

PERIODIC TEST - 2

Class VII

SCIENCE
SET A

Time : 1½ hrs.

Marks : 40

SECTION - A

1. Anaerobic bacteria, digest animal waste and produce
a) Biogas b) Producer gas c) Sulphur dioxide gas d) Hydrogen gas **1**
2. Melting of wax is a physical change but the burning of a candle is chemical because:
a) Burning of candle cause lightening b) Burning of candle forms carbon dioxide
c) Burning of candle produce heat d) Burning of candle reduce in size **1**
3. The amount of volume of air that can be inspired / expired normally is called :
a) Residual volume b) Normal volume c) Tidal volume d) Vital capacity **1**
4. In the following figure of respiratory system, the organs labelled by 1 and 2 are, respectively.



- a) Lungs, Tracheae
- b) Tracheae, Lungs
- c) Lungs, Nasal cavity
- d) Nasal cavity, Lungs **1**

OR

Sometimes when we do heavy exercise, anaerobic respiration takes place in our muscle cells. What is produced during this process?

- a) Alcohol and lactic acid
 - b) Alcohol and CO₂
 - c) Lactic acid and CO₂
 - d) Lactic acid only
5. Odometer reading at the start of the journey was 1250 km and after 2 hours its reading changes to 1400 km. The average speed of the vehicle for this journey is
a) 50 km/h b) 75 km/h c) 80 km/h d) 100 km/h **1**

OR

How will you convert the speed given in km/h to m/s?

- a) By multiplying with 5/16
 - b) By multiplying with 6/5
 - c) By multiplying with 18/5
 - d) By multiplying with 5/18
6. How can you say that ripening of a fruit is a chemical change? **1**
 7. What is the nature of magnesium oxide solution? **1**

8. Respiration is a continuous process. What is the need for it to be continuous rather than being like photosynthesis? 1

OR

Sometimes we see that farmers loosen the soil. What is the reason behind it?

9. What are the basic units of time and speed? 1
10. Match the items given in column I and column II. 2

Column I	Column II
i) Unicellular organisms	a) stomata
ii) Plants	b) cell membrane
iii) Earthworm, Leech	c) gills
iv) Fish	d) skin
	e) lungs

SECTION - B

11. **Read the passage given below and answer the following questions.** **4 × 1 = 4**

Generally, we are not aware that we are breathing. However, if you try you can count our rate of breathing. Breathe in and out normally. Therefore, an activity is conducted to show how many times you breathe in and breathe out in a minute? Did we inhale the same number of times as you exhaled.

Count your breathing rate (number of breaths/minute) after a brisk walk and after running. A comparison of breathing rates under different conditions of different individual tabulated below.

Name of the classmate	Normal	After a brisk walk for 10 minutes	After running fast 100 m	At rest
Shivani	15	18	25	15
Kavita	16	20	25	16
Shruti	14	17	22	14
Ravina	15	18	23	15
Self	14	18	24	14

- i) What happens to the breathing rate of the student after the brick walk for 20 minute?
- a) decrease b) increase
- c) first 50 m increases then decreases d) remain same
- ii) During the heavy exercise the breathing rate can increase up to
- a) 35 times minute b) 25 times per minute
- c) 20 times per minute d) 40 times per minute

- iii) Breath means
- a) two inhalation plus two exhalation b) two inhalation plus one exhalation
c) one inhalation plus one exhalation d) None of these
- iv) On an average, an adult human being at rest breathes in and out times in a minute.

In the following questions (No. 12-13) a statement of Assertion followed by a statement of Reason is given. Choose the correct answer out of the following choices. $2 \times 1 = 2$

- a) If both the assertion and the reason are true and the reason is a correct explanation of the assertion.
b) If both the assertion and reason are true but the reason is not a correct explanation of the assertion.
c) Assertion is true but reason is false
d) Assertion is false but reason is true.
12. Assertion (A) : The explosion of fire cracker is a physical change.
Reason (R) : A physical change is a reversible change.
13. Assertion (A) : Graph drawn between distance and time in case of a uniform motion is a straight line.
Reason (R) : In case of uniform motion, the body covers equal distance in equal interval of time.

