CBSE Sample Question Paper Term 1

Class – VIII (Session : 2021 - 22)

SUBJECT - SCIENCE - 086 - TEST - 03

Class 08 - Science

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

General Instructions:

Attempt all the questions.

1. Harvesting of crop may lead to: **[1]**

   a) solid waste pollution b) noise pollution

   c) radioactive pollution d) air pollution

2. Process of loosening and turning the soil is called : **[1]**

   a) irrigating b) tilling

   c) threshing d) fallowing

3. What do you understand by the term "Irrigation"? How much water should be given to crops? **[1]**
4. Why should the harvested grains be protected from moisture? **[1]**
5. Write the important differences between manures and fertilisers. **[3]**
6. Food and mouth disease occurs in cattle due to: **[1]**

   a) a protozoan b) a virus

   c) a bacterium d) a fungus

7. Mosquito is not causal organism of malaria but it is: **[1]**

   a) carrier of Plasmodium b) vector of AIDS

   c) primary host of Plasmodium d) intermediate host of malarial parasite

8. Explain the formation of curd from the milk. **[1]**
9. How do microorganisms spoil food? **[1]**
10. State some beneficial effects of bacteria. **[3]**
11. Polythene is obtained by polymerization of : **[1]**

    a) phenol & formaldehyde monomers b) propylene monomers

    c) ethylene monomers d) methylene monomers

12. Plastics are classified as thermoplastic and thermosetting plastic based on their behaviour: **[1]**

    a) on passing electricity b) on cooling

    c) on heating d) on ironing

13. Select the articles from the following list which are biodegradable. **[1]**

    a. paper

b. woolen clothes
c. wood
d. aluminium cane
e. plastic bag
f. peels of vegetables

14. Explain why the following are made of thermosetting plastics. **[1]**
a. Saucepan handles
b. Electric plugs / switches / plug boards.

15. Write some useful properties of plastics. **[3]**

16. Which reaction is not feasible? **[1]**

a) $Fe + ZnSO_4 \longrightarrow FeSO_4 + Zn$ b) $NaOH + HCl \longrightarrow NaCl + H_2O$

c) $Fe + FeSO_4 \longrightarrow ZnSO_4 + Zn$ d) $Zn + H_2SO_4 \longrightarrow ZnSO_4 + H_2$

17. Which metal is placed at the top of the reactivity series of metals? **[1]**

a) Aluminium b) Magnesium

c) Gold d) Potassium

18. Write the reaction of non-metals with acids. **[1]**

19. What would you observe when a strip of zinc is dipped in the solution of copper sulphate? **[1]**

20. a. Element A is soft, brittle and does not conduct electricity. Element B is hard, malleable and ductile, and also conducts electricity. Which of the two elements, A or B is a non metal? **[3]**
b. The screw driver used by an electrician has a plastic or wooden handle. Why?

21. The vehicle shown in image is fitted with cylinder of : **[1]**

a) liquefied under pressure natural gas b) compressed natural gas

c) combined compressed natural gas d) compact natural gas

22. Read the following statements: **[1]**
i. Car pool is useful to save natural resources.
ii. Regular maintenance of vehicles helps to save fuel.

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

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

23. What are the harmful effects of using fossil fuels? **[1]**

24. Describe how coal is formed dead vegetation. What is this process called? **[1]**

25. Imagine that all the exhaustible natural resources are exhausted by human activities. Do you think the survival of living beings would be possible? If yes, why? If not, why not? **[3]**

26. Combustion of fuels is done to obtain: **[1]**

a) Water
b) Energy
c) Residues
d) Gases

27. During combustion temperature rises considerably because burning: **[1]**

a) not uses air
b) uses oxygen
c) rapidly
d) produces light

28. Why any of the fuel is not considered as an ideal fuel? **[1]**

29. How does fire brigade works to extinguish fire? **[1]**

30. How can combustion be classified? **[3]**

31. The force required to move a stationary body is called **[1]**

a) Gravitational force
b) Unbalanced force
c) Frictional force
d) Balanced force

32. A box weighing 2 kg exerts a force of 20 N on the ground. The box covers an area of 2 sq. m on the ground. The pressure exerted by the box on the ground is **[1]**

a) 40 Pa
b) 30 Pa
c) 10 Pa
d) 20 Pa

33. While sieving grains, small pieces fall down. Which force pulls them down? **[1]**

34. What is a force? Explain with the help of some examples. **[1]**

35. Explain the working of a dropper and its principle. **[3]**

36. Friction is a **[1]**

a) Contact force acting in same direction
b) Non-contact force in same direction
c) Non-contact force in opposite direction
d) Contact force acting in opposite direction

