Solar Radiation, Heat Balance and Temperature

I. Choose the correct answer

Question 1.

Name the sphere which constitutes the earth.

- (a) atmosphere
- (b) hydrosphere
- (c) organic biosphere
- (d) lithosphere

▼ Answer

Answer: (a) atmosphere.

Question 2.

Earth receives almost all its energy from the

- (a) sun
- (b) moon
- (c) stars
- (d) none of these

▼ Answer

Answer: (a) sun.

Question 3.

What is the temperature at the sun's gaseous surface?

- (a) 570 degree Celsius
- (b) 5700 degree celcius
- (c) 57000 degree Celsius
- (d) 5000 degree celcius

▼ Answer

Answer: (b) 5700 degree Celsius.

Question 4.

Bodies radiate energy in which form?

- (a) light
- (b) wave
- (c) particles
- (d) none of these

▼ Answer

Answer: (b) wave.





Question 5.

Earth in turn radiates the heat back to the atmosphere in long waves called

- (a) terrestrial radiation
- (b) photochemical radiation
- (c) heat radiations
- (d) ultraviolet radiations

▼ Answer

Answer: (a) terrestrial radiation.

Question 6.

What is the distance between the sun and the earth?

- (a) 152 million km.
- (b) 1520 million km.
- (c) 15200 million km.
- (d) 1500 million km.

▼ Answer

Answer: (a) 152 million km.

Question 7.

On what day the earth is nearest to the sun?

- (a) 21st June
- (b) 23rd December
- (c) 3rd January
- (d) 21st July

▼ Answer

Answer: (c) 3rd January.

Question 8.

The dark spots appearing on the sun's surface are called

- (a) Sun spots
- (b) Aurora australis
- (c) Auroralis
- (d) none of these

▼ Answer

Answer: (a) Sun spots.

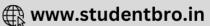
Question 9.

What causes the variations in insolation?

- (a) rotation of the earth on its axis
- (b) terrestrial radiations
- (c) atmospheric gases
- (d) none of these







▼ Answer

Answer: (a) rotation of the earth on its axis.

Question 10.

Which factor determines the angle of inclination of solar rays?

- (a) altitude
- (b) ocean currents
- (c) latitude
- (d) rotation of the earth

▼ Answer

Answer: (c) latitude.

Question 11.

On what day the sun is overhead at the Tropic of Cancer?

- (a) July 21st
- (b) June 21st
- (c) January 3rd
- (d) March 21st

▼ Answer

Answer: (b) June 21st.

Question 12.

The angle of inclination of sun's rays at noon at Delhi (28°N):

- (a) 85°
- (b) 47°
- $(c) 0^{\circ}$
- (d) 57°

▼ Answer

Answer: (a) 85°.

Question 13.

The axis of rotation of Earth is inclined about

- (a) 231/2°
- (b) 661/2°
- (c) 28°N
- (d) none of these

▼ Answer

Answer: (b) 66½°.

Question 14.

When is North pole inclined 231/2° toward the sun?





- (a) 21st March
- (b) 21st June
- (c) 23rd September
- (d) 23rd March

▼ Answer

Answer: (b) 21st June.

Question 15.

Which processes operate on insolation during the passage through the atmosphere?

- (a) absorption
- (b) scattering
- (c) reflection
- (d) all of these

▼ Answer

Answer: (d) all of these.

Question 16.

Through which process the colour of the sky seems blue?

- (a) absorption
- (b) reflection
- (c) scattering
- (d) none of these

▼ Answer

Answer: (c) scattering.

Question 17.

The combined reflection from the earth's surface and clouds is known as

- (a) insolation
- (b) reflection
- (c) albedo
- (d) aurora Australis

▼ Answer

Answer: (c) albedo.

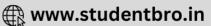
Question 18.

The heat transfer by contact is termed as

- (a) conduction
- (b) convection
- (c) radiation
- (d) none of these
- **▼** Answer







Answer: (a) conduction.

Question 19.

The earth transmits the heat by

- (a) conduction
- (b) convection
- (c) radiation
- (d) all of these

▼ Answer

Answer: (d) all of these.

Question 20.

By which process the earth's surface is heated?

- (a) convection
- (b) conduction
- (c) radiation
- (d) none of these

▼ Answer

Answer: (b) conduction.

Question 21.

How much solar radiation is received at the top of the atmosphere?

- (a) 100 units
- (b) 110 units
- (c) 47 units
- (d) 53 units

▼ Answer

Answer: (a) 100 units.

Question 22.

Which factor controls the temperature distribution?

- (a) latitude
- (b) altitude
- (c) ocean current
- (d) all of these

▼ Answer

Answer: (d) All of these.

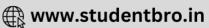
Question 23.

What is normal lapse rate?

- (a) 6.5°C per km.
- (b) 65°C per km.







(c) 5.6°C per km. (d) 6.6°C per km.
▼ Answer
Answer: (a) 6.5°C per km.
Question 24. What least range of temperature is found between 20°S and 15°N? (a) 3°C (b) 5°C (c) 20°C (d) 10°C
▼ Answer
Answer: (a) 3°C.
Question 25. The sun has how many shapes? (a) Four (b) Three (c) Two (d) Five
▼ Answer
Answer: (b) Three.
II. Fill up the blanks with suitable words
Question 1. Sun is the ultimate source of energy for the planet
▼ Answer
Answer: earth
Question 2. On January 3rd, the earth is nearest to sun, 147 million km. This position is called
▼ Answer
Answer: perihelion.
Question 3. The and of insolation day during a day in a season and in a year.
▼ Answer
Answer: amount, intensity



Question 4. The
Answer: latitude Question 5. When sun is overhead at noon over the equator these days are called ▼ Answer Answer: equinoxes. Question 6. The
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▼ Answer
Answer: reflect, radiations
Question 8. The earth transmits the heat through,
▼ Answer
Answer: conduction, convection, radiation
Question 9. The atmosphere is largely to short wave solar radiation.
▼ Answer
Answer: transparent
Question 10. The air and water vapour carries the heat through the process of
▼ Answer
Answer: upward, convection

