

CBSE Sample Question Paper Term 1

Class – VIII (Session : 2021 - 22)

SUBJECT - SCIENCE - 086 - TEST - 02

Class 08 - Science

Time Allowed: 1 hour and 30 minutes

Maximum Marks: 70

General Instructions:

Attempt all the questions.

1. Cutting mature crop manually or by a machine is called: [1]
 - a) Weeding
 - b) Irrigating
 - c) Breeding
 - d) Harvesting
2. Cultivation of vegetables, fruits, and flower plants on large scale is known as: [1]
 - a) horticulture
 - b) fruiticulture
 - c) veggiculture
 - d) mixed farming
3. How do the grains stored and preserved? [1]
4. Why Harvest Festivals are celebrated with great enthusiasm? [1]
5. Write notes on Preparation of soil. [3]
6. Read the following statements : [1]
 - i) Bacteria are unicellular organisms.
 - ii) Bacteria lack cell membrane but contain a cell wall.
 - a) both are wrong
 - b) Statement ii) is correct but i) is wrong.
 - c) both are correct
 - d) Statement i) is correct but ii) is wrong.
7. Potato blight is caused due to : [1]
 - a) fungi
 - b) virus
 - c) bacteria
 - d) protozoa
8. What are the types of Algae? [1]
9. Paheli watched her grandmother making mango pickle. After she bottled the pickle, her grandmother poured oil on top of the pickle before closing the lid. Paheli wanted to know why oil was poured? Can you help her understand why? [1]
10. Write short notes on [3]
 - a. Bacteria
 - b. Viruses
11. PIC refers to : [1]
 - a) Plastic Ignition Code
 - b) Plastic Ideological Code



Solution

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1. **(d)** Harvesting

Explanation: The process of cutting the mature crop manually or by machine is called harvesting. In harvesting, crops are cut close to the ground.

2. **(a)** horticulture

Explanation: Cultivation of vegetables, fruits, and flower plants on large scale is known as horticulture. Horticulture is usually done in a small area.

3. Farmers store the grains in jute bags or metallic bins. However, large scale storage of grains is done in silos and granaries, to protect them from pests like rats and insects. Dried Neem leaves are used for storing food grains at home. For storing large quantities of grains in big godowns, specific chemical treatments are required to protect them from pests and microorganisms.



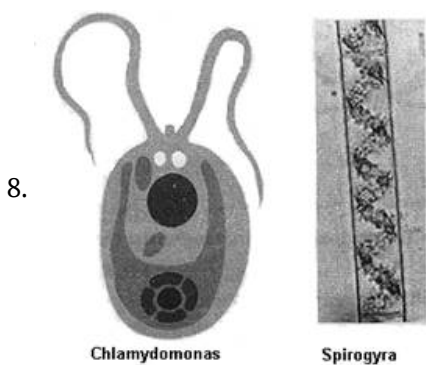
Silos for storage of grains



Storage of grains in granaries

4. Pongal, Baisakhi, Holi, Diwali, Nabanya and Bihu are harvest festivals. Because at the time of harvesting people are jubilant to see the crop laden with grains. They are happy because their hardwork had borne fruits. Thus people celebrate these festivals with great enthusiasm.
5. **Preparation of soil:** The preparation of soil is the first step before growing a crop. One of the most important tasks in agriculture is to turn the soil and loosen it. This allows the roots to penetrate deep into the soil. The loose soil allows the roots to breathe easily even when they go deep into the soil. The loosened soil helps in the growth of earthworms and microbes present in the soil. These organisms are friends of the farmer since they further turn and loosen the soil and add humus to it. Turning and loosening of soil brings the nutrient-rich soil to the top so that plants can use these nutrients.
6. **(d)** Statement i) is correct but ii) is wrong.
Explanation: Bacteria are unicellular prokaryotic organisms not contain well defined nucleus. Bacteria contain both cell membrane as well as cell wall.
7. **(a)** fungi
Explanation: Potato blight is caused due to fungi. In this disease foliage of potato plants develops black spot all over the plants to reduce photosynthesis.





