

PREVIOUS YEAR QUESTIONS

DAVCAE BOARD QUESTIONS

CLASS - VIII

CHAPTER NAMES –

1. CELL: ITS STRUCTURE AND FUNCTIONS

2. MICROORGANISMS: FRIENDS AND FOES

1	Draw a neat diagram of a plant cell and label the following parts : (a) Cell wall (b) Nucleus	2
2	Write any two differences between a plant cell and an animal cell.	2
3	a) Name the structures that are responsible for the inheritance of characters from one generation to another generation. b) How are these structures formed ?	3
4	a) Distinguish between an amoeba and an earthworm on the basis of their cell numbers. b) What is the function of a nerve cell ? c) Name the colourless plastids present in plant cell. (3)	3
5	Explain how nucleoplasm is different from cytoplasm. List the main factors that determine the shape of a cell.	2
6	From the following box, identify the organelles found only in plant cell and write one function of each of them. 3 <div>cell membrane, cell wall, nucleus, large vacuoles, plastids, mitochondria</div>	3
7	(a) Mitochondria is called the power house of a cell. Justify the statement. (b) What happens to the chromatin when the cell is ready to divide ?	2

8	<p>Draw a neat and labeled diagram of an animal cell and label / encircle the organelles responsible for :</p> <p>(i) cellular respiration (ii) transport of materials in a cell</p>	2
9	<p>Name the organelles responsible for :</p> <p>(i) Cellular respiration</p> <p>(ii) transport of materials in cell</p> <p>(iii) capturing food in case of Euglena</p> <p>(iv) imparting colour other than green to different parts of the plant</p>	2
10	<p>Differentiate the two types of endoplasmic reticulum on the basis of their :</p> <p>(i) appearance (ii) function</p> <p>Also state the reason for their observed appearance.</p>	2
11	<p>Give reasons :</p> <p>(i) Nerve cells possess a long fibre like structure.</p> <p>(ii) The cell wall is an important covering in plant cells.</p> <p>(iii) Cell is the basic structural and functional unit of all living organisms.</p>	3
12	<p>Write the function of following parts of a cell :</p> <p>(a) Cell membrane</p> <p>(b) Smooth Endoplasmic Reticulum</p> <p>(c) Leucoplasts</p>	3
13	Write any three differences between a plant cell and an animal cell.	3
14	<p>What changes occur in chromatin during the cell division?</p> <p>What is the function of chromosomes?</p>	2
15	<p>Why are plant cells more rigid than an animal cell?</p> <p>Give functions of vacuole and Ribosomes.</p> <p>Name the cell organelle where cellular respiration takes place.</p> <p>Name the term used for protoplasm of the nucleus.</p>	3

16	Classify the living organisms into different categories on the basis of the cell number. Also write one characteristic feature of each category.	2
17	Give one characteristic feature and one main function of following parts of cell : <div style="display: flex; justify-content: space-between;"> (a) cell wall (b) chloroplast </div> <div style="display: flex; justify-content: space-between;"> (c) Mitochondria (d) Golgi complex </div> <div style="display: flex; justify-content: space-between;"> (e) Ribosomes </div>	5
18	Write the name of the cell organelle which : (a) provides skeletal framework to the cell. (b) helps in protein synthesis (c) stores excess water and waste products (d) is called store house of the cell.	2
19	Give reason : (a) Animal cells are more flexible than plant cell. (b) Mitochondria is called as power house of the cell.	3
20	(a) Differentiate between chloroplasts and chromoplasts (b) Name the smallest and the largest cell.	3
21	Explain the importance of chromosomes present in the nucleus. Write the different levels of organisation of living organism in sequence.	3
22	Name the cell organelle which is called the power house of the cell and why?	2
23	(a) What is protoplasm present inside the nucleus called? (b) Name the part of nucleus that condenses to form chromosomes at the time of cell division. State the function of chromosomes in a cell.	3
24	The parts P and Q are present only in plant cells and not in animal cells. Part P takes part in the food making process whereas Q gives shape and support to the plant cell. Parts P and Q are A. P Chromoplast. Q. Cell membrane B. P. Cell wall. Q. Chromoplast C. P. Chloroplast Q. Cell wall	1

D.P. Chloroplast Q. Cell membrane

25

Observe the diagram given below:

(1)

1



The part of cell which is involved in the processing and packaging of materials is:

