**Chapter 5**

**Heat**

1. In present day when there is widespread of corona virus all over our country , whenever you go to any place first and foremost the temperature of a person is taken using a device
2. What is temperature?
3. What is used to take temperature of a person?
4. A small boy placed a glass tumbler full of hot milk on a table and goes out to play. When he comes back after some time and touches the milk, he finds that the milk had cooled down. State the reason for cooling down of the milk.
5. When your mother boils water in a container covered by a lid. You see that water starts boiling after some time and the lid of the container rises up and falls down, again and again.

What does this observation suggest?

1. How is heat and temperature related to each other?
2. In order to open air tight glass jam bottle we dip the lid portion in hot water for some time.

State what helps us to open the lid?

1. Complete the given statements
2. Heat is transferred from one body to another due to existence of \_\_\_\_\_\_\_\_\_\_\_\_\_ between them.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_ is just an indicator of heat energy in a body.
4. Removal or addition of heat to or from a body can also bring about a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Many \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ take place when the reactants are heated up.
6. Two commonly used scales for measuring temperature are\_\_\_\_\_\_\_\_\_\_ and\_\_\_\_\_\_\_\_\_.
7. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has slight bend or kink in its capillary tube.
8. \_\_\_\_\_\_\_\_\_\_\_\_ is the most significant method of transfer of energy in solids.
9. \_\_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_ are bad or poor conductors of heat.
10. Convection currents also have significant effect on \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_.
11. Houses generally have light colours on their outer walls as they \_\_\_\_\_\_\_\_\_\_\_\_ and\_\_\_\_\_\_\_\_\_\_\_\_ less heat.
12. Define the following terms
13. Conduction
14. Convection
15. Radiation
16. Thermal expansion
17. Least count.
18. Correct the given statements
19. Heat is an indicator of the degree of hotness or coldness of an object.
20. Radiation is mode of transfer of heat that requires solid medium.
21. Sea breeze is breeze that flows from land surface to sea surface during night.
22. A laboratory temperature is used to find the temperature of human body.
23. The bottom of cooking vessel is kept white to enable them to absorb heat of flame.
24. Complete the given flowcharts

Effects of Heat

Chemical change

1. Give reasons for the following
2. The metal rim of cart wheel has smaller diameter with wheel.
3. The length of mercury thread in the capillary tube of thermometer depends on the extent of heating of thermometer.
4. The clinical thermometer has a constriction in its capillary tube.
5. We are able to feel the heat on the other end of a copper rod if one end of the rod is heated.
6. We prefer white or light coloured clothes in summer.
7. Multiple choice questions
8. The water boils at\_\_\_\_\_\_\_\_\_ temperature.
9. 1000C b) 950C c) 00C d) 600C
10. The mode of transfer of heat that does not require any medium
11. Conduction b) Convection c) Radiation d) None of the above
12. Fire brigade men often use shinning brass caps because
13. Caps absorb very little heat b) Caps conduct heat c) caps radiate heat d) none
14. The transfer of energy takes place from\_\_\_\_\_\_\_\_\_\_.
15. Higher to lower temperature b) Lower to higher temperature c) same temperature d) none of the above
16. What are the conditions required for transfer of heat energy?
17. Name two solids that contract on heating.
18. Why do water pipes sometimes burst at very cold places?
19. What helps the aquatic animals to survive in the area where the temperature of the surrounding goes below zero degree?
20. How is a clinical thermometer different from a laboratory thermometer?
21. Name the three different methods of transfer of heat.
22. Give 2 examples each of good conductors and bad conductors of heat.
23. We put both good conductors and bad conductors to many use in our daily life, explain this with suitable example.
24. Write a simple activity to show that transfer of heat in fluids takes place by convection.
25. What causes the global wind patterns on this earth?
26. We all know that water heats slowly as compared to land during daytime, what happens because of this and how?
27. State the properties of the thermos flask that helps to carry cold and hot water in it.
28. The bottom of the cooking utensils is often kept black, why?
29. Differentiate the following
30. Conduction and convection
31. Land breeze and Sea breeze
32. Conduction and radiation
33. How does the heat of Sun that is so far away reach us?
34. Greater is the difference in the pressure faster the air move in, explain.
35. What determines the intensity of a cyclone?
36. What causes the formation of monsoon winds?
37. Why the tea and coffee pots are generally made shinning bright?

