



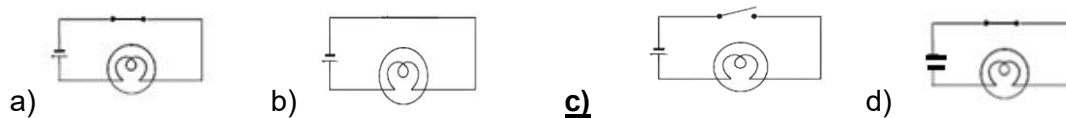
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	INDIAN SCHOOL MUSCAT MIDDLE SECTION HALF YEARLY EXAMINATION 2019 – 20	
	<u>SUBJECT – SCIENCE</u>	Code:MYSC10
CLASS 7		Time Allotted: 2 ½ hrs
18.09.2019		Max .Marks: 80
<p>General Instructions.</p> <p>1.The question paper comprises of three sections A ,B& C. You have to attempt all the sections.</p> <p>2.All the questions are compulsory.</p> <p>3.All the answers should be written in the answer sheet provided.</p>		

Q.NO1	<u>SECTION ‘A’ – (‘1’ MARK EACH) – TOTAL – 20 MARKS</u>	Marks
(a)	Presence of _____ in leaves indicates the occurrence of photosynthesis. a)chlorophyll b)carbon dioxide <u>c)starch</u> d)oxygen	1
(b)	The range of laboratory thermometer is : -10°C - 110° C :: the range of clinical thermometer is : a)35°C - 45°C <u>b)35°C - 42°C</u> c)35°C - 40°C d) -35°C - 42°C	1
(c)	We get heat when we sit in front of room heater, because of which mode of heat transfer? a)conduction b)convection <u>c)radiation</u> d)none of these	1
(d)	Liquid wastes of industries should be neutralized by adding _____ before disposal. <u>a)slaked lime</u> b)HCl c)milk of magnesia d)all of these	1
(e)	When carbon dioxide is passed through lime water, it turns milky due to the formation of _____ <u>a) Calcium carbonate (CaCO3)</u> b) Water c) Sodium hydrogen carbonate d) None of these	1
(f)	Anaerobic bacteria digest animal waste and produce biogas (Change – A). The biogas is then burnt as fuel (Change – B). The following statements pertain to these changes. Choose the correct one. a) Process – B is a chemical change. b) Process – A is a chemical change. <u>c) Both processes A and B are chemical changes.</u> d) None of these processes is a chemical change	1
(g)	Breathing is a process that (i) provides O ₂ to the body. (ii) breaks down food to release energy. (iii) helps the body to get rid of CO ₂ . (iv) produces water in the cells.	1
(h)	Which of the following gives the correct combination of functions of breathing? a) (i) and (ii) b) (ii) and (iii) <u>c) (i) and (iii)</u> d) (ii) and (iv)	1



Which of the following options represents the correct circuit diagram for this setup?

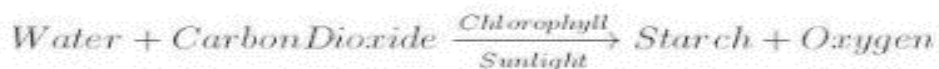


- The maximum and minimum temperature displayed daily in the weather bulletin refer to the –
(a) highest day temperature and lowest early morning temperature of the day.
- (i) b) highest day temperature and highest night temperature of the month. 1
 c) temperature recorded at 12 noon and at mid night (00.00 hrs).
 d) average highest temperature of day and average lowest temperature of night.
- (j) The coldest region on earth is the – 1
a) polar region b) tropical region c) temperate region d) coastal region
- (k) In this mode of nutrition simple molecules are used to synthesis complex chemical substances such as carbohydrates. Identify the mode of nutrition. 1
Autotrophic nutrition
- (l) An iron rod at 50°C is dropped in a tub containing water at 50°C. In which direction the heat flows? 1
Heat will not flow from iron rod to water in the tub or from water in the tub to iron rod.
- (m) How can you construct houses that are not affected much by heat and cold outside? 1
By using hollow bricks.
- (n) What are alkalis? 1
Some bases which are highly soluble in water are called alkalis.
- (o) Represent the process of rusting by an equation. 1
Iron (Fe) + Oxygen (O₂, from the air) + water (H₂O) → rust (iron oxide Fe₂O₃)
- (p) What kind of a change is cloud formation? 1
Physical change
- (q) Vishal was participating in a race. His younger sister wondered why he breathes faster and deeper than usual after finishing the race. Can you reason why? 1
He breathes faster so that more oxygen is supplied to his cells. To speed up the breakdown of food and more energy is released.
- (r) What are MCBs? 1
MCBs or Miniature circuit breakers are electric safety devices being used in place of fuses.
- (s) Define weather. 1
The day-to-day condition of the atmosphere at a place with respect to the temperature, humidity, rainfall, windspeed etc., is called the weather at that place.
- (t) Name the instrument used to measure rainfall. 1
Rain gauge