- A. Part b- Vacuole
B. Part c- Golgi Complex
C. Part a- Endoplasmic reticulum
D. Part a- Golgi complex

26

Sanya is studying the structure of a cell. She is learning about the different parts of the cell and their functions. The correct match for cell part with its function is-

- A. Nucleus – Provides energy to the cell
- B. Mitochondria – Controls all cell activities
- C. Cell membrane – Protects the cell and controls movement of materials in and out of the cell
- D. Cytoplasm – Stores genetic information

27

Column A	Column B
(a) Lactobacillus	(i) Algae
(b) Aspergillus	(ii) Protozoa
(c) Spirogyra	(iii) Fungi
(d) Paramecium	(iv) Bacteria


Observe the table given above and find the correct matches-

- A. (a)-(iii) , (b)- (ii) , (c)-(iv) , (d)- (i)
 B. (a)-(iv) , (b)- (iii) , (c)-(i) , (d)- (ii)
 C. (a)-(ii) , (b)- (iv) , (c)-(iii) , (d)- (i)
 D. (a)-(iv) , (b)- (i) , (c)-(ii) , (d)- (iii)

1

28	<p>NOTE : For questions 17 to 20, two statements are given-one labeled Assertion(A) and the other labeled Reason (R). Select the correct answer for these questions from the codes (a), (b), (c) and (d) as given below :</p> <p>(A) Both A and R are true and R is the correct explanation of Assertion. (B) Both A and R are true and R is not the correct explanation of Assertion. (C) A is true but R is false. (D) A is false but R is true.</p>											
29	<p>Assertion : Different cells, like red blood cells, are round and flat which helps it to move through blood vessels, while nerve cells are long and branched that helps it to transmit signals over long distances.</p> <p>Reason : The shape of a cell is closely related to its location and function in the organism. (1)</p>	1										
30	<p>Ravi took a hen's egg. He gently breaks its shell and transfers the content to a flat plate. Give details of the different parts he observes along with their function. (2)</p>	2										
31	<p>Fill in the blanks in the table based on the discovery of the cell.</p> <table><tr><th>Name of scientist</th><th>Instrument used</th><th>Observation</th><th>Year</th><th>Types of cell</th></tr><tr><td>(i)</td><td>(ii)</td><td>(iii)</td><td>1665</td><td>(iv)</td></tr></table>	Name of scientist	Instrument used	Observation	Year	Types of cell	(i)	(ii)	(iii)	1665	(iv)	2
Name of scientist	Instrument used	Observation	Year	Types of cell								
(i)	(ii)	(iii)	1665	(iv)								
32	<p>Observe the classification chart given below and select the correct option for X and Y : (1)</p> <div><p style="text-align: center;">Organisms</p><div><div><p style="text-align: center;">X</p><p style="text-align: center;">Euglena, Amoeba, Paramoecium</p></div><div><p style="text-align: center;">Y</p><p style="text-align: center;">Humans, Birds, Animal</p></div></div></div> <p>A. X : Non-living things; Y : living things B. X : Can respond to changes; Y : can not respond to change C. X : Have one cell; Y : have many cells D. X : Prokaryotic; Y : Eukaryotic</p>	1										