SECTION - C

14. Explain lime water turns milky on passing carbon dioxide gas into it. **2**
- OR**
- Is cloud formation a physical change or chemical change? Explain.
15. After we work hard or perform physical activity, we feel hungry. Explain why? **2**
- OR**
- When breathe is released after holding it for few minutes. What happens and give reason for its occurrence?
16. A simple pendulum takes 15 seconds to complete 5 oscillations. What is the time period of pendulum? **2**
17. A student took a solution of copper sulphate in a beaker and put a clean iron nail into it and left it for about an hour.
- a) What changes do you expect?
b) Are these changes chemical in nature?
c) Write a word equation for the chemical change, if any. **3**

18. Explain the respiratory system in cockroach. 3

OR

Explain the mechanism of breathing in human beings.

19. Suppose the two photographs, shown in figure 1 and 2 had been taken at an interval of 10 seconds. If a distance of 100 metres is shown by 1 cm in these photographs,, calculate the speed of the fastest car. 3



Fig. 1 Vehicles moving in the same direction on a road

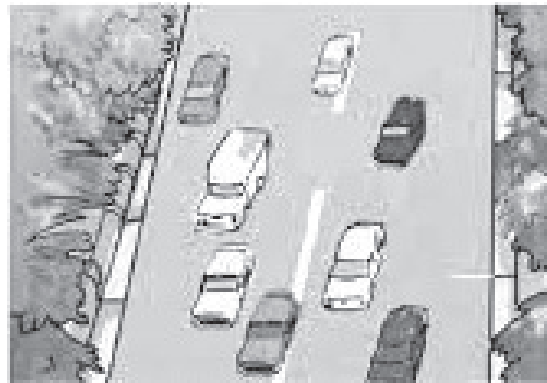


Fig. 2 Position of vehicles shown in Fig. 1 after same time

20. If you leave a piece of iron in the open for a few days, it acquires a film of brownish substance, called rust.

- a) Do you think rust is different from iron?
- b) Can you change rust back into iron by some simple method?
- c) Do you think the formation of rust from iron is a chemical change?
- d) Give two other examples of a similar type of change.

4

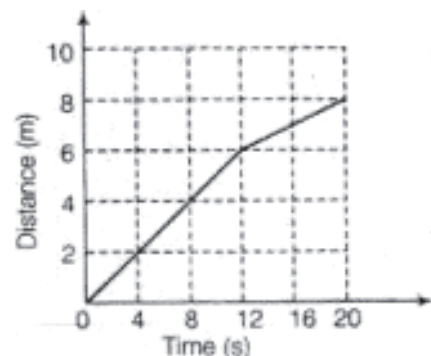
21. Describe various steps to construct a graph using the data given in the following table:

S. No.	Time	Distance
1	0	0
2	1 min	1 km
3	2 min	2 km
4	3 min	3 km
5	4 min	4 km
6	5 min	5 km

4

OR

Given below is the distance-time graph of the motion of an object.



- a) What will be the position of the object at 20s?
- b) What will be the distance travelled by the object in 12s?

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SECTION - A

- Which of the following is a chemical change?
a) Coal formation from buried trees b) Bursting of a firecracker
c) Germination of seed d) All of these **1**
- Which change can be easily reversed?
a) Chemical changes b) Neither physical nor chemical changes
c) Physical changes d) Both physical and chemical changes **1**

OR

Melting of ice is a

- Periodic change b) Chemical change
c) Physical change d) Both physical and chemical change
- Name the organ of the body in which the blood is oxygenated.
a) Heart b) Liver c) Lungs d) Pancreas **1**
- Normal range of breathing rate per minute in an average adult person at rest is :
a) 9 - 12 b) 30 - 33 c) 21 - 24 d) 15 - 18 **1**
- Odometer reading at the start of the journey was 1500 km and after 3 hours its reading changes to 2100 km. The average speed of the vehicle for this journey is
a) 200 km/h b) 100 km/h c) 150 km/h d) 75 km/h **1**

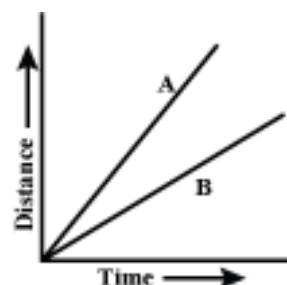
OR

If we denote speed by S , distance by D and time by T , the relationship between these quantities is

- $S = D \times T$ b) $T = \frac{S}{D}$ c) $S = \times D$ d) $S =$
- Define crystallisation. **1**
- Give an example of periodic motion. **1**

OR

The given figure shows the distance time graph for the motion of two vehicles A and B. Which one of them is moving faster?



