

Key to Navjeevan Practice Book

Standard
7

Teacher's Copy

Geography


NAVJEEVAN
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Topic 1 : How Seasons Occur – Part 1

- Q.1. (A)** (1) 24 (2) day (3) west, east (4) time, days
(B) (1) – (c), (2) – (a), (3) – (b), (4) – (e), (5) – (d)
(C) (1) Rotation is the movement of the earth around itself.
(2) The earth's rotation enables us to measure time in terms of days.
(3) It takes 24 hours for the earth to rotate around itself.
(4) The earth rotates from west to east.
(5) During a single day, we experience the different stages such as sunrise, midday, sunset, daytime and nighttime.
(6) Revolution is the movement of the earth around the sun.
(7) Seasons are caused due to revolution of the earth.
(8) The earth takes one year to complete one revolution around the sun.

Intext Question

Activity : (1) (To be done by students.)

Topic 2 : The Sun, the Moon and the Earth

- Q.1. (A)** (1) Perigee (2) annular (3) axial, orbital
(4) lunar (5) apogee
(B) (1) - c, (2) - e, (3) - d, (4) - a, (5) - b
(C) (1) 90° (2) Apogee (3) Solar eclipse
(4) Earth, moon (5) Annular solar eclipse
(D) (1) This is because the moon's orbit of revolution is as elliptical as that of the earth.
(2) The reason is that the time the moon takes to

make one revolution around the earth and one rotation around itself is the same.

- (3)** The moon intersecting the plane of the earth's orbit twice during one revolution is annular solar eclipse.
(4) From a very small region of the earth only an illuminated part of the sun disc is seen in the form of a ring. This is called annular solar eclipse.
(5) A lunar eclipse occurs when the moon enters the shadow of the earth, while revolving around it and when the earth is in between the sun and the moon and all three of them are in the same plane at the same time.
(E) (1) False (2) True (3) False (4) False (5) True
(F) (1) Perigee (2) Semicircular (3) 0°
(4) Solar (5) Solar
(G) (1) astronomical (2) lunar (3) 107
(4) 180° (5) annular solar

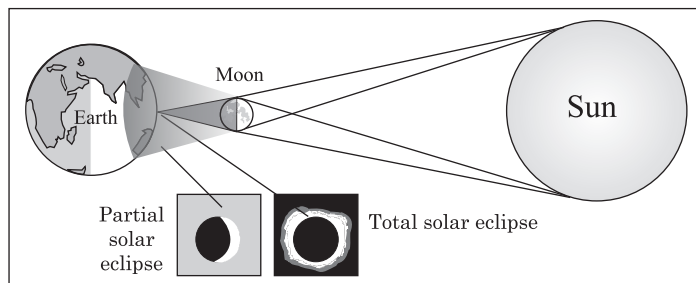
- Q.2. (1)** The moon revolves around the earth.
(2) On a full moon day, while revolving around the earth, the moon is on the opposite side of the sun.
(3) The moon's revolutionary orbit makes an angle of 5° with that of the earth.
(4) In one revolution of the moon, its orbit intersects the earth's orbit twice.
(5) The intense light of the sun can be harmful to the naked eye. One must wear special goggles made for this purpose.
(6) An annular solar eclipse occurs when the moon is in the apogee position.

Q.3. (1) - (b), (2) - (b), (3) - (a), (4) - (c)

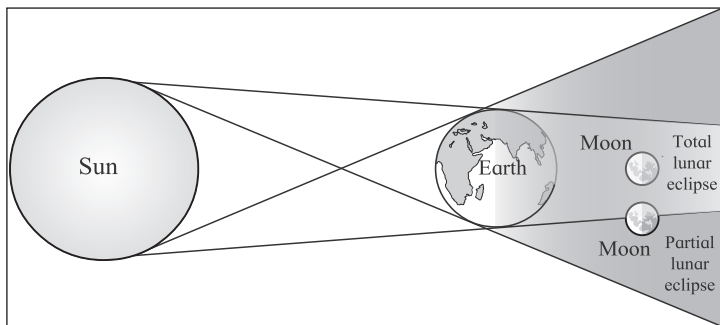
Q.4.