34	The correct combination of terms with reference to an animal cell are : (1) A. cell wall, cell membrane, nucleus, plastid B. cell wall, nucleus, ribosome, chromosome C. cell membrane, mitochondria, ribosome, chlorosome D. cell membrane, ribosome, mitochondria, chloroplast	1										
35	Assertion : An amoeba and an earthworm are of different sizes due to different number of cells present in them. (1) Reason : The number of cells in an organism is inversely proportional to the size of the organism.	1										
36	Differentiate between Rough Endoplasmic Reticulum (RER) and Smooth Endoplasmic Reticulum (SER). (Two points) (2)	2										
MICROORGANISMS: FRIENDS AND FOE												
37	<table border="1"><thead><tr><th>Column A</th><th>Column B</th></tr></thead><tbody><tr><td>(a) Lactobacillus</td><td>(i) Algae</td></tr><tr><td>(b) Aspergillus</td><td>(ii) Protozoa</td></tr><tr><td>(c) Spirogyra</td><td>(iii) Fungi</td></tr><tr><td>(d) Paramecium</td><td>(iv) Bacteria</td></tr></tbody></table> <p>Observe the table given above and find the correct matches-</p> <p>A. (a)-(iii) , (b)- (ii) , (c)-(iv) , (d)- (i) B. (a)-(iv) , (b)- (iii) , (c)-(i) , (d)- (ii) C. (a)-(ii) , (b)- (iv) , (c)-(iii) , (d)- (i) D. (a)-(iv) , (b)- (i), (c)-(ii) , (d)- (iii)</p>	Column A	Column B	(a) Lactobacillus	(i) Algae	(b) Aspergillus	(ii) Protozoa	(c) Spirogyra	(iii) Fungi	(d) Paramecium	(iv) Bacteria	1
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38	<p>Preservatives are used to protect our foodstuff for a longer time. Answer as per questions asked in different boxes.</p> <table border="1"><tbody><tr><td>Pickle</td><td>(i) Preservative name _____</td></tr><tr><td>Jam and Jellies</td><td>(ii) Preservative name _____</td></tr><tr><td>Milk</td><td>(iii) Two Methods of preservation _____ (iv) Definition of the process.(any one) _____</td></tr><tr><td>Sugar</td><td>(v) How does sugar act as a preservative?_____</td></tr><tr><td>Chemical preservative</td><td>(vi) Example 1 _____ (vii) Example 2 _____</td></tr></tbody></table>	Pickle	(i) Preservative name _____	Jam and Jellies	(ii) Preservative name _____	Milk	(iii) Two Methods of preservation _____ (iv) Definition of the process.(any one) _____	Sugar	(v) How does sugar act as a preservative?_____	Chemical preservative	(vi) Example 1 _____ (vii) Example 2 _____	4
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39	<p>(a) List any two diseases caused by microorganisms in human beings. For each of the disease, mention the causative agent, mode of transmission and method of prevention.</p> <p>(b) Why are children vaccinated?</p>	3
40	 <p><u>different parts of orange plant</u></p> <p>The plant disease shown in the image given above and it's causative agent is-</p> <p>A. Tobacco mosaic, bacteria B. Citrus canker, fungus</p> <p>C. Tobacco mosaic, fungus D. Citrus canker, bacteria</p>	1
41	<p>Imagine you are writing a short script for a science skit titled "The Microbe Marvels." Explain the superpower (roles) of friendly microorganisms in 5 different fields like medicine, food, agriculture, fuel production and environment.</p>	5
42	<p>Ravi noticed that his mother uses different methods to preserve different food items.</p> <p>(a) Name the methods used to preserve (i) wheat (ii) meat.</p> <p>(b) Mention the principle behind the methods used in part (a).</p> <p>(c) Define food preservation.</p> <p>(d) Name one chemical and one natural preservative used in making pickles.</p>	4
43	<p>(a) Give reasons for the following :</p> <p>(i) Milk should be pasteurized</p> <p>(ii) Pasteurised milk should be refrigerated</p> <p>(b) Write the disadvantage of pasteurization.</p>	3

44	Complete the following table :	3														
	<table><tr><th>Microorganisms</th><th>Role played by them</th></tr><tr><td>_____ (i) _____</td><td>Bowel movement</td></tr><tr><td>_____ (ii) _____</td><td>Production of Penicillin</td></tr><tr><td>Rhizobium</td><td>_____ (iii) _____</td></tr><tr><td>Lactobacillus</td><td>_____ (iv) _____</td></tr><tr><td>_____ (v) _____</td><td>Fermentaion</td></tr><tr><td>_____ (vi) _____</td><td>Act as common decomposers</td></tr></table>	Microorganisms	Role played by them	_____ (i) _____	Bowel movement	_____ (ii) _____	Production of Penicillin	Rhizobium	_____ (iii) _____	Lactobacillus	_____ (iv) _____	_____ (v) _____	Fermentaion	_____ (vi) _____	Act as common decomposers	
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45	Why are perishable food items like meat and fish covered with salt ?	1														
46	Define Vaccine.	1														
47	Which one of the following is a biological nitrogen fixer and why ? (a) Clostridium (b) Rhizobium	2														
48	(a) Explain how fungi, like yeast, make the dough fluffy or soft. (b) Name the mode of transmission of pathogens of the following diseases : (i) Common cold (ii) Tetanus	3														
49	State the role of biological nitrogen fixers in nature.															
50	(a) Enlist four methods that can be used to make water safe for drinking purposes. (b) Name any two water borne diseases.															
51	(a) Why is non-completion of prescribed courses of antibiotics considered harmful ? (b) Name any two microbial infections that are treated by antibiotics.	2														
52	Comment on the followings statements : (i) Pasteurised milk needs to be stored under refrigeration. (ii) Vacuum packing is commonly used for storing nuts. (iii) Food mustbe properly prepared and stored.	3														
53	When do viruses show the characteristics of living organisms ?	2														

