EXERCISE-1

A. Very Short Answer Type Questions

Q.1 Give one example to show that heat is a form of energy.

Q.2 What is temperature? Name the scales used to measure it.

Q.3 If the hotness or coldness of a body is relative, how do we measure its degree of hotness?

Q.4 Mention three changes that heat causes in substances.

Q.5 A steel spoon dipped in a pot of boiling soup for a few minutes becomes too hot to touch. How does heat travel through the spoon?

Q.6 How is it that we can hold a match while it is burning?

Q.7 How does turning on a heater in a room make the whole room warm?

Q.8 How does heat from the sun reach the earth?

Q.9 Mention one similarity between heat and light.

Q.10 When two bodies are in contact, heat flows from the hotter to the colder body. When does heat stop flowing?

B. Short Answer Type Question

Q.11 Distinguish between the Celsius and Fahrenheit scales.

Q.12 When a pan of water is heated on a gas stove, all the water turns hot in a while. How does heat travel through the water ?

Q.13 What happens to radiant heat when it falls on a body? What does the absorption of radiant heat by a body depend on?

Q.14 (a) Mention one difference between the transfer of heat by conduction and that by radiation.

(b) Mention one difference between the transfer of heat by conduction and that by convection.

C. Long Answer Type Questions

Q.15 Explain how land and sea breezes originate.

Q.16 How would you demonstrate to a friend that gases expand when heated?

Q.17 Explain why -

(a) It is better to wear lighter shades in summer.

(b) Two thin sweaters feel warmer than one thick sweater.

(c) Utensils are made of metal, while their handles are made of plastic.

D. True / False Types Questions

Q.18 Water boils at 212°F.

Q.19 A laboratory thermometer has a kink in the capillary tube.

Q.20 Liquids expand more than solids do when heated.

Q.21 The heat from the sun reaches us by radiation.

Q.22 Liquids conduct heat better than metals do.

Q.23 Transfer of heat in a substance by convection happens by the movement of the substance.

Q.24 Transfer of heat by radiation needs contact between a hot and a cold body.

Q.25 Air is a bad conductor of heat.

EXERCISE-2

Single Correct Answer Type Questions

Q.1 Radiation
(A) does not require a material medium
(B) is the process of the transfer of heat in liquids
(C) is the process of the transfer of heat in which heat travels in one direction
(D) occurs in solids

Q.2 Which of the following statements is correct?
(A) Metals are bad conductors.
(B) Some metals conduct heat better than others.
(C) Heat can be conducted from one metal to another even if they are not in contact with each other.
(D) When two metal rods are placed in contact with each other. heat can flow from one to the other even if they are at the same temperature.

Q.3 The capillary tube of a clinical thermometer has a kink
(A) to increase the expansion of mercury
(B) so that the level of mercury does not fall as soon as the thermometer is taken out of the mouth
(C) to use less mercury
(D) to help us see it better

Q.4 A polished. silvery surface is a
(A) good absorber and good reflector of heat
(B) good absorber and bad radiator of heat
(C) poor absorber and good reflector of heat
(D) poor reflector and good radiator of heat

Q.5 A black body with a rough surface is a good
(A) reflector and poor absorber of heat
(B) good absorber and good radiator of heat
(C) absorber and poor radiator of heat
(D) reflector and poor radiator of heat

Q.6 Sweating causes cooling by
(A) conduction (B) radiation
(C) convection (D) evaporation

Q.7 Air conditioners are placed high up the walls so that-
(A) they create less noise
(B) cold air from them comes down and cools the room while hot air rises up
(C) They are out of the way
(D) all of the above

Q.8 It is easier to drink hot tea from a porcelain mug than from a steel tumbler as
(A) the porcelain mug has a handle
(B) porcelain is a heat insulator
(C) the tea will cool faster in the steel tumbler
(D) all of the above

Q.9 The heat energy emitted by sun reaches the earth through-
(A) conduction (B) convection
(C) radiation (D) None of these

Q.10 Ice blocks are covered with sawdust because-
(A) sawdust lowers the temperature of the ice
(B) the sawdust, together with the air trapped within it, acts as heat insulator and prevents the heat outside from getting to the ice and melting it
(C) the sawdust absorbs excess water from the ice
(D) None of these

Q.11 Land and sea breezes are based on-
(A) the phenomenon of conduction of heat
(B) the phenomenon of convection of heat
(C) the phenomenon of absorption and radiation of heat
(D) all of the above

Q.12 1 calorie equals to-

(A) 4.2 J (B) 0.42 J
(C) 420 J (D) 4200 J

Q.13 Fahrenheit scale divides two fixed point into-

(A) 180 parts (B) 212 parts
(C) 100 parts (D) 32 parts

Q.14 The normal temperature of human body is-

(A) 37°C (B) 38°C
(C) 35°C (D) 98.4°C

Q.15 Convert 293 K into Celsius scale-

(A) 566°C (B) 293°C
(C) 20°C (D) 496°C

Q.16 When in thermal contact, the quantity of heat lost by the hotter body is -------- the amount of heat gained by the colder body.

(A) equal to (B) greater than
(C) less than (D) cannot say

Q.17 Conduction cannot takes place in

(A) copper (B) iron
(C) aluminium (D) vacuum

Q.18 The snow on the mountains does not melt all the at once when it is heated by the sun because it-

(A) becomes very hard
(B) reflects most of the heat from the sun
(C) has a low specific heat capacity
(D) has a high latent heat of fusion

Q.19 Conduction is possible-

(A) When the bodies are apart from each other
(B) When the bodies have some temperature and in thermal contact
(C) When they have different temperature maintaining distance between them
(D) bodies should be in contact and should have different temperatures

Q.20 It is warmer to have two thin blankets than to have a single thick blanket because-

(A) thick blanket cannot give more warmth
(B) two blankets allow more heat to pass through them
(C) air between the two blankets is a good conductor of heat
(D) air between the thin blankets does not allow heat to pass through it since it is a bad conductor

ANSWER KEY

EXERCISE-1

18. True **19.** True **20.** True **21.** True **22.** False
23. True **24.** False **25.** True

EXERCISE-2

Ques.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Ans.	A	B	B	C	B	D	B	B	C	B	B	A	A	A	C
Ques.	**16**	**17**	**18**	**19**	**20**										
Ans.	A	D	D	D	D										