37. In which of the substance friction is less **[1]**

a) Kerosene
b) Water
c) Air
d) Ice

38. Why is it not easy to move an object from its static position? **[1]**

39. What are the factors on which frictional force depends in fluids? **[1]**

40. Explain briefly any two methods of reducing friction? **[3]**

41. We must never put a sharp, pointed things into our ear because it can **[1]**

a) Break auditory nerve
b) Damage eardrum
c) Damage cochlea
d) Reduce the thickness of eardrum

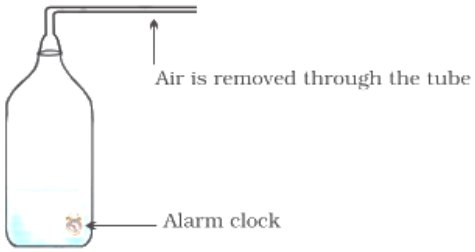
42. Industrial noise can be reduced by **[1]**

a) Not using machine that produce noise
b) Removing all persons away from factories
c) Installing industrial activity away
d) Shutting down all industrial activity

from residential area

43. What is difference between noise and music? **[1]**

44. An alarm bell is kept inside a vessel as shown in Fig. A person standing close to it can distinctly hear the sound of the alarm. Now if the air inside the vessel is removed completely how will the loudness of alarm get affected for the same person? **[1]**



45. Write the applications of the ultrasound. **[3]**

46. Chlorofluorocarbon gas is used in **[1]**

a) Airoplane
b) Rail engine
c) Bus and cars
d) Refrigerator and air conditioners

47. Which of the following is not a source of air pollution? **[1]**

a) Automobile exhaust
b) Burning of firewood
c) Windmill
d) Power plant

48. How can you detect that person falling sick is because of infected water? **[1]**

49. How can we reduce, reuse, and recycle water? **[1]**

50. 25% of the world's population is without safe drinking water. Justify the statement. **[3]**

Solution

SUBJECT - SCIENCE - 086 - TEST - 03

Class 08 - Science

1. **(d)** air pollution
   Explanation: Nowadays harvesting is done with a machine called a harvester which separates seeds from chaff too. During this process, a lot of dust produced and causes air pollution.
2. **(b)** tilling
   Explanation: The process of loosing and turning of the soil is called tilling or ploughing. This is done by using a plough, made up of wood or iron.
3. (a) Irrigation means giving proper amount of water to our agricultural crops. Fields are irrigated by water from canals, water-ways or from wells.
   (b) Bunds and Furrows are important method of irrigation.
   (c) Neither too much nor too little water can gives us good yield. Excess of water destroys crops and thus it should be drained off by providing suitable outlet. Some plants like paddy (rice), tea etc., need to be partially submerged in water. Bunds and furrows are important in these cases.
   (d) The time and frequency of irrigation vary from crop to crop, soil to soil and season to season.
4. Food grains which are to be stored for future use should be completely dried because of following reasons.
   a) Presence of moisture may be favourable for the growth of microorganisms.
   b) Presence of moisture and favourable temperature enhance germination of stored seeds. This should be controlled by removing the moisture completely.
   c) It promotes the growth of moulds (fungi) on grains. Some of the fungi which grow due to moisture on grains may be poisonous.
5. **Differences between manures and fertilisers:**

Manures	**Fertilisers**
1. Manure is a natural substance obtained by the decomposition of animal wastes like cow dung, human waste and plant residues. 2. It is not very rich in essential plant nutrients like nitrogen, phosphorous and potassium. 3. It provides a lot of organic matter like humus to the soil. 4. It can be prepared in the fields.	1. A fertilizer is a salt or an organic compound. 2. It is very rich in essential plant nutrients like nitrogen, phosphorous and potassium. 3. It does not provide any organic matter like humus to the soil. 4. These are prepared in factories.