	Name the disease that caused the Irish Famine in 1740-41.	
55	Vaccination is an important way to build immunity. (a) How does a vaccine produce immunity to a disease ? (b) Name two methods of administering vaccines.	2
56	Give reasons for the following : (a) Jams and jellies are usually preserved using a high concentration of sugar. (b) Milk is boiled before its use or storage. (c) Foods, from puffed or enlarged cans, should not be consumed.	3
57	(a) Why do we add phosphoric acid to carbonated beverages? (b) Name the bacteria found in the roots of leguminous plants.	2
58	(a) How is food poisoning caused? (b) Name one bacteria and one fungus causing food poisoning. (c) State one way to prevent it.	3
59	(a) Define bioaugmentation. (b) (i) Name the biological nitrogen fixer which fixes atmospheric nitrogen in rice fields. (ii) Name the organism which fixes atmospheric nitrogen in the roots of leguminous plants. (c) How are the bacteria, present in the large intestine, helpful to us.	3
60	(a) Define food preservation. (b) Write any two uses of fungi like yeast in food industries.	2
61	Write the name of disease causing micro organism, their mode of transmission and one method of prevention for each of the following diseases : (a) Cholera (b) Malaria	2
62	Write the name of a plant disease and its symptoms, caused by the following micro organisms : (a) virus (b) Bacteria	2
63	Name any two communicable diseases and their modes of transmission.	2

64	Fungi like yeast is widely used in baking industry. Explain how yeast help to make the batter of idlies soft and fluffy.	2
65	Name the micro-organism which causes tuberculosis. Explain how does tuberculosis spread from an infected person to a healthy person?	2

SAMPLE QUESTIONS

CLASS: VIII

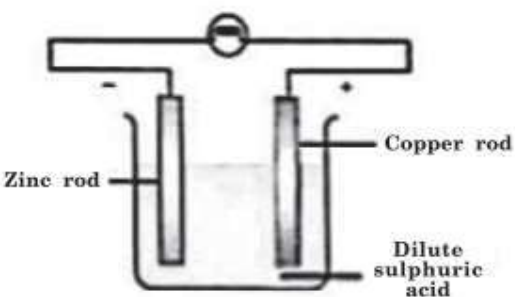
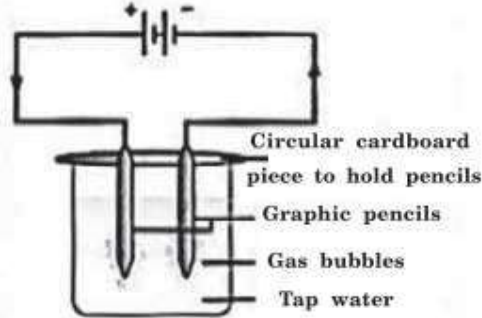
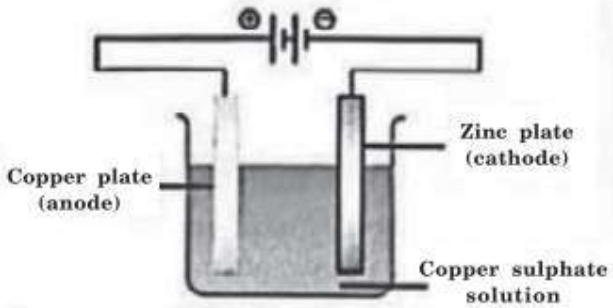
CHAPTER NAME: FORCE AND PRESSURE