9. Oil was poured on the top of the pickle as it acts as a preservative and prevents microbial growth thus protects the pickle from getting spoiled.
10. a. **Bacteria:** Bacteria are single-celled microscopic organisms. They can survive under all types of environment, ranging from ice cold climate to hot springs and deserts to marshy lands. Bacteria always live in colonies. They are of spiral shape or rod shape. Bacteria play important role in our life; some bacteria are useful whereas some other are harmful and cause diseases. Bacteria are involved in making of cheese and pickles. Lactobacillus bacteria promote the formation of curd. Antibiotics are also made from bacteria. Apart from this diseases like tuberculosis and typhoid are caused due to bacteria.
- b. **Viruses:** Viruses are microscopic infectious agent that acts as non-living outside host cell and inside host cell it becomes living and show reproduction. It can affect all kind of organism including animals, plants and bacteria. Common ailments like cold, coughs and influenza (flu) are caused by viruses; serious diseases like chicken pox and polio are also caused by viruses.
11. **(d) Plastic Identification Code**
Explanation: Plastic Identification code identifies the type of plastic, the product is made from. Plastic Identification Mark is marked on the plastic materials to make it easier for re-processors to identify and separate used plastics for a range of new application.
12. **(d) Statement i) is correct but ii) is wrong.**
Explanation: Nylon is manufactured from coal, water and air so, it is a synthetic fibre. Nylon fibre is elastic, lustrous and easy to wash. It is used to make socks, ropes, tents, curtains etc. It is not a natural fibre since it is made of non-cellulosic polymer.
13. We know that acids and bases are corrosive in nature. Now-a-days, many acids and bases are stored in plastic containers. This is possible because of non-corrosive nature of plastic. A plastic chair does not get rusted; unlike an iron chair. This also happens because of non-corrosive nature of plastic.
14. A polymer is a very big molecule formed by the combination of a large number of small molecules. A polymers are of two type: Natural polymers and Synthetic polymers. Cotton fibre is made of natural polymer called cellulose.
15. The 3 Rs principle is used to save the environment from the harmful effects of the excessive use of plastics. The 3Rs stands for - Reduce, Reuse and Recycle.
1. **Reduce** - This means that we should reduce the use of plastic articles by using articles made of other suitable materials.
 2. **Reuse** - We should try to reuse plastic articles wherever possible. For example empty plastic cans can be used to store different things. They can used for growing small plants.
 3. **Recycle** - The old and used plastic can be recycled to make new things or articles.
16. **(b) Phosphorus**
Explanation: Phosphorus is a chemical element with symbol P and atomic number 15. As an element, phosphorus exists in two major forms—white phosphorus and red phosphorus—but due to its high reactivity, phosphorus is never found as a free element on Earth.
17. **(b) galvanisation**
Explanation: The process of coating a thin layer of zinc on surface of iron object is called galvanisation. Zinc coating provide high resistant to corrosion.