Q.NO **SECTION 'B' – ('3' MARKS EACH) – TOTAL – 30 MARKS** Marks

- a) What is the role of stomata in plants? 3

- (2) **Helps in exchange of gases** **1mark**
 b) Write a word equation for photosynthesis?



1mark

- c) Why do we say that the bacterium *Rhizobium* has a symbiotic relationship with leguminous plants?

Roots of pulses (leguminous plants) have a symbiotic association with a bacterium called *Rhizobium* which fixes nitrogen. **1mark**

- a) Ravi adds 10ml hydrochloric acid in a beaker and places a thermometer in it. The reading in the thermometer is 25°C. He then adds 10ml sodium hydroxide in the beaker. What change will you notice in the reading in the thermometer? Why?

There is an increase in the reading on the thermometer, as neutralization reaction happens when acid is mixed with a base. This reaction is accompanied by release of heat. **1mark**

- (3) b) Why the mixture obtained after mixing acid and base is neutral in nature? 3
This is because the acid destroys the basic nature of base and vice versa and makes the solution neutral in nature. **1mark**

- c) Why is indigestion treated with milk of magnesia?

This is because milk of magnesia contains magnesium hydroxide, which neutralizes the effect of excessive acids. **1mark**

- a) Take lemon juice, distill water, and baking soda solution. Put a drop of these solutions on the red and blue litmus paper and write your observation tabular form.

Test solution	Effect on red litmus paper	Effect on blue litmus paper
lemon juice	no change	turns red
Washing Soda	turns blue	no change

1mark
1mark

- (4) 3

- b) Name the organic acid present in an ant's sting.

Formic acid **½ mark**

- c) Name the base in lime water.

Calcium hydroxide **½ mark**

- a) What is galvanization?

The process of depositing a layer of zinc on iron is called galvanization. **1mark**

- b) How is stainless steel made?

- (5) **By mixing iron with carbon and metals like chromium, nickel, and manganese.** 3

- c) By which process do you obtain salt from sea water? Define the process.

Crystallisation. The process of obtaining large crystals of pure substances from their saturated solution is called Crystallisation **½ mark + ½ mark**

- a) Chemical changes are very important in our lives. What are the characteristics of Chemical changes?

- (6) **Chemical change, in general is a permanent change.** 3
This change is generally irreversible.
New substances are formed.

Energy in the form of heat or light is either absorbed or released.

The chemical composition of the new substance differs from that of the initial substance.

Any 4 points = $\frac{1}{2}$ mark each

b) What is the evidence of chemical change in a rotten egg?

Foul smell $\frac{1}{2}$ mark

c) What is the evidence of chemical change in burning a fire cracker?

Light and sound. $\frac{1}{2}$ mark

a) Why do dolphins and whales often come up to the water surface?

To breathe in fresh air and to eject out CO_2 . 1mark

(7) b) Name the organs of breathing in:

i) fish - **gills** ii) earthworm – **moist skin** iii) lizards - **lungs**

iv) grasshopper – **spiracles $\frac{1}{2}$ mark each**

3

a) Represent anaerobic respiration by an equation.

Glucose \rightarrow Without the use of oxygen \rightarrow alcohol + CO_2 + energy 1mark

b) What is the end product of anaerobic respiration in muscle cells?

Lactic acid. $\frac{1}{2}$ mark

(8) c) How can you get relief from a cramp?

Hot water bath or massage relief because it improves the circulation of blood leading to increased supply of oxygen to the muscle cells which helps in complete breakdown of lactic acid into CO_2 and water. 1mark + $\frac{1}{2}$ mark

3

a) What is a circuit diagram?

The representation of electric circuit by using electric symbols instead of electric components images is called circuit diagram. 1mark

b) What is an open circuit and a closed circuit?