Q. NO.	QUESTION	MARKS
1	Select the situation that does not work on the existence of atmospheric pressure. (a) rise of iodine solution in the glass tube of dropper. (b) rise of cold drink in a long plastic straw. (c) sticking of suction hook on the wall of a room. (d) rise of mercury in glass tube of thermometer.	1
2	In a large commercial complex, there are four ways to reach the main road. One of the paths has loose soil, the second is laid with polished marble, the third is laid with bricks and the fourth has a gravel surface. It is raining heavily and Reena wishes to reach the main road. The path on which she is least likely to slip is : (a) loose soil (b) tiles (c) polished marble (d) gravel	1
3	An archer shoots an arrow in the air horizontally. However, after moving some distance, the arrow falls to the ground. The type of forces in this situation are: (a) Magnetic force and electrical force (b) Muscular force and gravitational force (c) Muscular force and frictional force (d) Electric force and gravitational force	1
4	An archer shoots an arrow in the air horizontally. However, after moving some distance, the arrow falls to the ground. The type of forces in this situation are: (a) Magnetic force and electrical force (b) Muscular force and gravitational force (c) Muscular force and frictional force (d) Electric force and gravitational force	1
5	Balanced forces are acting on: A. An accelerating car B. A book at rest on a table C. A falling apple D. A person pushing a box that moves	1
6	The pressure exerted by a force of 20 Newtons on an area of 0.5 metre square is : A. 4 N/m ² B. 10 N/m ² C. 20 N /m ² D. 40 N/m ²	1
7	Assertion: Direct contact between two objects is necessary for a force to act on an object. Reason : Non-contact forces do not require physical contact to act.	1
8	Assertion: A diver feels more pressure as he goes deeper under sea. Reason: Liquid pressure increases with depth due to water column above.	1
9	Reena took a transparent plastic measuring cylinder, 20 cm long and having a diameter of 6 cm. She made two tiny holes of equal sizes in the cylinder at 4 cm (hole A) and 10 cm (hole B) marks respectively, one exactly above the other. After filling the cylinder with water, she observed the stream of water coming out from these two holes. (a) From which hole, water will travel farther from the cylinder? Give reason.	1+1+1+1

	<p>(b) Which property of liquid pressure is responsible for Reena's observation? Mention one more property of liquid on which liquid pressure depends.</p> <p>(c) If water is replaced by oil in the same cylinder, will the stream of oil from hole A go as far as in case of water? Give reason.</p> <p>(d) If both the holes are made at the same horizontal level, how would her observation change?</p> <p>(e) If the same activity is conducted with a plastic measuring cylinder which is 20 cm long and having diameter of 12 cm and filled with same amount of water. How will the liquid pressure change at bottom of cylinder? Give reason.</p>	
10	<p>Suhani, an adventurous eighth grader, embarked on a thrilling mountain trek during her summer vacation. As she ascended higher into the mountains, Suhani faced difficulty in breathing and she felt a tightness in her chest. Despite being physically fit and healthy, she struggled to catch her breath. Upon returning to school, Suhani shared her mountain adventure with her science teacher and classmates. Concerned about Suhani, her science teacher explained the concept of atmospheric pressure and its effects at higher altitudes. She told that airplane passengers experience the same. She also explained the practical applications of atmospheric pressure and safety measures for mountaineers and airplane passengers.</p> <p>(a) Define atmospheric pressure.</p> <p>(b) How was the atmospheric pressure responsible for difficulty in breathing faced by Suhani?</p> <p>(c) Why does our body not get crushed due to huge atmospheric pressure? Explain.</p> <p>(d) Write down two practical applications of atmospheric pressure.</p> <p>(e) Mention any two safety measures that can be taken to cope with atmospheric pressure problems at high altitudes by mountaineers and airplane passengers.</p>	1+1+1+1
8	<p>Imagine you have a sealed plastic bag filled with air in your hand. You are in Central Delhi, and the bag is initially inflated to a comfortable size. You then take the bag to Leh, which is at a much higher altitude. On the basis of your understanding of atmospheric pressure answer the given questions.</p> <p>A. What change occurs in atmospheric pressure when you move from Central Delhi to Leh?</p> <p>B. State whether any change occurs in the size of bag. If yes, why? What could happen to the bag if it's not designed to withstand pressure differences?</p>	1+2
11	<p>A transparent water tank has three identical holes at different heights—top, middle and bottom. When the holes are opened, water streams out from each hole.</p> <p>A. Write one observation related to the distance travelled by the streams of water from the three holes of the tank.</p> <p>B. What does this observation reveal about the relationship between liquid pressure and depth?</p> <p>C. Would the shape of the container affect the pressure at a given depth? Give a reason to support your answer.</p>	1+1+1