	Details	Lunar Eclipse	Solar Eclipse
(1)	Phase of the moon	Full moon day	New moon day
(2)	Sequence	Moon-Earth-Sun	Sun - Moon - Earth
(3)	Type of eclipse	Partial Lunar Eclipse Total Lunar Eclipse	Partial Solar Eclipse Total Solar Eclipse Annular Solar Eclipse
(4)	Maximum duration of Total Eclipse	107 minutes	7 minutes 20 secs. 440 seconds.

Q.5.(1)



(2)



Q.6. (1) The moon's orbit of revolution is also elliptical as that of the earth. Hence the distance of the moon from the earth is not the same everywhere along its orbit while revolving. The orbital paths of the earth and the moon are not in the same plane. On each new moon day, the lines joining the earth, the sun and the moon make an angle of 0° whereas on each full moon day, this angle is of 180° . Even so, the sun, the earth and the moon may not be in one straight line in the same plane on every new moon and full moon day.

- (2)** When the moon is between the sun and the earth the place on the earth where the moon's shadow falls on earth experiences solar eclipse. The central portion of the shadow is darker and the periphery is lighter. In the area where the shadow is darker on the earth, the sun becomes completely invisible. This is total solar eclipse. However, during the same period, at the places where the shadow is lighter, the sun's disc appears partially covered. This condition is partial solar eclipse.
- (3)** People who believe in these superstitions must be informed that they are wrong. They should be explained that eclipses are astronomical events. They should be told that eclipses are the result of the earth and the moon being in specific positions and it is natural. There is nothing auspicious or inauspicious about these events.
- (4)** While observing a solar eclipse, it is necessary to view the sun disc through dark glasses or special goggles made for that purpose, otherwise the intense light of sun can be harmful to the naked eye.

- (5) Total and partial solar eclipses will be seen in the perigee condition.

Q.7.

	Solar Eclipse		Lunar Eclipse
(1)	Occurs on a new moon day but not on every new moon day.	(1)	Occurs on a full moon day but not on every full moon day.
(2)	If and only if the sun, the moon and the earth are in the same plane, and fall in one line, the solar eclipse occurs.	(2)	The lunar eclipse occurs if and only if the sun, the moon and the earth are in the same plane and fall in one line.
(3)	The maximum duration of a total solar eclipse is 7 minutes and 20 seconds. (440 seconds).	(3)	The maximum duration of a total lunar eclipse is 107 minutes.

- Q.8. (1)** The time it takes for the moon to make one revolution around the earth and one rotation around itself is the same, that is why we constantly see one and the same side of the moon.
- (2)** On the first and third quarter days, the moon, the earth and the sun make an angle of 90° . At these positions, we see half the portion of the illuminated moon. Hence in the sky it appears semicircular in shape.
- (3)** Sometimes the moon is in apogee position. This means it is at its farthest from the earth. As a result the deep shadow of the moon is cast in space and does not reach the earth. From a very small region of the earth,

only an illuminated edge of the sun disc is seen in form of a ring. This is very rarely seen. Hence, the annular solar eclipse is a rare phenomenon.

Intext Questions

* **Think about it!**

- (1)** Yes, there must be something called earthlight. We will surely find it on the moon.
- (2)** The outer ring is seen from space since the moon is shown as half in light and half in shadow through out the entire circle. The inner circle are the phases of the moon as we see them from the earth as new moon, crescent moon, half moon and full moon.
- (3)** On new moon day, the sun, the moon and the earth are in a straight line. The sun and the moon form an angle of 0° with the earth. In the first quarter the three bodies form an angle of 90° . (This is the waxing moon). In the third quarter, the sun, earth and the moon form an angle of 270° (waning moon). On each full moon day, they will form an angle of 180° .