18. Jewelers use Aqua Regia to clean jewelry. Gold is an inert metal which does not react with acids. But Aqua Regia is a mixture of hydrochloric acid and nitric acid in 3 : 1 ratio. It is so potent that it even dissolves gold and silver. Some of the gold is thus lost during cleaning of jewelry. This explains the weight loss of jewelry.
19. Sodium metal is a highly reactive metal which reacts with moisture present in the air, oxygen and many other gases present in it. So if it is left open, it vigorously reacts with air and water and catches fire. Hence it is stored under kerosene.
20. a. Metals are used for making bells because they are sonorous, they make a ringing sound on striking.
b. Copper can not displace zinc from its salt solution because it is less reactive than zinc .
c. Lemon pickle contains acid which reacts with aluminium on coming in contact with each other. It produces toxic substance that can not be consumed.
d. Phosphorus is highly reactive, it catches fire on coming in contact with air, so it is kept under water.
21. **(a) Coal tar**
Explanation: Coal tar is a thick black liquid formed by heating coal in the absence of air. Coal tar is used to construct road and water proofing.
22. **(c) statement i) is correct but ii) is wrong**
Explanation: Petroleum fractions like petrol, kerosene, and diesel includes fuel as well as non fuel products like paraffin and coal, wax, etc. Crude oil itself cannot be used for any purpose without refining.
23. Many useful substances are obtained from petroleum and natural gas. These are called petrochemicals. Petrochemicals are used in the manufacture of detergents, fibres, polythene and other plastics and fertilizers.
24. i. Coal is a natural occurring substance whereas Coke prepared material with few impurities and high Carbon content, usually made from Coal.
ii. Coal has a Volatile matter content whereas Coke has relatively very low Volatile matter content which suits it for a better fuel.
25. Petroleum (also known as crude oil or simply oil) is a fossil fuel that was formed from the remains of ancient marine organisms. When small sea plants and animals die they will sink, they will then lie on the sea bed where they will decompose and mix with sand and silt. During the decomposition process tiny bacteria will clean the remains of certain chemicals such as phosphorus, nitrogen and oxygen. This leaves the remains consisting of mainly carbon and hydrogen. At the bottom of the ocean there is insufficient oxygen for the corpse to decompose entirely. What we are left with is the raw materials for the formation of petroleum.
26. **(b) blue flame**
Explanation: The gas used in Bunsen burner burns completely and produce blue flame without any smoke.
27. **(b) carbon monoxide**
Explanation: Incomplete combustion of fuels releases poisonous gas that can be very harmful for our health. Carbon monoxide gas combine with haemoglobin to reduce oxygen carrying capacity.
28. The watch glass containing petrol will catch fire instantly because its ignition temperature is very low. Also, petrol is an inflammable substance, ie. it can easily catch fire with a flame.
29. Iron wire will become red hot and glow. It will not produce a flame.
30. Coal was formed millions of years ago when plants and trees got burried under the earth as a result of the natural disasters. It was hot, absence of air and high pressure under the earth. Due to high pressure and temperature, carbon turned into coal.
This process of changing wood into coal by heat and pressure inside the earth is called carbonisation.
31. **(a) Static friction**
Explanation: Static friction is the friction that exists between a stationary object and the surface on which it is resting. Static force should be greater than frictional force in magnitude.
32. **(c) Smaller area**
Explanation: Same force produces more pressure on smaller area as pressure is inversely proportional to area of contact. So, high pressure in less area of contact and less pressure in more area of contact.
Example: Cutting instruments like knife and scissors have sharp edges or less area of contact.
33. In this case, muscular force is acting in upward direction and the force of gravity is acting in downward direction. Both forces are acting in opposite directions to each other and hence nullify the effect of each



other. Due to this, there is no change in the state of motion of the bucket.

34. Magnetic force act on to sort out pins and, it is a non-contact force.

35. a. A force which can be exerted by an object on another object only through some contact is called a contact force. The examples of contact forces are: muscular force and frictional force.

Since muscular force is applied on an object with our muscles, hence it is a contact force. For example, a boy pulling a cart. Frictional force is also applied between the two surfaces in contact with each other, for example, a car moving on the road is stopped by applying friction.

b. A force which can be exerted by an object on another object even from a distance without touching each other is called a non contact force.

Magnetic force and gravitational force are examples of non contact forces. A magnet can attract an iron object even at a distance, so it is a non contact force.

Gravitational force is also applied on all objects even at a distance, so it is a non contact force. For example, an apple falls from a tree comes to the earth in the downward direction.

36. (c) Slows down them

Explanation: Air resistance slows down the falling object as it increase with the increase in surface area of the object and acts against the gravitational force due to which it slows down the speed of object to fall down

37. (a) Movement of ships or boat

Explanation: The friction offered by water is good for the movement of ships and boat in water. In ships and boat applied force is directed in backward direction and due to opposite nature of frictional force ships or boat moves in forward direction.

38. Friction is harmful in many ways.

- It wears out the material whether they are screws, ball bearing or soles of shoes.
- Warn out steps of foot over bridges on railway station are also due to friction.
- Friction can also produce heat.
- Friction causes moving objects to stop or slow down.

39. **Advantages of friction:**

- (i) We cannot write with a pen or pencil, if there were no friction.
- (ii) We cannot write on the blackboard with a chalk, if there were no friction.
- (iii) If an object started moving, it would never stop, if there were no friction.
- (iv) We cannot walk on the road without friction.
- (v) We cannot fix a nail on the wall or tie a knot without friction.

Disadvantages:

- (i) It wears out the materials whether they are screws, ball bearings or soles of shoes.
- (ii) It causes damage to the parts of machines.
- (iii) Friction also produces heat. When a machine is operated, heat is generated that causes wastage of energy.
- (iv) The tyres of cars, buses and trucks, etc., also worn out due to friction.
- (v) Friction reduces the speed due to which more force is required.