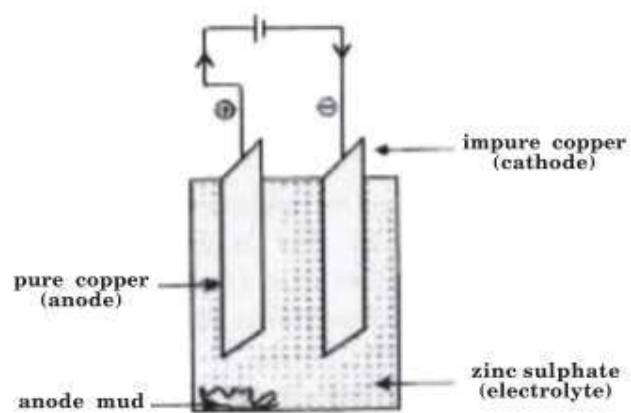
CHEMICAL EFFECTS OF ELECTRIC CURRENT

Q. NO	QUESTION	MARKS
1	A bulb can be lighted using a strong bar magnet and a coil of insulated copper wire. Define the phenomenon behind this. 1	1
2	The ends of the two wires of a continuity tester are dipped in distilled water. Will the bulb of this continuity tester glow ? Give reason for your answer.	1
3	Acidified water is electrolysed by using graphite electrodes. Name the gas produced at : (a) Positive graphite electrode (Anode) (b) Negative graphite electrode (cathode)	1
4	State two factors on which the process of electrolysis depends.	2
5	(a) Define electroplating. (b) During electroplating which of the following are made cathode and anode. (i) the article to be electroplated. (ii) the pure metal which is to be coated on the article.	2
6	Define electroplating Name the metals that are positive and negative electrodes of voltaic cell.	2
7	Reema wants to deposit silver on an iron spoon. She sets up a simple electric circuit for electroplating. (a) to which terminal of the battery should the iron spoon and silver metal be connected for smooth electroplating? (b) Name the substance that can be used as an electrolyte in the above process.	2

8	<p>Rahul visits a jewellery workshop and observes that inexpensive metal ornaments are being coated with a layer of gold using electric current.</p> <p>(a) Name the process Rahul observed. (1+1)</p> <p>(b) State one more industrial application of electrolysis besides this process.</p>	2
9	<p>During an experiment to test the electrical conductivity of liquids, two beakers were filled—one with hydrochloric acid (HCl) and the other with acetic acid (CH_3COOH). When a circuit containing a bulb, wires and a battery was connected to each other, the bulb glowed brightly with HCl but only dimly with CH_3COOH. (1+1)</p> <p>A. Which of the two is a strong electrolyte and which is a weak electrolyte?</p> <p>B. How is the degree of ionization related to the strength of an electrolyte?</p>	2
10	<p>Observe the two set - ups and write any three differences between them.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;">   </div>	3
11	<p>Observe the following setup and explain in detail how copper gets deposited on zinc on passing electric current through the solution.</p> <div style="text-align: center;">  </div>	3
12	<p>(a) Write the metals used as anode and cathode during electro refining of copper. 3</p>	3

	(b) Name the solution that needs to be used during refining of copper. (c) Explain why solid silver nitrate does not conduct electricity while silver nitrate solution does.	
13	(a) Categorise the following electrolytes into weak and strong electrolytes: Sodium chloride solution, Oxalic acid, Ammonium hydroxide solution, Copper sulphate solution. (b) Name the two metals used as the positive and negative electrodes in a voltaic cell.	3 3
14	(a) Categorise the following electrolytes into weak and strong electrolytes : Sodium chloride solution, Oxalic acid, Ammonium hydroxide solution, Copper sulphate solution $\frac{1}{2} \times 4 = 2$ (b) Name the two metals used as the positive and negative electrodes in a voltaic cell. $\frac{1}{2} + \frac{1}{2} = 1$	3
15	(a) State any two uses of chrome plating of metals. (b) Name any two metals extracted from their ores through the process of electrolysis. (c) State the underlying principle of electricity generators.	3 3
16	Passage of electric current through conducting solution causes chemical changes. List any three possible observations resulting from these chemical changes. (a) Define the terms : (i) electroplating and (ii) electrorefining (b) Name the cathode and anode used in electrorefining of copper.	3