The moon intersects the plane of the earth's orbit twice during one revolution. This angle will be formed twice in a month.

- (4)** The moon has a shadow, but the shadow cannot be seen since the side that faces us is dark.

* **Use your brain power!**

- (1)** It will not be seen in the places that are on the opposite side of the places where we can visualise the solar eclipse.

- (2) No, total and annular solar eclipses do not occur on the same occasion.
- (3) This is because the earth is a bigger body than the moon, hence the earth's shadow too will be bigger than the moon.
- (4) The solar eclipse.
- (5) This is because other planets, when they come in between the line of the earth and the sun, a transit occurs. A small dot appears to move across the sun's disc. This is a type of solar eclipse.

Topic 3 : Tides

- Q.1. (1)** tides **(2)** gravitational, centrifugal **(3)** centre
(4) rotation **(5)** tides **(6)** new moon, full moon
(7) tidal range **(8)** mangroves
(9) 12 hours and 25 minutes **(10)** wind
- Q.2. (1)** Tides are movements of sea water occurring daily and regularly.
- (2)** The sun, the moon, the earth and the gravitational and centrifugal forces are the factors responsible for the occurrence of tides.
 - (3)** During rotation, the force that works away from the centre of the earth is called centrifugal force.
 - (4)** The force that works towards the centre of the earth is called gravitational force.
 - (5)** The highest tidal range in the world is observed at Bay of Fundy along the Atlantic coast of North America.
 - (6)** The sea water moves up and down or slightly forward and backward due to the waves.

- (7)** The vertical distance between a crest and the following trough is called the amplitude of the wave.

Q.3.

Group 'A'	Group 'B'	Group 'C'
Waves	Wind	These are also generated due to earthquakes and volcanoes.
Centrifugal force	Rotation of the earth	Objects get thrown towards the outer side.
Gravitational force	The moon, the sun and the earth	Operates in the direction towards the centre of the earth.
Spring Tide	New moon day	Highest high tide occurs on this day.
Neap Tide	8th phase of the moon (Quarter)	The forces of the sun and the moon operate in different directions.

- Q.4. (1) - (b), (2) - (c), (3) - (d), (4) - (a), (5) - (f), (6) - (e)**
- Q.5. (1)** The moon is closer to the earth than the sun, hence its gravitational force becomes more effective than that of the sun. This is why the moon's influence on tides is more than that of the sun.
- (2)** Soil erosion is always occurring. In many places the rocks are weak and break up easily. This erosion leads to formation of hollows in the open sea. When the tide is high, the water collects in these big hollows and remains there forming lakes and lagoons. These water bodies remain filled because of high tides.

- (3) Tides occur due to the relative positions of the moon, the sun and the earth. A place on the earth located at the opposite point of the place experiencing high or low tide also experiences high, or low tide respectively at the same time due to the result of the centrifugal force. When there is high tide at 0° meridian, the 180° meridian also experiences high tide.
- (4) The gravitational force is working towards the centre of the earth at the same time as the centrifugal force. The gravitational force is many times greater than the centrifugal force, hence any object on the earth stays where it is and does not get thrown away.
- (5) On new moon and full moon days, the gravitational pull of the sun and the moon act in the same direction. Due to this, the total pull increases, hence the tide is much higher than the average high tide on these days.
- (6) This is because the attraction of the sun and the moon are not complementary, but at right angles to each other. At such times, neap tides are caused.

Q.6. (1) Generally high tides and low tides occur twice a day (24 hours). The time difference between two high tides is 12 hours 25 minutes.

If the high tide is at 7 a.m., the next high tide will occur at 7.25 pm. Low tide will occur at 1 p.m. approximately and the next low tide will be at 1.25 a.m.

- (2) Exactly on the opposite side of 73° E meridian, on 107° W meridian there will be high tide. This place will be at an antipodal position to 73° meridian since it is exactly opposite to 73° E meridian.

- (3) Due to the force of the wind, water appears to be moving. The sea water gets pushed by the wind and ripples are generated on the water surface. These are called waves.

