating nozzles. It is sprinkled on the crop as if it is raining. Sprinkler is very useful for the sandy soil.


Sprinkler system

   2. **Drip System:** In this system, the water falls drop by drop just at the position of the roots. So it is called drip system. It is the best technique of watering fruit plants, gardens and trees. This system consists of a

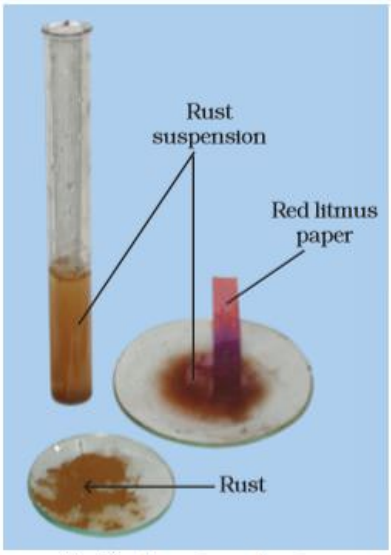
main pipe to which lateral pipes are joined. The specially prepared nozzles are attached to these lateral pipes. The nozzles are grounded just near the roots of the plants. It provides water to plants drop by drop. Water is not wasted at all. So, it is a boon in regions where availability of water is poor.

6. **(a)** inside the tobacco cells
   Explanation: Tobacco Mosaic Virus (TMV) will grow inside the tobacco cells to cause mosaic in leaves. TMV virus has hexagonal head and long tail.
7. **(b)** i.b, ii.e,iii.a, iv.c, v.d
   Explanation: Penicillin is an antibiotic, blue green alga is used as fertilisers, virus is a pathogen, plasmodium is malaria and fungi lack chlorophyll.
8. Under unfavourable conditions of temperature and water, the microorganisms generally form a hard and tough covering called cyst. This protects them. After favourable conditions return, they emerge from their shell, multiply and go through their life cycles.
9. Microorganisms are very small tiny organisms that are visible only under microscope. They are not visible to naked eye. They are both useful and harmful to us.
10. There are some microorganisms that cause disease in animals also like anthrax is a very dangerous human and cattle disease caused by a bacterium. Foot and mouth disease of cattle is caused by a virus.
    There are some microorganisms that cause disease in plants like wheat, sugarcane, rice, potato, orange, and apple. Like citrus canker disease caused by bacteria in plant, rust of wheat disease in wheat plant caused by fungi. These diseases reduce the yield of crops and can be controlled by using certain chemicals that kill microbes.
11. **(c)** it chokes drains and pollutes the soil.
    Explanation: We should never dispose off polythene in the sewage system because polythene chokes drains leading to overflowing on roads and streets and also pollutes the soil since it takes long time to decompose.
12. **(b)** Plastic
    Explanation: Plastic is a synthetic material that can be moulded into the desired shape when soft and then hardened to produce a durable article.
13. Melamine is a versatile material. It resists fire and can tolerate heat better than other plastics. It is used for making floor tiles, kitchenware and fabrics which resist fire.
14. (i) Coconut rope: Natural fibre
    (ii) Cotton clothes: Natural fibre
    (iii) Polyester clothes: Synthetic fibres
    (iv) Basket: Synthetic fibre
    (v) Parachute: Synthetic fibre.
15.

Thermoplastic	**Thermosetting Plastic**
1. The long polymer chains are not cross linked with one another.	1. The long chain polymers are cross linked with one another.
2. On heating, each polymer chain can slide and become soft.	2. On heating, each polymer chain do not move and do not become soft.
3. Ex- polythene	3. Ex- bakelite

16. **(d)** Salt
    Explanation: Most of the metals react with dilute acids to form salts and hydrogen gas that burns with a ‘pop’ sound.
17. **(b)** Oxygen
    Explanation: During rusting of iron, iron metal combines slowly with the oxygen of air in the presence of water to form a compound called iron oxide, which is called rust.
18. As we know Aluminum is a very reactive metal, so it reacts vigorously with acids and bases, so when an acidic food item is kept in an aluminum container then aluminum reacts with organic acids to form various toxic salts, which is harmful for human beings. So it is advised not to store acidic food items in Aluminum containers.

19. Collect some amount of rust after a reaction between iron, oxygen and water. Dissolve it in a very little amount of water. Shake well the mixture of rust and water. Test the solution with the red and blue litmus papers. We observe that the red litmus paper turns into blue. It shows that the nature of rust is basic.