6. **(b)** a virus
   Explanation: Food and mouth disease is a common disease of cattle in which ulcers are formed in mouth as well as foot. The animals stop feeding. Foot and mouth disease is caused due to a virus.
7. **(a)** carrier of Plasmodium
   Explanation: Malaria is a protozoal disease caused by Plasmodium. Plasmodium completes their life cycle in two hosts, mosquito and human beings. Female anopheles mosquito transfers the Plasmodium from infected person to healthy person.
8. Curds are a dairy product produced by bacterial fermentation of milk. Bacteria that is used for this purpose is Lactobacillus delbrueckii . This is a kind of bacteria which can convert a sugar into an acid by means of fermentation. Milk contains a sugar called lactose, when milk is heated to a temperature of 30-40 °C and a small amount of old curd added to it, the lactobacillus in that curd sample starts to grow and convert the lactose into lactic acid, which imparts the sour taste to curd.
9. Microorganisms grow on the food materials and multiply rapidly. They release toxins in the food and make them unfit to consume. They breakdown the food molecules into amines and change the taste, texture and appearance of food.
10. Beneficial effects of bacteria
    (i) They convert fruit juices into vinegar and wine

(ii) Some bacteria convert atmospheric nitrogen into nitrates, i.e., help in fixation of nitrogen.
(iii) They help in the digestion of food in our body.
(iv) They decompose organic matter to give nutrients to plants.
(v) They give us various milk products like curd and cheese.

11. **(c)** ethylene monomers
Explanation: Polythene as the name suggests is polyethylene. Polythene is obtained by polymerization of ethylene monomers.Repeated units of ethylene join in linear fashion to form polythene.

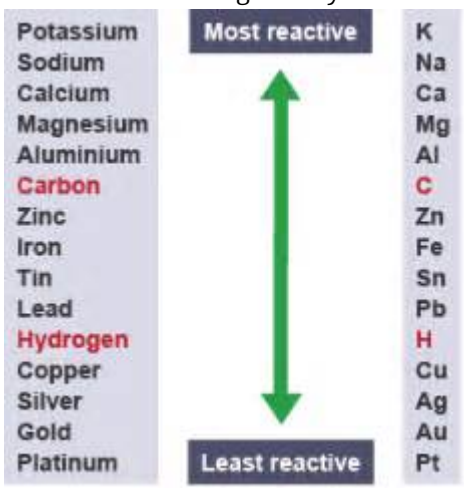
12. **(c)** on heating
Explanation: Plastics are classified as thermoplastic and thermosetting plastic based on their behaviour on heating. Thermoplastic can be melted heated and harden again when cooled but thermosetting plastic does not melt when heated and cannot be moulded. Once moulded into a shape they are permanently shaped.

13. The biodegradable articles are:
    a. paper
    b. woolen clothes
    c. wood
    d. peels of vegetables.

14. a. Bakelite is a kind of thermosetting plastic and is a bad conductor of heat and electricity. That is why it is used for making electric plugs, switches, plug boards, etc.
    b. Thermosetting plastics are used to make saucepan handles because on heating, these plastics do not get softened and also it is a bad conductor of heat and electricity.

15. The important properties of plastics which make them very useful are given below:
    a. Plastic is chemically unreactive. It is not affected by weather or any other chemical. It resists corrosion.
    b. Plastics are poor conductor of heat and electricity. The handles of cooking utensils, screw drivers and the plastic covering over the electric wires are made of plastic because it is an electrical insulator.
    c. It is light, strong and durable. They have good strength and durable. Many articles are made of plastics like bottles, buckets etc.
    d. They can be molded into different shapes. Because of this property they are used to make a large variety of articles having different shapes and sizes like bags, sheets, combs, toys, slippers etc.

16. **(a)** $Fe + ZnSO_4 \longrightarrow FeSO_4 + Zn$
Explanation:
Any metal will displace another metal only if it is more reactive than the other metal. The reactivity of different metals is given by the reactivity series. Following is the reactivity series.



As can be seen from above series, iron is less reactive than zinc, because of which it is enabled to displace zinc from $ZnSO_4$.

17. **(d)** Potassium
Explanation: In the reactivity series of metals, potassium is the most reactive metal, so it has been placed at the top.

18. **Reaction with Acids:** Some non-metals react with acids to form corresponding oxy-acids.
$S + 6\ HNO_3 \rightarrow H_2SO_4 + 6\ NO_2 + 2H_2O$

Sulphur Nitrogen dioxide

19. It will be observed that blue colour of the copper sulphate solution starts fading and zinc strip gets a shiny brown coating of copper.
    When Zinc is dipped into a copper sulphate solution , Zinc will displace to the copper from the copper sulphate solution and a product of Zinc sulphate
    Equation: $Zn(s) + CuSO_4 (aq) \rightarrow ZnSO_4 + Cu$

20. a. Element A is a non metal because it has all the properties of non metals ,it is soft, brittle and does not conduct electricity.
    While element B has all the properties of metals.
    b. The handles of screw drivers are made of plastic or wood because both plastic and wood are insulators, this prevents the electricians from getting an electric shocks.