If a strong wind is blowing in one direction, large waves are generated. Sometimes due to earthquakes or volcanic eruptions below the floor of the sea, waves get generated, such waves assume a great height in the shallow waters near the coast. These waves are called Tsunamis. They are very destructive. They cause huge loss of life and property.

Q.7. (1) Swimming : Lack of understanding of the timings of high and low tides can cause accidents to swimmers entering the sea.

(2) **Steering a ship :** Ships can move up to the port during high tide. Low tide can get the hull of the ship stuck in the wet sand.

(3) **Fishing :** With the high tide, fish move into the creeks and this helps in fishing activity.

(4) **Salt pans :** During the high tide, sea water can be stored in salt pans from which salt is obtained.

(5) **Going to coastal areas for trips :** Ports do not get filled with sediments, hence ships carrying tourists can dock easily and tourists can leave the ship without any problem.

Q.8. (1) It shows the first quarter of the month.

(2) The earth is at the centre. The moon and the sun are at right angles to each other with the earth at the vertex.

- (3) There will be a fall in the water level, it will be less than usual at the time of low tide because the attraction of the sun and the moon are not complementary but at right angles to each other.

Q.9. Large rockets used to go into space away from the earth acts against gravitational force.

Q.10.(1)

	High Tide		Low Tide
(1)	High tides occur on new moon and full moon days.	(1)	Low tides occur on the first and third quarters of each month.
(2)	Highest tides are known as 'Spring Tides'.	(2)	Lowest tides are known as 'Neap Tides'.
(3)	The gravitational pull of the sun and the moon act in the same direction.	(3)	The forces of the sun and the moon operate at right angles on the earth.
(4)	The water level is high.	(4)	The water level is low.

(2)

	Spring Tide		Neap Tide
(1)	High tides are called Spring Tides.		Low tides are given the name 'Neap tides.'
(2)	Occurs on new moon and full moon days.		Occurs on the first and third quarters of each month.
(3)	The gravitational pulls of the sun and the moon act in the same direction.		The moon and the sun are at right angles with respect to the earth, twice a month.
(4)	On these days, the tide is much higher than average high tide.		The rise of the water level is less than usual.

Q.11. The positive effects are -

- With high tide fish move into the creeks and this helps in fishing activities.
- The tides clear the waste and hence the coasts become clean.
- Ports do not get filled with sediments.
- Ships can move up to the ports during high tide.
- During high tide, sea water can be stored in salt pans from which salt can be obtained.
- The tides help in maintaining the mangroves and coastal biodiversity.

The negative effects are -

- A lack of understanding of the timings of high and low tides may cause accidents to swimmers entering the sea.

Topic 4 : Air Pressure

- Q.1. (1)** air pressure **(2)** increasing altitude
(3) temperature **(4)** pressure belts
(5) equator, poles
(6) Tropic of Cancer, Tropic of Capricorn **(7)** heavier
(8) curvature **(9)** 0° **(10)** isobars
- Q.2. (1)** The altitude of the region, temperature of the air and amount of water vapour in the air, are some factors that influence air pressure.
- (2)** When temperature rises, the air gets heated, it expands and becomes lighter in the vicinity of the earth's surface and moves upwards towards the sky.
- (3)** Uneven distribution of temperature influences the distribution of air pressure. It leads to the formation of low and high pressure belts, horizontally between the equator and the poles.
- (4)** The effects of air pressure are (a) origin of winds, (b) generation of storms, (c) convectional type of rain.
- (5)** The duration and intensity of sunrays varies during the periods of the year in both the hemispheres. This makes the temperature zones and pressure belts to vary. The change is 5° - 7° towards the north and 5° - 7° towards the south. This is called the oscillation of pressure belts.
- (6)** The difference is that temperature zones are continuous and are spread from the equator to the poles, from Torrid to Frigid. Pressure belts on the other hand are not continuous and areas of high and low pressure are found in different regions from the equator to the poles.