In this way, we see that friction is harmful as well as useful so it is called necessary evil.

40.	Static friction	Sliding friction	Rolling friction
	1. It is the friction between two surfaces when the object starts moving from state of rest.	It is the friction between two surfaces when the object is sliding over another object or surface.	It is the friction between two surfaces when one object is rolling over another object or surface.
	2. It is the force required to start moving the object.	It is the force required to retain the sliding motion at the same speed.	It is the force required to retain the rolling motion at the same speed.
	3. It is the maximum force of friction present between the two surfaces.	Sliding friction is less than static friction.	Rolling friction is much less than the sliding friction.
	4. Strong interlocking of the contact point.	Interlocking is not very strong	Interlocking is very weak.

41. (c) i, ii & iv only

Explanation: Because light can travel in vacuum also but it is only sound which requires medium to travel.

42. (c) Echo

Explanation: The repetition of sound caused by the reflection of sound waves is called Echo. Echo is produced in large halls or in hilly areas due to reflection of sound.

43. Given that,

Number of oscillation = 40

Total time taken = 4 seconds

Time period = time taken in one oscillation = $\frac{\text{Total time}}{\text{Total number of oscillation}} = \frac{4 \text{ second}}{40} = \frac{1}{10} \text{ second} = 0.1 \text{ second}$

Again, frequency = number of oscillations per second = $\frac{\text{Number of vibration}}{\text{Time taken}} = \frac{40}{4} \text{ second} = 10 \text{ per second} = 10 \text{ Hz}$.

44. The range of human ear is between **20Hz to 20000Hz**.

The sound frequency between this range is called **audible sound**.

The sounds having frequency less than 20 Hz is known as **inaudible sounds**.

45. Sound is produced due to vibration. The vibration makes the air around vibrate and the air vibrations enter the ear. When an object vibrates, it disturbs the air around it. The molecules of air in contact with vibrating objects also start to vibrate. The vibrating air molecules in turn, make more air, it makes a long chain of sound waves. Sound waves travel in all direction through a material medium like air, water or solids, called propagation of sound. Sound cannot travel in absence of medium because in empty space there is no molecules which help the sound to travel.

46. (d) Waste water

Explanation: Water from bathroom, kitchen and toilet are called waste water. These water together with other household wastage forms the sewage.

47. (b) Asthma

Explanation: Asthma is a respiratory disease caused by polluted air. Blood pressure, jaundice, and goiter is not caused by polluted air.

48. Plants utilize CO₂ from the atmosphere for photosynthesis, thereby decreasing the amount of CO₂ in the air.

Deforestation leads to an increase in the amount of CO₂ in the air because the number of trees which that consume CO₂ is reduced. Human activities, thus contribute to the accumulation of CO₂ in the atmosphere.

CO₂ traps heat and does not allow it to escape into space. As a result, the average temperature of the earth's atmosphere is gradually increasing. This is called global warming. Thus, increased CO₂ contributes to global warming.

49. a. Global warming- The increase in the annual temperature of the earth's atmosphere due to the emission of harmful gases is termed as global warming.

b. Green house effect- The trapping of radiations by the earth's atmosphere to warm the Earth's surface is called green house effect.

c. Air Pollution- When air is contaminated by unwanted substances and it has harmful effect on both the living and non living is referred to as air pollution.

50.

Name of pollutant	Source
Carbon monoxide (CO)	Incomplete burning of fuels such as petrol, diesel and wood.
Carbon dioxide (CO ₂)	Burning of fuels such as natural gas, petrol, diesel and wood.
Suspended particulate matter (SPM)	Smoke, dust and vapours.
Chlorofluorocarbons (CFCs)	Decomposition of vapours of liquid used in refrigeration and air condition.
Nitrogen oxides (NO ₂)	Burning of petrol, diesel and coal.
Sulphur dioxide	Burning of coal and other industrial processes like smelting of metals and production of paper.

Ozone (O ₃)	Vehicles and several industrial processes.
Lead vapours (Pb)	Burning of petrol, diesel; from lead storage batteries and hair dyes.