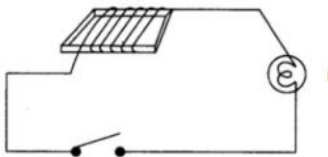
When the circuit is incomplete, it is called open circuit. Current does not flow in an open circuit.

(9) **When the circuit is complete, it is called closed circuit. Current flows only in a closed circuit. $\frac{1}{2}$ mark each**

3

c) How does electric cell produce current?

An electric cell stores some chemicals and their chemical energy gets converted to electrical energy. 1mark



(10) a) The above image is an example of which effect of electricity?
magnetic effect of electricity. **$\frac{1}{2}$ mark**

b) The needle of a magnetic compass points in which direction?
North –south **$\frac{1}{2}$ mark**

c) What is an electromagnet?

A current carrying coil of an insulated wire wrapped around a piece of iron is called an electromagnet. 1 mark

d) Mention any two devices that uses electromagnets?

Cranes/toys/ Motors and generators./Transformers./Relays/Electric bells and buzzers/Loudspeakers and headphones/Actuators such as valves/Magnetic recording and

3

data storage equipment/ tape recorder/VCRs, hard disks/MRI machines- ½ mark each

a) What causes changes in the weather?

All changes in the weather are caused by the sun. ½ mark

b) Name any three elements that determine the weather of a place.

**Following are the important elements that determine weather of a place: 1 mark + ½ mark
Temperature, Air pressure, Humidity, Rainfall, Wind Speed**

c) Name the thermometer used to record weather temperature?

Maximum and minimum thermometer. 1 mark

OR

(11) Give the use of the following adaptations in each of the following animals:

3

a) Tusks in elephants.

Elephant can tear the bark of trees that it loves to eat. 1 mark

b) Sticky pads on the feet of the red-eyed frog.

Sticky pads on feet help the red-eyed frog to climb trees on which it lives. 1 mark

c) Which animal is called the 'beard ape'? State one adaptive feature.

Lion tailed macaque.

The silvery white mane that surrounds the head./ medium tail with a black tuft. ½ mark + ½ mark

Q.NO

SECTION 'C' – ('5' MARKS EACH) – TOTAL – 30 MARKS

Marks

a) Differentiate between a parasite and a saprotroph by giving an example.

Organisms which derive their nutrition from the body of other living organisms (host) are parasites. E.g. Cuscuta (amar bel), dodder

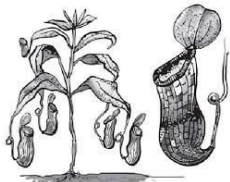
Organisms which organisms derive nutrition from dead and decaying organisms are called saprotrophs. E.g. Mushrooms, bacteria **3 marks**

b) Why do plants need nitrogen?

Plants need nitrogen to synthesize proteins 1 mark

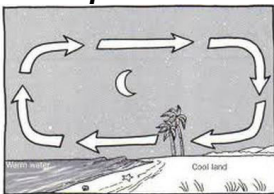
(12)

5



c) Identify the above plant and its mode of nutrition.

Pitcher plant. Insectivorous plant ½ mark + ½ mark



(13) a) What type of breeze does the picture represent, explain?

5

Land breeze. At night the water cools down more slowly than the land. So the cool air from the land moves towards the sea. 1 mark

b) Name a liquid which is a good conductor of heat.

mercury ½ mark

c) How does the trapped air in between wool fibres affect our body?

It keeps the body warm, by acting as a insulator. 1 mark

d) Jimmy pours hot coffee in a cup. He notices that coffee cools down after sometime. How can this be explained?

There is heat transfer from cup to air by convection, so it cools. 1 mark

e) Two objects C and D are placed in an insulated box. Object C has a temperature of 20°C whereas object D has 40°C. What would you observe after two hours? Why?

Temperature of the object C increases and D decreases, because of thermal equilibrium. 1 mark + ½ mark

a) What is the importance of indicators?

They help to determine if another substance is an acid or base without touching or tasting. 1 mark

b) Mention two natural indicators?

turmeric and litmus / china rose/ purple cabbage. ½ mark + ½ mark

(14) c) An indicator X changes from yellow to red in the presence of a base. What would be the change in colour of the indicator X in the presence of the mixture of acid and base? Explain.

Indicator will remain yellow in the mixture of acid and base.