Testing the nature of rust

20. a. i. Magnesium oxide is basic in nature as it is a metal oxide.
ii. Sulphur dioxide is acidic in nature as it is an acidic oxide.
b. i. When sodium metal reacts with water, hydrogen gas is evolved.
ii. Sodium hydroxide is basic in nature as sodium is metal.

21. **(d)** statement ii) is correct but i) is wrong
Explanation: Coal tar is used for constructing road. It is a black thick fluid that is used as binder of the road. Paraffin wax is used to make shoe polish. They are obtain as by product in refining of petroleum.

22. **(b)** steel
Explanation: Coke is a pure form or allotrope of carbon. It is used in the manufacture of steel, as a fuel and as a reducing agent in the extraction of various metals. Steel is an alloy of carbon and iron. Presence of carbon in the steel makes it harder and more durable than pure iron.

23. Petroleum Conservation Research Association, advices people to save petrol/diesel, in the following ways.
(a) Drive at a constant and moderate speed.
(b) Switch off the engine at traffic lights or when have to wait.
(c) Ensure correct tyre pressure.
(d) Ensure regular maintenance of the vehicle.

24. The advantages of using CNG and LPG as fuel are :
(i) A non-polluting fuel for vehicles.
(ii) It is used for power generation.
(iii) It can be used directly for burning in homes and factories.
(iv) They are more efficient.

25. Fossil fuels will last only for a few hundred years because they are exhaustible natural resources. If consumed at a rate faster than the rate at which these are formed in nature, they will get exhausted very soon. Once the present stock of these gets exhausted, no new supplies of these fossil fuels will be available to us in the near future because it required millions of years for the conversion of dead organisms into these fuels.

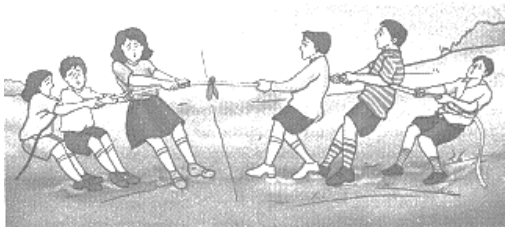
26. **(a)** air is blown around
Explanation: Coal or wood is still used in a number of villages for cooking food. For easy combustion of coal and wood air is blown around to increase the supply of oxygen for easy combustion.

27. **(c)** chemical change
Explanation: The process of burning of any substance in presence of oxygen is called combustion. Combustion is a chemical change as in combustion new substance is formed that cannot be reversed.

28. CNG (compressed natural gas) is preferable for vehicles in respect to petrol and diesel, because :
(a) It leaves least residues.

(b) It is cheaper
(c) It is eco-friendly.

29. **Harmful effects of using more fuels:**
(i) Carbon fuels like wood, coal and petroleum release unburnt carbon particles. These fine particles create respiratory disorders and diseases like asthma.
(ii) Incomplete combustion of these fuels gives carbon monoxide. It is very harmful gas and causes respiratory disorders. It can kill persons sleeping in that room.
(iii) Excessive use of fuels causes global warming.
(iv) They cause acid rain which is harmful for crops, buildings and soil.
30. During the extreme heat of the summers, due to the heat of the sun the ignition temperature of the dry grass is reached easily that makes the grass catch fire soon. Hence the fire spreads throughout the forest from bushes to trees. And soon the whole forest is on fire. It is difficult to control such fires.
31. **(d)** Height of the column
Explanation: The pressure exerted by water at the bottom of the container depends on the height of the column of water. Pressure of water increases with depth.
32. **(c)** 490 N
Explanation: Here, Pressure exerted by the boy on ground = 7N/cm sq
Area on the boy occupied = 70 cm sq
As, Pressure = Force/ Area
The force acting on the ground = Pressure $\times$ Area
= 7 N/ cm sq $\times$ 70 cm sq
= 490 N
33. We know that if two forces act on opposite direction on an object, the net force acting on it is the difference between the two forces.
If the two teams pull the rope with equal force, the forces will be a opposite directions and will cancel each other and the rope will not move.



