

# Textbook questions Revision test II

**Instructions for students:** Follow your teacher's instruction.  
Also, you can attempt this test online and see your result.



[Solve online](#)

## 1. Answer in detail (7 m.)

### 1. Explain thermal expansion with suitable examples.

The

- A) change of state
- B) contraction of a substance
- C) increase in heat energy
- D) expansion of a substance

on

- A) heating
- B) cooling

is called the **thermal expansion** of that substance.

**Uses of thermal expansion:**

#### (i) Fitting the iron rim on the wooden wheel:

The iron ring is always made

- A) slightly higher
- B) slightly lesser
- C) same

in diameter than that of the wooden wheel. Therefore, the iron ring

- A) cannot easily
- B) can easily

slip onto the rim of the wooden wheel.

Now the iron ring is heated to a higher temperature, it results in the

- A) reduction
- B) expansion
- C) remains same

in the size of the ring, and the hot ring is then easily slipped onto the wooden wheel's rim.  
Coldwater is poured on the iron ring to

- A) contract
- B) remains same
- C) expand

in size and hold the wooden wheel tightly.



[View solution](#)

**(ii) Riveting:**

**Riveting** is one of the **most cost-effective and superior methods of fastening (join two parts)**.

Rivets have a head on one side, a tail on the other used to join two steel plates together.

For using the rivets, they are

- A) cooled
- B) heated

till they become hot red and are then they are placed in the hole.

They are heated so that they become

- A) more brittle
- B) more ductile

and

- A) easily deform
- B) cannot easily deform

Then they are pressed from one side, and ahead at the other end is formed. When the hot rivet is fixed, and it

- A) shrinks and presses
- B) expands and presses

the plates together. When cooled, the rivet will

- A) expand
- B) contract
- C) remains same

and keep the two plates tightly together.

**(iii) Gaps are left in between the rails while laying a railway track:**

An increase in temperature during the summer days causes

- B) expansion in rails
- C) contraction in rails

So, in order to permit

- A) contraction
- B) expansion

at the joints of the rails, a

- A) slight gap
- B) no gap
- C) big gap

is provided in between the rails while fixing a railway track.

If such a gap is not left at the rail's joints, the track will

- A) remains the due to thermal expansion
- B) remains the due to thermal contraction
- C) deform due to thermal contraction
- D) deform due to thermal expansion

It will cause derailment of trains.

## 2. Questions based on Higher Order Thinking Skills - I (14 m.)

1. When a window is accidentally left open on a winter night, will you feel uncomfortable because the cold is getting in, or because the heat is escaping from the room?

In cold winter season, room temperature is

- A) very high
  - B) very low
- , but
- A) slightly lower
  - B) slightly higher

than the environment.

We know that heat will transfer from

- A) high temperature to low temperature
- B) low temperature to high temperature

When a window is left open on winter night,

- A) cool air
- B) warm air

escapes through these windows and an equal amount of

- A) warm air
- B) cool air

enters the room. So, the temperature will

- A) increase
- B) decrease

further.

So, they feel

- A) uncomfortable
- B) comfortable

2. Suppose your normal body temperature were lower than what it is.

How would the sensation of hot and cold change?

If the normal body temperature,

- A)  $98.6^{\circ}\text{F}$
- B)  $273.15^{\circ}\text{F}$
- C)  $37^{\circ}\text{F}$
- D)  $0^{\circ}\text{F}$



[View solution](#)

is lower than what it is, then it is called

- A) hyperthermia
- B) hypothermia

In such a case, the body feels

- A) cold sensation
- B) hot sensation

When we are too cold, our blood vessels

- A) bulge
- B) narrow

This

- A) increases
- B) reduces

blood flow to our skin to save body

- A) heat
- B) cold

We may start to shiver. When the muscles tremble this way, it helps to make

- A) more heat
- B) more cold

### 3. Questions based on Higher Order Thinking Skills - II (7 m.)

**If you heat a circular disk with a hole, what change do you expect in the diameter of the hole?**

**Remember that the effect of heating increases the separation between any pair of particles.**

If I heat a circular disk with a hole the diameter of the hole will

- A) decrease
- B) increase

Because

- A) thermal contraction
- B) thermal expansion

takes place when we heat the disk.

When we heat the objects, the molecules within the object are moving at a

- A) faster rate
- B) slower rate



[View solution](#)

The object's temperature will

- A) decrease
- B) increase

due to the

- A) increase
- B) decrease

in the movement of the molecules. The object

- A) contracts
- B) expands

because the

- A) increase
- B) decrease

in the molecule's energy

- A) creates more vibrations and movements
- B) reduces molecule's movements

, usually

- A) creating more distance between themselves
- B) closer together