**Chapter 6**

**Motion and Time**

1. List the various movements that are taking place in our body.
2. Why do we say all motion is relative?
3. Classify the motion given below as kinds of motion
4. A car along a straight road
5. Swinging of a pendulum
6. Movement of a giant wheel
7. Movement of moon around earth
8. The physical quantity speed = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. How is uniform motion different from non-uniform motion?
10. If I went to a place that was 650 km away from my home. I covered this distance by car in about 10 hours. Find the speed of my car.
11. Fill in the blanks
12. When the object concerned is moving along nearly straight line then motion is called \_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_ motion.
13. Kilometre per hour is unit of \_\_\_\_\_\_\_\_\_\_\_.
14. An object is said to be in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ when it moves in straight line and it covers equal distance in equal intervals of time.
15. The early scientist used devices like\_\_\_\_\_\_\_\_\_\_\_,\_\_\_\_\_\_\_\_\_\_\_\_\_ and water clock to measure time.
16. The time taken by pendulum to complete one oscillation is known as \_\_\_\_\_\_\_\_\_\_\_\_.
17. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are used for measurement of time.
18. Object having uniform motion has\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ distance-time graph.
19. \_\_\_\_\_\_\_\_\_\_\_\_\_ is used to measure the time taken by an athlete to run 100m.
20. Correct the given statements
21. Earlier scientist used digital and crystal clocks for finding time.
22. The distance covered by a car is found by dividing the speed by time.
23. When the body covers unequal distance in equal interval of time along a straight line it is said to have uniform motion.
24. A simple pendulum is made up of wooden bob attached to taut light string.
25. Falling of an apple from a tree is an example of circular motion.
26. Multiple choice question
27. If an object changes its position with time, with respect to its surrounding it is said to be in a) motion b) speed c) rest d) none
28. The motion of a swing is
29. Rotational motion b) Linear motion c) Oscillatory motion d) Periodic motion
30. The SI unit of speed is
31. Metre/sec b) metre / min c) kilometre/hour d) kilometre
32. The time taken by a pendulum to complete its to and fro movement from its mean position is known as
33. Oscillation b) time period c) period d) none of the above
34. \_\_\_\_\_\_\_\_\_\_\_\_ is more precise than pendulum clock.
35. Digital clock b) Wrist watch c) Sun dial d)water clock
36. You are given data about the distance covered by a car and a bus moving in the straight line.

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Time | Distance covered by car | Distance covered by bus |
| 1 | 12.30pm | 0 km | 0 km |
| 2 | 1.00pm | 50 km | 20 km |
| 3 | 1.30pm | 100 km | 50km |
| 4 | 2.00pm | 150 km | 30 km |

1. From the data given specify whether bus and car showing uniform or non-uniform motion.
2. Calculate the average speed of both car and bus.
3. What kind of motion the car will show if it covers unequal distance at equal interval of time?
4. Name the devices fitted in an automobile that directly tells you the distance covered in km and the speed of the automobile at different time.
5. Define the following terms
6. Uniform motion
7. Non-uniform motion
8. Time period
9. Oscillation
10. Periodic events
11. You are given a straight line graph

20-

Distance 15- -

in 10-

metres 5--

0 1 2 3 4

Time taken ( in seconds)

1. What does the x-axis represent?
2. What does the y-axis represent?
3. What does the straight line represent?
4. Why are graphs used to represent concept in science?
5. If a train takes 8hours to reach its destination from Delhi. Calculate the distance from Delhi to its destination if it travels at an average speed of 95 km/hr.
6. The distance between Jaipur and Udaipur is 450 km. Find out the time the train will take to reach Udaipur from Jaipur if the average speed of train is 70km/hr.
7. Take a glass marble and a toy car and push them along an inclined plane. With the help of the measuring tape distance covered along the inclined plane. Use stop watch to measure the time taken by glass marble and toy car to move down the inclined plane. Calculate the average speed of each object.
8. A simple pendulum takes 15 seconds to complete 5 oscillations. Find the time period of pendulum.