

21/08/19

## CHAPTER - 8 WINDS, STORMS AND CYCLONES

### SHORT NOTES:-

- \* **ATMOSPHERE:-** The layer of air surrounding the earth is called atmosphere.
- \* **ATMOSPHERIC PRESSURE:-** The pressure exerted by the air present in the atmosphere is called atmospheric pressure.
- \* **SUMMER MONSOON:-** The winds blowing from the oceans towards the land in summers are called summer monsoon.
- \* **WINTER MONSOON:-** The winds blowing from the land towards the ocean in winters are called winter monsoon winds.
- \* **THUNDERSTORMS:-** A violent storm with thunder and lightning is called a thunderstorm.
- \* **TORNADO:-** A tornado is a violent, dangerous, rotating column of winds having appearance of a dark, funnel-shaped cloud extending from the sky to the ground.
- \* **CYCLONE:-** A cyclone is a huge revolving storm caused by very high speed winds blowing around a central area of low pressure zone over the ocean.

### Very Short type answer:-

Ques-1 Name a device to measure wind speed.

Ans- Anemometer.

Ques-2 Why does cyclone die on reaching the land?

Ans- As the cyclone reaches the land, the supply of warm and moist air gradually stops and the cyclone dies.

Ques-3 What are the three conditions to form thunderstorm?

Ans- The three conditions to form thunderstorm are:-

- \* Moisture
- \* An unstable air mass
- \* A lifting force.

Ques-4 List two factors that contribute to the development of cyclones?

Ans- The two factors that contribute to the development of cyclones are-

- \* Wind speed
- \* Wind direction.

Ques-5 In which direction do the polar winds blow?

Ans. The winds blow from the cold polar regions towards the  $60^{\circ}\text{N}$  and  $60^{\circ}\text{S}$  latitudes. These winds are called polar winds.

Ques-1 List two situations that generate winds currents on the earth.

Ans. \* Unequal heating between the equator and poles of the earth.

\* Unequal heating of land and water of oceans.

### SHORT TYPE - 1 Question:-

Ques-1 Why does hot air (or warm air) rise upwards?

Ans. Hot air being lighter rises up. In hot air always rises up. This is due to the reasons that hot air filled in them is lighter and less dense than the surrounding cold air.

Ques-2 What are the two stages of cyclone warnings?

Ans. \* The first stage warning, known as 'cyclone warning alert' or 'cyclone watch' is issued 48 hours prior to any expected storm or cyclone.

\* The second stage warning known as 'cyclone warnings', is issued 24 hours

In advance. This give sufficient time to people to evacuate the cyclone prone area.

Ques-7 What do you mean by summer monsoon winds and winter monsoon winds?

Ans- \* Summer monsoon:- The winds blowing from the oceans towards the land in summers are called summer monsoon winds.

\* Winter monsoon:- The winds blowing from the land towards the ocean in winters are called winter monsoon.

Ques-5 What conclusion do you ~~mean by~~ make when you blow air in the space between the two balloons from your mouth and the balloons come closer to each other?

Ans- The air pressure on the either sides of the balloons being higher, pushed the two balloons towards each other and brings them closer.

\* Conclusion:- High speed winds are accompanied by reduced air pressure.

Ques-6 Why is it safe to take shelter in a bus or a car during thunderstorm?

Ans- To take shelter in a bus or a car. It is because when the lightning strikes, cars

metal body can conduct lightning to the earth safely without harming you or causing any damage. But, do not touch any metallic part in the vehicle.

Ques 7 Why should you avoid contact with water during lightning?

Ans- You avoid contact with water during lightning because water is good conductor of heat, lightning, contain high power electric charges.

### SHORT ANSWER TYPE - II QUES & ANS

Ques 1 How are convection currents setup in air?

Ans- In nature, there are several situations when hot air rises at a place and the air pressure at the place gets lowered. The cold air from the surrounding areas rushes into fill its place. This sets up convection in air, also known as convection currents in air.

Ques 2 Describe how a cyclone causes widespread destruction.

Ans - \* The fast moving flood water of the sea brought in by a cyclone destroys roads, railway tracks and crops, uproot trees, reduces soil fertility, drowns human being and animals causing a great loss of life and property.

\* Cyclone cause severe breakdown in communication and transport system.

Ques. What is atmospheric pressure?

Ans. The pressure exerted by the air present in the atmosphere is called atmospheric pressure.

Ques. Why does a closed tin can containing boiling water get crushed, when kept under cold water?

Ans. When the can is capped and cold water is poured over it, the steam inside it condenses and forms water. This reduces the steam pressure. Since there is no air pressure. The large air pressure (or atmospheric pressure) outside the tin can crush it inside.

### CONCISE ANSWER TYPE QUESTIONS:-

Ques. 1 What is a cyclone? Describe the formation of a cyclone?

Ans. A cyclone is a huge revolving storm caused by very high speed winds blowing around a central area of low pressure zone over the ocean.

\* formation of cyclone:-

The sun heats the surface of ocean water.

The ~~sun~~ warm water, in turn heats the air above it. This causes a low pressure over a vast area of the ocean.

\* ~~As~~ the warm and moist air containing a lot of water vapour rises high up in the atmosphere. It gets cooled and the water vapour present in it condenses to form ~~the~~ clouds called thunder clouds.

\* The heat released by the condensation of water vapour in the atmosphere warms the air all around. This warm air rises higher into the atmosphere causing a low pressure. More air rushes in from the centre of the storm. This cycle is repeated.

Ques-2 What precautions should be taken by the people after the cyclone hits their area?

Ans- \* Do not drink water that ~~to~~ could be contaminated by floods (to avoid water-borne diseases).

\* ~~Don't~~ Drink only clean water that has been stored for emergencies.

\* Do not touch ~~we~~ electric switches and fallen electric power lines.

\* Do not go out just for the sake of fun.

\* Do not pressurise the rescue forces by

making undue demands.

\* Cooperate and help your neighbours and friends.

\* Do not spread rumours.

Amisha  
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