17	Describe an experiment to show that we can get electrical energy by using a magnet.	3
18	<p>During the experiment on Electro Magnetic Induction, what is needed to be done to</p> <p>(a) maintain a steady flow of current.</p> <p>(b) stop the flow of current.</p> <p>(c) increase the strength of induced current.</p>	3
19	<p>(a) Write two benefits of doing chromium plating on bath taps and car bumpers.</p> <p>(b) Write one application of electrolysis.</p>	3
20	<p>(a) What will happen to the current when following changes are done in an electromagnet.</p> <p>(i) Magnet and the coil are made to come at rest.</p> <p>(ii) Speed of relative motion of coil and magnet is increased.</p> <p>(b) Write one application of electro magnetic induction.</p>	3
21	Differentiate between strong and weak electrolytes. (2 points). Also give one example of each.	3
22	<p>A. <i>Had there been no Faraday, there would have been no electricity.</i> (3) Give two reasons to support the statement.</p> <p>B. Draw an experimental set up to demonstrate Faraday's discovery.</p>	3
23	Observe the following set - up for the electrorefining of copper. Identify any three errors in the arrangement.	3



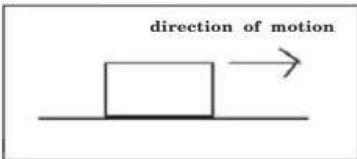
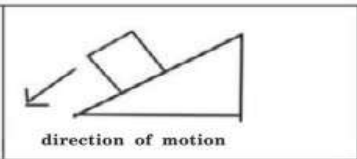
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Vinay wants to remove the impurities from the copper spoon given to him.

- Which application of electrolysis will be helpful for him ?
- Explain the experimental set-up of the process.
- State any two reason for coating 'bicycle handles' with chromium metal.

5

FRICTION

Q. No.	Question	Marks
1	Design an activity to show that fluid friction can be reduced by adjusting the shape of bodies.	3
2	Two objects A and B of masses 50 units and 100 units respectively are moving on a rough surface. Which of the two objects A or B will travel greater distance before coming to rest? Justify your answer.	3
3	Give reasons for the following : A. Gymnasts apply some coarse material on their hand. B. Ball bearings are used in shafts of motors, dynamos etc. C. Compressed and purified air is used between moving parts.	3
4	If you spill a bucket of soapy water on a marble floor accidentally, would it make it easier or more difficult for you to walk on the floor? Justify your answer with an explanation.	3
5	Provide suitable solution to reduce friction in each of the following situations: 1. Ravi is finding it difficult to pedal his bicycle. 2. A group of children are having trouble pushing the striker on a carrom board. 3. A hovercraft is giving a rough ride.	3
6	Nature has provided valuable insights to scientists in designing the shapes of vehicles for achieving faster speeds. Identify the shape and explain how it helps the vehicle to achieve greater speed.	3
7	Give one example to justify each of the following statements: 1. Sliding friction is a little smaller than static friction between the same two surfaces. 2. Rolling friction is much less than the force of sliding friction. 3. Friction is a necessity.	2
8	<p>Draw the figures again and mark the direction of force of friction in the following cases.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Case 1</p>  </div> <div style="text-align: center;"> <p>Case 2</p>  </div> </div>	2

SAMPLE QUESTION

CLASS : VIII

SUBJECT: SCIENCE AND TECHNOLOGY(CHEMISTRY)

CHAPTER NAME : SOURCES OF ENERGY

QUESTION NO.	QUESTION	MAR KS
1	The correct statement among the following is: A. It is difficult to transport natural gas through pipelines B. Natural gas is stored under high pressure as CNG C. Natural gas cannot be used for power generation. D. Natural gas cannot be used directly as fuels in homes.	1
2	The harmful effects of fuels can be reduced if we : (i) use non-renewable sources of energy (ii) slow down the use of fuels like coal and petroleum (iii) start using sources like wind, sunlight and hydro energy (iv) increase the use of wood A. (i) and (ii) B. Only (ii) C. (ii) and (iii) D. (iii) and (iv)	1
3	Coal tar is black viscous liquid. It is used in the manufacture of : A. Drugs , paints , water gas B. Explosives , perfumes , ointments C. Synthetic dyes , drugs , roofing material D. Perfumes , photographic material , coal gas	1
4.	Coke is used to make water gas. The composition of water gas is : A. $\text{CO}_2 + \text{H}_2$ B. $\text{CO} + \text{H}_2$ C. $\text{CO} + \text{H}_2\text{O}$ D. $\text{CO}_2 + \text{H}_2\text{O}$	1
5.	'Y' is formed by refining 'X'. 'Y' is further separated to give 'Z' that is used for making roads. X, Y and Z are : (1) A. X = petrol, Y = diesel, Z = kerosene B. X : residual oil, Y = lubricating oil, Z = Asphalt C. X = Petroleum, Y = fuel oil, Z = paraffin wax D. X = Petroleum, Y = Residual oil, Z = Asphat	1
6.	(a) Give any two reasons for using CNG in vehicles. (b) Differentiate between CNG and LPG.	3