34. The state of motion of an object is described by its speed and the direction of motion. The state of rest is considered to be the state of zero speed. An object may be at rest or in motion, both are its state of motion. Any change in the speed, or direction of motion, or both, implies a change in the state of motion of the object.
35. When a man stands on a cushion then his two feet are in contact with the cushion. Due to this his body weight falls on a small area. On the other hand when a man lies on the cushion, his whole body comes in contact with the cushion. His weight falls over the large area because of which the depression in the cushion is less than when he stands on it.
36. **(a)** Light
Explanation: Friction of air can be observed if a falling object is light. When a tiny paper or feather falls from height, it takes long duration due to friction of air on it.
37. **(b)** Rolling friction is less than sliding friction
Explanation: Ball bearing is used in cycles because rolling friction is less than sliding friction. Hence, most of the moving parts of machine have ball bearing to reduce friction.
38. The one rubbed with sandpaper shines more than the other because when the metal sheet is rubbed with sandpaper, it produces more friction between the metal sheets and sandpaper. As a result, the force is enough to remove easily all the dust particles present on the metal sheet, so it shines more. On the other hand, when the metal sheet is rubbed with ordinary paper, it does not produce enough force of friction to remove dust particles. Thus, the metal sheet rubbed with ordinary paper shines less.
39. We cannot write with a chalk, pen, pencil if there were no friction. If we are writing with a chalk on frictionless surface then no chalk particles stick to the surface. So we cannot write with a chalk if there were

no friction. On the other hand when we are writing with a chalk on the blackboard, its rough surface rubs off some chalk particles which stick to the blackboard.

40. Take a ball and allow it to roll on the cemented surface. Measure the distance covered on the surface by the measuring tape. Repeat this activity on a kachha floor also with same force and measure the distance covered by the ball. You observe that ball covers a larger distance on the cemented floor because it is smoother and therefore frictional force between the cemented floor and the ball is less.
    We can conclude that friction depends upon roughness or smoothness of the surfaces in contact. Smooth surfaces offer lesser friction than rough surfaces.
41. **(c)** Increase 4 times
    Explanation: The loudness of sound depends upon amplitude of sound. When amplitude is doubled than loudness increase by four times.
42. **(d)** Drum
    Explanation: Drum has thin membrane of skin that vibrates on beating. The number of vibration per second is less in drum in comparison to whistle, flute and sitar.
43. Five sources of noise are:
    (i) Noise is produced by traffic.
    (ii) Noise produced by coolers, mixer-grinder etc.
    (iii) Loud sound of TV, radio etc.
    (iv) Loud music in marriages and other religious functions.
    (v) Noise created by construction works in our surroundings.
    (vi) Sound produced by crackers.
    (vii) Use of desert cooler and air conditioners cause noise pollution.
44. Sounds having frequency more than 20000 Hz are called ultrasounds. Ultrasounds cannot be heard by human beings.
    - Ultrasounds are used in medicines for diagnosing pregnancy, scan internal organs, in the treatment of kidney stones etc.
    - It also detect cracks in metals.
    - It is used to study the growth of foetus inside the mother's womb.
    - It is used in the treatment of muscular pains and a disease called arthritis.
45. Humans communicate with each other by speaking. In humans, the sound producing organ is called larynx or voice box which is present at the upper end of the wind pipe in the throat region. Inside the larynx or voice box there are two vocal cords made up of ligaments, which are stretched across it just like a string. When lungs force out air through larynx, the vocal cords vibrate to produce sound. So whenever we speak or sing, our vocal cords vibrate due to the air expelled from the lungs, producing sound.
46. **(a)** Chlorofluorocarbon gas
    Explanation: Chlorofluorocarbon gas is responsible for ozone layer depletion. Ozone layer present in stratosphere combine with CFC,s to release free oxygen.
47. **(b)** Oxygen
    Explanation: The greenhouse gases include methane, CO_2, SO_2, nitrous oxide, ozone and water vapour.
    Oxygen is the only clean gas out there because we need it to survive. Therefore, the only gas that is not a greenhouse gas is (c) oxygen.
48. a. Untreated sewage that contains food wastes, detergents, microorganisms, etc is thrown directly into the rivers.
    b. Discharge of pesticides and weedicides in agricultural land gets seeped into the ground water. This way ground water gets polluted.
49. The Following are the effects of global warming:
    (i) It affects the green house.
    (ii) The Gangotri glacier in the Himalayas has started melting.
    (iii) It causes flood on earth.
    (iv) It increases the temperature in the atmosphere.
50. a. Sulphur dioxide and nitrogen dioxide.
    b. Factories, vehicles, volcanic eruptions, burning of fuels.

c. Plant more and more trees, switch fuels like CNG and unleaded petrol, opt for natural source generation.