21. **(b)** compressed natural gas
    Explanation: The vehicle shown in the image is fitted with cylinder of compressed natural gas. CNG is an excellent fuel as it does not produce harmful gases and particulate matters.

22. **(c)** both are correct
    Explanation: Car pool is a useful way to save natural resources and reduce pollution level. Regular maintenance of vehicles also helps to save fuel.

23. Harmful effects of burning fossil fuels are as following:
    (i) Burning of fossil fuels cause air pollution.
    (ii) They also cause global warming because they produce greenhouse gas like carbon dioxide on burning.
    (iii) They are exhaustible resources, and will be finished in the near future.

24. About 300 million years ago the earth had dense forests in low lying wetland areas. Due to natural processes, like flooding, these forests got buried under soil. As more soil deposited over them, they were compressed. The temperature also rose as they sank deeper and deeper. Under high pressure and high temperature, dead plants got slowly converted to coal.
    As coal contains mainly carbon, the slow process of conversion of dead vegetation into coal is called carbonisation.

25. If all the exhaustible natural resources are exhausted by human activities, then the survival of living beings would not be possible. Actually, fossil fuels are the most important source of energy for us today. They are concentrated sources of energy and give off heat and light on burning. The heat can be used to cook food or to run engines such as automobile engines. It can be used to generate electricity as in powerhouses where the most common fuel used is coal.

26. **(b)** Energy
    Explanation: Fuel is burnt to obtain energy. Energy is used to drive a number of processes like running car, producing electricity, cooking food etc.

27. **(d)** produces light
    Explanation: During combustion temperature rises considerably because burning produces heat and light due to the breaking of carbon bonds in them.

28. Ideal fuel is the fuel which is inexpensive, it is easily available, it should have a high calorific value, it should niether burn too fast or too slow and it should leave no residue on combustion. Therefore, if a fuel is said to be an ideal fuel, it should contain all these qualities. We see that no fossil fuel is having all these properties. Therefore, no fuel can be considered as an ideal fuel.

29. When fire brigade arrives, it pours water on the fire. Water cools the combustible material so that its temperature is brought below its ignition temperature. This prevents the fire from spreading. Water vapour also surrounds the combustible material, helping in the cutting off the supply of air. So the fire is extinguished.

Firemen extinguish the fire by throwing water under pressure

30. Combustion can be classified according to the rate or speed at which the substance burns:
    a. Slow combustion- This type of combustion takes place at moderate speed, for example burning of coal or wood. Fuel is not burnt completely which results in smoke and some carbon particles.
    b. Rapid combustion – When a substance burns in a short time, the combustion is complete and a large amount of heat and light is produced. For example, LPG in gas stoves.
    c. Spontaneous combustion – The substance catches fire as soon as it reaches its ignition temperature. The material suddenly burst into flames even without the application of heat. For example, white phosphorus catches fire at room temperature.
    d. Explosion- The combustion that takes place suddenly with the evolution of heat, light and sound. A large amount of gas is evolved. For example, bursting of a cracker.
31. **(b)** Unbalanced force
    Explanation: Forces that cause a change in the motion of an object arecalled unbalanced forces.Unbalanced force are not equal and opposite. Example: In a tug of war the team that pulls harder than the other team wins. This unbalanced force is required to overcome the gravitational force acting on the body.
32. **(c)** 10 Pa
    Explanation: Here, Force exerted by the box on ground = 20N
    Area of the ground the box covers = 2 sq m
    Since, Pressure = Force/ Area.
    Pressure exerted by the box on the ground = 20N / 2 sq m = 10Pa.
33. Gravitational force pulls them down. Objects or things fall towards the earth because it pulls them. This force is called the gravitational force. Hence, while sieving grains, small pieces fall down due to the gravitational force of the earth.
34. Force is a pull or push of the objects. Force can make a stationary object move or make a moving object move faster. The action like, pushing, pulling, picking, hitting, lifting, running and bending are the examples of force. Moving or stopping of a body, changing shape and direction of motion of objects are various actions which show force in play.
35. A dropper is a short glass tube with a rubber bulb at one end and a nozzle at the other end. It is used for measuring the drops of liquids as in the case of medicines. It works on the principle of atmospheric pressure. When we press the rubber bulb, the air present in the glass tube escapes from the nozzle in the form of bubbles. The air pressure inside the rubber bulb and the nozzle is reduced and a greater atmospheric pressure is acting on the surface of the liquid which pushes the liquid inside the glass tube. This is how it works on the principle of the atmospheric pressure.
36. **(d)** Contact force acting in opposite direction
    Explanation: Friction is a contact force acting in opposite direction of moving body. Friction is created when one body moves over the surface of another body in contact to each other.
37. **(c)** Air
    Explanation: Gases offers less friction than liquid and solid because in air there in more intercellular space. Hence, air will offer less friction in comparison to kerosene, water, and ice.
38. When an object is at rest, it has better hold of the surface on which it is placed. In the static position the irregularities of the surface are interlocked properly due to which more force is required to overcome the friction. So it is not easy to move an object from its static position.

