

Name of Student	Class	Subject	Board	Chapter
	9 th	Physics	FB	09
Date :	Objective			Teacher Remarks

Section - A

Q. No.1:- Circle the correct option. Each part carries one mark.

01	In solids, heat is transferred by:						
a	Radiation	b	Conduction	c	Convection	d	Absorption
02	What happens to the thermal conductivity of a wall if its thickness is doubled?						
a	Becomes double	b	Remains the same	c	Becomes half	d	Becomes on fourth
03	Metals are good conductor of heat due to the:						
a	Free electrons	b	Big size of their molecules	c	Small size of their molecules	d	Rapid vibrations of their atoms
04	In gases, heat is mainly transferred by:						
a	Conduction	b	Convection	c	Radiation	d	None of these
05	Convection of heat is the process of heat transfer due to the:						
a	Random motion of molecules	b	Downward movement of molecules	c	Upward movement of molecules	d	Free movement of molecules
06	False ceiling is done to:						
a	Lower the height of ceiling	b	Keep the roof clean	c	Cool the room	d	Insulate the ceiling
07	Rooms are heated using gas heaters by:						
a	Conduction only	b	Convection and radiation	c	Radiation only	d	Convection only
08	Land breeze blows from:						
a	Sea to land during night	b	Sea to land during the day	c	Land to sea during night	d	Land to sea during the day
09	Which of the following is a good radiator of heat?						
a	Shining silvered surface	b	A dull black surface	c	A whit surface	d	A green coloured surface
10	Thermal conductivity of copper is:						
a	$400\text{Wm}^{-1}\text{K}^{-1}$	b	$200\text{Wm}^{-1}\text{K}^{-1}$	c	$300\text{Wm}^{-1}\text{K}^{-1}$	d	$500\text{Wm}^{-1}\text{K}^{-1}$
11	Thermal conductivity of iron is_____:						
a	$100\text{Wm}^{-1}\text{K}^{-1}$	b	$85\text{Wm}^{-1}\text{K}^{-1}$	c	$95\text{Wm}^{-1}\text{K}^{-1}$	d	$75\text{Wm}^{-1}\text{K}^{-1}$
12	Thermal conductivity of Lead is_____:						
a	$40\text{Wm}^{-1}\text{K}^{-1}$	b	$20\text{Wm}^{-1}\text{K}^{-1}$	c	$30\text{Wm}^{-1}\text{K}^{-1}$	d	$35\text{Wm}^{-1}\text{K}^{-1}$

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Section - B

Q. No.1:- Attempt any eleven parts. The answer of each part should not exceed 3 to 4 lines. (11×3=33).

01	List the three names by which heat can transfer from one place to another place?	02	How does then heat flow from hot to cold parts in metals so rapidly than non-metals?
03	What is meant by conduction?	04	What causes a glider to remain in air?
05	Why transfer of heat in fluids takes place by convection?	06	Why does a cup of hot tea become cold after sometime?
07	Describe the use of conductors and non-conductors?	08	How do thermals help birds to fly for hours without flapping their wings?
09	Why a balloon inflated with hot air is rises up?	10	Why metals are good conductors of heat?
11	How does heat reach us directly from a fireplace?	12	Why does a glass of chilled (frozen) water become hot after sometime?
13	Why conduction of heat does not take place in gases?	14	What is meant by convection current?
15	How does heat reach us from the Sun?		

Q. No.4:- Attempt any TWO questions. All questions carry equal marks: (2×10=20)

Q. No.1 :-(a).Derive relation for thermal conductivity of a substance?

(b).The concrete roof of a house of thickness 20 cm has an area 200m². The temperature inside the house is 15°C and outside is 35°C. Find the rate at which thermal energy will be conducted through the roof. The value of k for concrete is 0.65Wm⁻¹K⁻¹.

Q. No2:- (a).Explain why:

- A. A metal feels colder to touch than wood kept in a cold place.
- B. Land breeze blows from land towards sea?
- C. Double walled glass vessel is used in thermos flask?

D. Deserts soon get hot during the day and soon get cold after sunset.

(b). How much heat is lost in an hour through a glass window measuring 2.0 m by 2.5 m when inside temperature is 25°C and that of outside is 5°C , thickness of glass is 0.8 cm and the value of k for glass is $0.8 \text{ Wm}^{-1}\text{K}^{-1}$?

Q. No.3:- (a).How various surfaces can be compared by a Leslie cube?

(b).Explain the impact of greenhouse effect in global warming.