

Solution: a)

**The location of the thermal equator is not identical to that of the geographic Equator.**

**This is not due to the Level of insolation received in both hemispheres. They are virtually equal.**

**What creates the difference is the distribution of land and water that causes changes in the way heat is distributed and transported across the planets.**

Land dominated areas will tend to have a large variation in temperature and a higher average temperature under the same conditions (as compared to a water dominated area).

Thus, the thermal equator lies a bit north of the geographical equator.

14) Consider the following statements.

1. The mid-day sun never shines overhead on any latitude beyond the Tropic of Cancer and the Tropic of Capricorn.

2. The areas bounded by the Tropic of Cancer and the Arctic Circle in the Northern Hemisphere, and the Tropic of Capricorn and the Antarctic Circle in the Southern Hemisphere, have moderate temperatures.

Which of the above statements is/are incorrect?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: d)

The mid-day sun never shines overhead on any latitude beyond the Tropic of Cancer and the Tropic of Capricorn. The angle of the sun's rays goes on decreasing towards the poles. As such, the areas bounded by the Tropic of Cancer and the Arctic Circle in the Northern Hemisphere, and the Tropic of Capricorn and the Antarctic Circle in the Southern Hemisphere, have moderate temperatures. These are, therefore, called Temperate Zones.

15) Consider the following statements.

1. More fresh water can be found in the atmosphere than in the rivers on earth.

2. Rivers on earth contain less fresh water than Inland seas and salt lakes.

3. Ice-caps contain less fresh water than the fresh water available in the groundwater.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 1 only
- d) 2, 3

Solution: a)

Oceans	:	97.3	Saline Water
Ice-caps	:	02.0	} Fresh Water
Ground water	:	0.68	
Fresh Water			
Fresh water lakes	:	0.009	
Inland seas &			
Salt lakes	:	0.009	
Atmosphere	:	0.0019	
Rivers	:	0.0001	
		<u>100.00</u>	

16) A Meteor is

- a) A comet without a tail
- b) Objects in Outer Space
- c) A piece of matter which has entered the earth's atmosphere from outer space
- d) An object of Outer Space that has hit the ground