39. **Factors affecting Friction**
    1. **Nature of the Surface-** The force of friction depends on the nature of the surfaces in contact i.e. smooth surface or rough surface. As we know, friction is caused by irregularities on the surfaces in contact so if the surfaces are smooth then the number of irregularities will be less hence the friction will also be less, but if the surfaces in contact are rough then they have more irregularities on the surface. Such surfaces when slides over each other, gets interlocked due to their irregularities. More the resistance to motion, more will be the friction. So larger force is required to make them move over each other.
    2. **Mass of the Body-** The force of friction depends on the mass of the body which is lying on the surface. More the mass of an object, more will be the friction. For example - One book is lying on the table, a gentle push to the book can it move. But if we put two more of such books having same thickness, more force is required to overcome the friction offered by the table to the books. Hence it is clear that more the mass of the object, more will be the friction.

40. a. **By polishing the surface:** rough surface can be made smooth by polishing it. That is how, friction can be reduce. Polishing removes hills and valleys from the surfaces. If the surfaces, that are in contact are rough there is more friction. After polishing, surfaces become smooth, so it has less friction.
    b. **By streamlining the bodies:** to reduce fluid friction, aeroplanes, rockets, sail boats are shaped into streamlined body. Birds have streamed lined bodies.

41. **(b)** Damage eardrum
    Explanation: We must never put sharp, pointed things into our ear because it can damage eardrum. Eardrum is thin membrane at the junction of outer ear and middle ear.

42. **(c)** Installing industrial activity away from residential area
    Explanation: Industrial noise can be reduced by installing industrial activity away from residential area and using safety for workers.

43. Excessive or unwanted sounds are called noise. Noise is unpleasant to hear. E.g., Sound produced by a bunch of students speaking together in the classroom.
    The sounds which are pleasing to the ears are called music. It gives a soothing effect rather than creating a chaos in mind. E.g., Sound produced by a harmonium sound.
44. Initially, the person is able to hear the sound coming from air and water distinctly. But after some time, when the air is completely removed from the bottle, the sound will pass through the water and not reached to man. So, the man will not hear the sound which was coming through the air initially.
45. (i) Ultrasound is used as diagnostic tool in medical science.
    (ii) It is used to relieve pains in joints and muscles.
    (iii) It is used to detect flaws in metals and structures.
    (iv) It is used to test the thickness of various parts.
    (v) In the process of electrocardiography, the ultrasonic waves are used to form an image of the heart using reflection and detection of these waves from various parts.
    (vi) Medical ultrasound is a diagnostic imaging technique based on ultrasound.
    (vii) Ultrasonic waves are used to break stones in the kidney.

46. **(d)** Refrigerator and air conditioners
    Explanation: Chlorofluorocarbon gas which is mainly responsible for depletion of ozone layer is used in refrigerator and air conditioners.

47. **(c)** Windmill
    Explanation: Windmill is not a source of air pollution. It is regarded as an alternative source of energy.

48. Contaminated water may contain bacteria, viruses, fungi and parasites which cause diseases like cholera, jaundice and typhoid. The bacteria in the faeces of mammals are indicators of the quality of water. If water has these bacteria, it means that it has been contaminated by faecal matter. If such water is used by us, it causes various infections.
49. The various ways to conserve water (or save water) at home are as follows:
    i. Reduce While brushing our teeth, bathing, etc, we should not keep our taps on. We should turn off the tap immediately after use. The leaking taps should be repaired immediately.
    ii. Reuse Water used for washing vegetables, rice, pulses, and fruits can be used for gardening.
    iii. Recycle Dirty water can be recycled after purification.

50. Large population is without safe drinking water. Following are the stances to support it:
    - People can be seen bathing, washing clothes and defecating in the river
    - People throw garbage, flowers, idols of gods and non-biodegradable bags
    - Industries located near the rivers discharge toxic chemicals wastes and chemicals causing chemical contamination of water.
    - Pesticides and weedicides dissolve in water and are washed into water bodies from the fields which seep into the ground and pollute ground water.