

**Multiple Choice Questions**

1. Air exerts:
  - a) Weight only
  - b) Pressure
  - c) Heat
  - d) Electricity
2. What causes vacuum packets to shrink?
  - a) Gravity
  - b) Temperature
  - c) Outside air pressure
  - d) Air inside the packet
3. What makes a balloon expand when blown into?
  - a) Gravity
  - b) Heat
  - c) Air pressure
  - d) Vacuum
4. Wind is:
  - a) Moving water
  - b) Moving heat
  - c) Moving air
  - d) Lightning
5. Wind moves from:
  - a) Cold to hot areas
  - b) Low pressure to high pressure
  - c) High pressure to low pressure
  - d) Ocean to land always
6. Which factor does not affect wind movement?
  - a) Earth's rotation
  - b) Temperature
  - c) Water cycle
  - d) Pressure differences
7. Sea breeze occurs when:
  - a) Warm air rises from land
  - b) Warm air rises from sea
  - c) Cold air sinks
  - d) Wind moves land to sea
8. Wind pressure increases with:
  - a) Speed
  - b) Temperature

- c) Rainfall
  - d) Humidity
9. Storms usually have:
- a) Gentle wind
  - b) High temperature only
  - c) Strong winds and lightning
  - d) Only thunder
10. A cyclone forms over:
- a) Mountains
  - b) Deserts
  - c) Oceans
  - d) Forests
11. The central low-pressure area of a cyclone is called:
- a) Eye
  - b) Core
  - c) Heart
  - d) Hole
12. Thunderstorms form when:
- a) Cold air rises
  - b) Warm moist air rises quickly
  - c) Sunlight reflects off clouds
  - d) Earth rotates fast
13. Which cloud type is related to thunderstorms?
- a) Stratus
  - b) Nimbus
  - c) Cumulonimbus
  - d) Cirrus
14. What fuels a cyclone's energy?
- a) Sunlight
  - b) Condensation of moisture
  - c) Rainwater
  - d) Ocean salt
15. One safety tip during storms is:
- a) Touch poles
  - b) Hide under trees
  - c) Stay indoors
  - d) Switch on fans
16. Which of the following is not a safety tip?
- a) Store food
  - b) Listen to updates

- c) Play outdoors
- d) Help elderly

17. Cyclones are:

- a) Small
- b) Local
- c) Slow and weak
- d) Large and strong rotating storms

18. Which state was badly affected by the 1999 cyclone?

- a) Kerala
- b) Odisha
- c) Punjab
- d) Goa

19. Windmills work by:

- a) Solar power
- b) Water
- c) Air pressure
- d) Magnets

20. Ships are designed to withstand:

- a) Weight only
- b) Pressure of wind and water
- c) Speed
- d) Sunlight

#### Assertion-Reason Questions (1 mark each)

Options:

- A. Both A and R are true, and R explains A
- B. Both A and R are true, but R is not the correct explanation of A
- C. A is true, R is false
- D. A is false, R is true

21. A: Air has pressure.

R: It can move objects like rooftops and trees during storms.

22. A: Wind moves from low to high pressure areas.

R: Warm air creates high pressure zones.

23. A: Thunderstorms form due to warm, moist air rising.

R: Rising warm air causes cloud formation and releases energy.

24. A: Cyclones form on land.

R: They form when warm air rises over cold soil.

25. A: Ships are shaped to withstand air and water pressure.

R: Their shape helps reduce the impact of both pressures.

**Case Study-Based Questions**

## Case Study 1: Sea Breeze and Land Breeze

During the day, Rahul noticed the cool breeze coming from the sea while standing on a beach. At night, the direction of wind reversed.

1. What is this phenomenon called?
2. Why does wind change direction between day and night?
3. What causes warm air to rise?
4. Is this wind movement due to pressure or gravity?