The mixture of acid and base is neutral and indicators do not change colour in neutral solutions. 2 marks

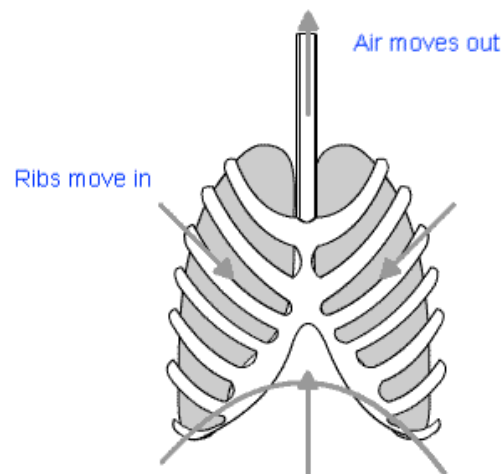
d) Name a strong acid.

HCl/ H₂SO₄/HNO₃ ½ mark

e) How can you neutralize a bee sting?

By rubbing baking soda or calamine solution. ½ mark

EXHALATION



(15)

Diaphragm moves up

a) Label the following parts, A, B, C. ½ mark each

b) Identify the process in this diagram.

Exhalation ½ mark

c) What is the percentage of oxygen and carbon dioxide in the exhaled air?

in the exhaled air- percentage of oxygen is 16.4% and percentage carbon dioxide is 4.4 1 mark

d) Which type of respiration produces less energy?

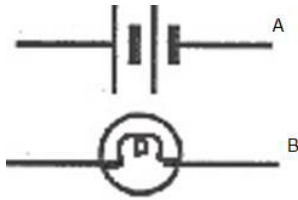
Anaerobic respiration ½ mark

e) In which part of the lungs does exchange of gases takes place in humans?

Alveoli ½ mark

f) Does yawning help us in anyway?

Yawning brings extra oxygen into the lungs and helps us to keep awake. 1 mark



a) Identify the symbols A and B.

Battery and bulb

1/2 mark + 1/2 mark

b) State **two** conditions under which a bulb will not glow in a circuit.

Following can be the possible reasons:

1. The bulb may be fused due to broken element.

2. Cells are not connected properly i.e. +ve terminal of first cell should connect to -ve terminal of the second one.

3. There may be loose connections. e.g. wire is not connected properly to switch or to the bulb.

4. The switch is not functioning well.

5. The cells are dried up. The power of the cell i.e. chemical inside the cell which produces electric current has been exhausted. 2marks

c) Why does the electric cell get weak very quickly if you do not switch off the button of the torch after a few minutes?

Because the chemicals in the cell gets used up. 1mark

d) Name the material used as heating element in an electric heater.

Nichrome

1/2 mark

(16)

e) Represent components of electrical circuits using symbols of a switch in off position using symbols.



1/2 mark

OR

Raj took a wire of length 10 cm. Ravi took a wire of 5 cm of the same material and thickness. Both of them connected the wires. The current flowing in both the circuits is the same.

a) Will the heat produced in both the cases be equal?

No 1/2 mark

b) Will the heat produced be the same if the wires taken by them are of equal lengths but of different thickness? Explain.

No. Thicker the wire heat produced is less.

1mark + 1/2 mark

c) What is the heating effect of electricity? Mention two devices that work on this principle.

When electric current flows through a conducting wire, the temperature of wire increases.

This is called heating effect of electric current.

1mark

Electric heater/iron box/ immersion water heater.

1mark

d) Represent the following components of electrical circuits using symbols.

i) Switch in on position

Switch in 'ON' position



ii) connecting wire

Connecting wires



1mark

(17)

a) The tropical rainforest has a large population of animals. Explain why it is so. **3 marks**

The climatic conditions in rainforests are highly suitable for supporting an enormous number and variety of animals. It is due to the following reasons:

1. Climate is hot and gets plenty of rainfall. Because of continuous warmth and rain, this region supports wide variety of plants and animals.

2. The region being near to equator, receives more solar energy available. It contributes

to higher productivity in terms of food and population.

3. Tropical rainforest remained less disturbed for millions of years, thus giving longer time to evolution. It resulted in wide variety of species.

b) Mention two animals living in tropical regions.

Monkeys, apes, gorillas, lions, tigers, elephants, leopards, lizards, snakes, birds and insects. **1 mark**

c) Name two states where tropical rainforest are found in India?

Tropical rainforests are found in Western Ghats (Kerala, Karnataka, Nilgiri Hills, Maharashtra etc.) and Assam in India,

[Note: Western Ghats are roughly parallel to the west coast region of India **1 mark**

End of the question paper.