

## TEST No. 9

**TOPIC: Inversion of temperature**

**SUBJECT: PHYSICAL GEOGRAPHY**

### **Explanation:**

Question 1

Answer a

Explanation: second statement is wrong. inversion normally occurs during cold winter night

Question 2

Answer b

Explanation: in **Inversion of temperature** warm air layer lies over cold air layer. It normally occur in high latitude

Question 3

Answer a

Explanation: Upper atmosphere inversion occurs between troposphere and stratosphere

Question 4

Answer c

Explanation: all are correct. Conditions for **Inversion of temperature**

i) Long winter nights, so that the loss of heat by terrestrial radiation from the ground surface during night may exceed the amount of insolation received from the sun through incoming shortwave electromagnetic radiation waves and thus the ground surface becomes too cold.

ii) Cloudless and clear sky so that the loss of heat through terrestrial radiation proceeds more rapidly without any obstruction. Clouds absorb terrestrial radiation and hence retard loss of heat from the earth's surface.

iii) Presence of dry air near the ground surface, so that it may not absorb much heat radiated from earth's surface as moist air is capable of absorbing much of the radiant heat from earth's surface.

iv) Slow movement of air

v) Snow covered ground surface

The inversion occurs upto the height of 30-40 feet in the low latitudes, a few hundred feet in the middle latitudes and half a mile in the high latitudes.

Question 5

Answer c

Explanation: The standard air pressure at sea level is 1013.25 mb (millibar is a force equal to 1000 dynes per cm<sup>2</sup> whereas a dyne is a unit of force approximately equal to the weight of one milligram) or 29.92 inches or 76 cm at a temperature of 15°C at the latitude of 45°.

Question 6

Answer d

Explanation:

Second statement is wrong. Air pressure increases with decreases temperature because cool air contract and become heavy. Thus cause more pressure.

Third statement is wrong. Air pressure increase with increasing water vapour as weight of water vapours added in the air.

Fourth statement. Air pressure decrease with increasing distance from sea because altitude increase with the distance from sea. Pressure and altitude has inverse relation.

Question 7

Answer c

Explanation:

Pressure and altitude has inverse relation. Seasons affects the average temperature , hence affects pressure. gravitational pull of sun and moon does not directly affect atmospheric pressure on the earth. Air pressure increase with increasing water vapour as weight of water vapours added in the air.

Question 8

Answer c

Explanation: first statement is wrong. Clouds at night obstruct the terrestrial radiations escaping from earth at night. Thus create a green house effect and temperature does not drop much.