8. Melting of wax is a change where a solid changes to liquid state. Give one more such change which you observe in your surroundings. 1
9. Which gas present in air is essential for aerobic respiration? What is the role of this gas during respiration? 1
10. Match the items given in column I and column II. 2

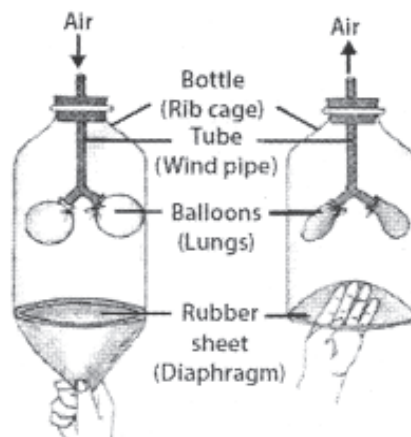
Column I	Column II
a) Yeast	i) Earthworm
b) Diaphragm	ii) Alcohol
c) Skin	iii) Stomata
d) Leaves	iv) Tracheae
	v) Chest cavity

SECTION - B

11. Read the passage given below and answer the following questions. 4 × 1 = 4

In the following activity was performed by using a plastic bottle.

Take a wide plastic bottle. Remove the bottom. Get a Y-shaped glass or plastic tube. To the forked end of the tube fix two deflated balloons. Introduce the tube into the bottle. Now cap the bottle. Seal it to make it airtight. To the open base of the bottle tie a thin rubber or plastic sheet using a large rubber band.



- i) What is demonstrated in the above activity?
- a) Chest expansion b) Mechanism of breathing
 c) Exhalation process d) Inhalation
- ii) Which of the following changes observed in the diaphragm during inhalation?
- a) Diaphragm contract b) Diaphragm moves down
 c) Diaphragm relax
 d) Both diaphragm contract and Diaphragm moves down

- iii) Which of the following is the correct statement?
- a) During inhalation air rushes into the lungs
 - b) All of these
 - c) During inhalation, ribs move up and outwards
 - d) During exhalation, the diaphragm moves up to its former position
- iv) During exhalation, ribs move down and

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 - b) If both the assertion and reason are true but the reason is not a correct explanation of the assertion.
 - c) Assertion is true but reason is false
 - d) Assertion is false but reason is true.
12. Assertion (A) : Burning of a candle is considered a physical as well as chemical change.
- Reason (R) : Melting of wax is a physical change melted wax turns into vapours and then burns which is a chemical change.
13. Assertion (A) : The time taken by a pendulum to complete one oscillation is called its time period.
- Reason (R) : A slight change in displacement does not affect the time period of a pendulum.

SECTION - C

14. Classify the following processes into physical or chemical changes :
- i) Beating of aluminium metal to make aluminium foil.
 - ii) Digestion of food.
 - iii) Cutting of a log of wood into pieces.
 - iv) Burning of crackers. 2

OR

Explain the activity of burning of magnesium ribbon. Represent the change.

15. After we work hard or perform physical activity, we feel hungry. Explain why? 2
16. It takes me 12 minutes to reach my friend's house from my house on a rickshaw. If the speed of the rickshaw is 3 m/s, calculate the distance between my house and my friend's house. 2

OR

Differentiate between a uniform and non-uniform motion.

17. In addition to formation of new products what changes do the chemical changes accompany? **3**

18. Explain the respiratory system in cockroach. **3**

OR

Write the differences between cellular respiration and breathing.

19. In the following table some common examples of motion are given, identify the type of motion in each case. (straight line, circular or periodic)

Soldiers in a march past	
Bullock cart moving on a straight road	
Hands of an athlete in a race	
Pedal of a bicycle in motion	
Motion of the earth around the sun	
Motion of a swing	
Motion of a pendulum	

3

20. When baking soda is mixed with vinegar, bubbles are formed with the evolution of a gas. Name the gas evolved. What happens when this gas is passed through lime water?

4

21. Distance between Bholu's and Golu's house is 9 km. Bholu has to attend Golu's birthday party at 7 o'clock. He started from his home at 6 o'clock on his bicycle and covered a distance of 6 km in 40 minutes. At that point he met Chintu and he spoke to him for 5 minutes and reached Golu's birthday party at 7 o'clock. With what speed did he cover the second part of the journey? Calculate his average speed for the entire journey. **4**

OR

Describe various steps to construct a graph using the data given in the following table :

S. No.	Time	Distance
1	0	0
2	1 min	1 km
3	2 min	2 km
4	3 min	3 km
5	4 min	4 km
6	5 min	5 km