7.	<p>The correct statement about spontaneous combustion is :</p> <p>A. The ability of the materials to burn with the help of some source of heat.</p> <p>B. The ability of some materials to start burning without any flame or heat.</p> <p>C. The ability of certain materials to remain unburnt.</p> <p>D. The ability of some materials to burn without oxygen.</p>	1
8.	<p>Assertion : Water can be boiled in a paper cup.</p> <p>Reason : Ignition temperature of the paper is too high.</p>	1
9.	<p>Assertion : When a burning candle is covered with a glass jar, the flame goes out. (1)</p> <p>Reason : A substance must be heated to its ignition temperature for combustion to take place.</p>	1
10.	<p>Classify the given material as combustible and non combustible.</p> <p>(a) Glass (b) Wood</p> <p>(c) Iron Nail (d) Paper</p>	2
11.	<p>(a) State two ill effects of incomplete combustion</p> <p>(b) White phosphorus catches fire even at room temperature. Give reason.</p>	2
12.	<p>Give reasons for the following :</p> <p>(a) If the clothes of a person catch fire, the person should be immediately wrapped in a thick blanket.</p> <p>(b) Burning of coal and diesel causes acid rain.</p>	2
13.	<p>Give two reasons why it is desirable that a fuel should undergo complete combustion.</p> <p style="text-align: right;">2</p>	2

14.	<p>Give reasons for the following :</p> <p>(i) Outermost zone of the candle flame is its hottest part.</p> <p>(ii) Middle zone of the candle flame is yellow in colour.</p>	2
15.	4.5 Kg of a fuel was completely burnt. The heat produced was measured to be 180,000 KJ. Calculate the calorific value of the fuel.	2
16.	<p>(a) (i) Name the zone in which unburnt wax vapours are present.</p> <p>(ii) Name the zone in which a copper wire gets red hot</p>	2
17.	What happens to a copper wire when it is introduced in the middle zone of a candle flame? Give reason to support your answer.	2
18.	A paper cup containing water does not catch fire on heating. Give reason.	2
19.	Explain the principle used in 'fire fighting'.	2
20.	<p>(a) Give two reasons why it is desirable that a fuel should undergo complete and controllable combustion.</p> <p>(b) State the parameter that rates the efficiency of a fuel. 3</p>	3
21.	<p>(a) Flame of a burning candle goes off, when we blow over it strongly. Give two reasons. 3</p> <p>(b) Name the type of combustion when combustible substances catch fire at room temperature. Give one example.</p>	3
22.	<p>(a) Draw a well labelled diagram of a candle flame.</p> <p>(b) Name the zone of the candle flame which is :-</p> <p>(i) coldest (ii) hottest</p>	3

23.	<p>Give reason-</p> <p>(i) We use paper or kerosene oil to start fire in wood or coal.</p> <p>(ii) Burning of coal and diesel is responsible for acid rain.</p> <p>(iii) Gaseous fuels undergo rapid combustion.</p>	3
24.	<p>(a) Give any two reasons for using CNG in vehicles.</p> <p>(b) Differentiate between CNG and LPG.</p>	3
25.	<p>(a) Define the term 'calorific value' of a fuel. State its units. When the calorific value of a fuel increases, does the efficiency of the fuel go up or down ?</p> <p>(b) (i) Name the products that are formed by the complete combustion of wax vapours and carbon particles in the outermost zone of a candle flame.</p> <p>(ii) 'Gaseous fuels are better than other fuels.' Give any two advantages of gaseous fuels.</p>	5
26.	<p>(a) Suggest one method each to control fire in the following situations: (5)</p> <ol style="list-style-type: none"> 1. Clothes of a person catch fire. 2. Fire produced by petrol at a petrol pump. 3. Fire caused by gas. <p>(b) If burning 4 kg of a fuel releases 32000 kJ of heat. Calculate its calorific value.</p>	5