	Pressure Belts		Temperature Zone
(a)	Pressure belts are narrower.	(a)	Temperature zones are larger.
(b)	Pressure belt has limited extent upto 10° parallels.	(b)	Temperature zones extends from 23° 30' to 66° 30'.

- (7)** Due to earth's curvature, the area between two parallels gets reduced as we move towards the poles. Air in this region is thrown out because of their reduced friction and also because of the earth's rotational motion. This leads to the development of the subpolar low pressure belts between 55° and 65° parallels in both the hemispheres.
- Q.3. (1)** The proportion of dust, water vapour, heavy gases is high in the air near the earth's surface. This proportion decreases with increasing altitude. As we move higher and higher from the surface of the earth, the air becomes thinner and thinner. As a result the air pressure decreases with increasing altitude.
- (2)** Temperature and air pressure are closely related. Wherever the temperature is high, the air pressure is low. As the temperature rises, the air gets heated, expands and becomes lighter. This air rises up and pressure decreases. Pressure depends on the rise and fall of temperature, hence it oscillates.
- (3)** The heat received from the sun is uneven in different regions. Hence, distribution of temperature is uneven from the equator to the poles. As a result, the temperature zones are created.
- (4)** The sun's rays are perpendicular between the Tropic of Cancer and Tropic of Capricorn. The temperature is high here. Air gets heated and expands, becomes lighter and moves towards the sky. This goes on continuously, hence a low pressure belt is formed between 5° N and 5° S parallels.

Q.4. (1) (a) When the heated air becomes lighter, it starts rising and reaches higher altitudes and then moves towards the Polar regions.

(b) Due to low temperature at the higher altitudes the air cools down and becomes heavier. This heavier air descends in both the hemispheres between 25° to 35° parallels.

(c) This leads to the formation of high pressure belts in both the hemispheres.

(d) This air is dry and these regions do not get rain, hence hot deserts of the world are found in these regions.

(2) (a) The pressure belts can be divided horizontally on the earth's surface.

(b) We have the Equatorial low pressure belt from 5° N to 5° S of the equator. Since it is very hot here, the pressure is low.

(c) From 25° to 35° N and 25° to 35° S of the equator we have the Mid-Latitudinal high pressure belts.

(d) From 55° N to 65° N and 55° S to 65° S we have the Sub Polar low pressure belts.

(e) At the North Pole and at the South Pole we have the Polar high pressure belts from 80° and 90° N and S.

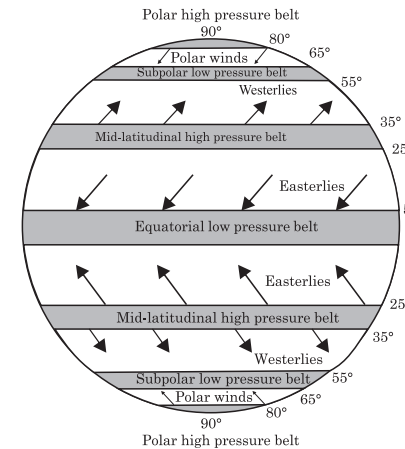
(3) (a) The sun's rays can be perpendicular between the Tropic of Cancer and Tropic of Capricorn.

(b) The temperature is very high in this region.

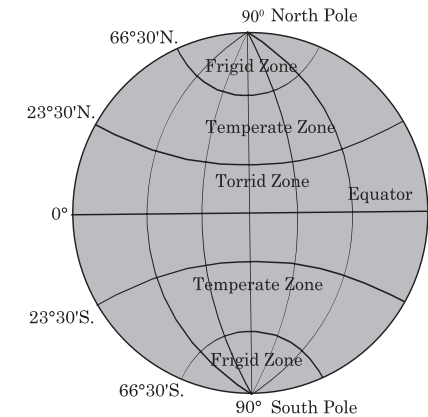
(c) The air expands, becomes lighter and moves towards the sky. Low pressure belt gets formed between 5° N and 5° S.

Q.5. (1) thinner **(2)** millibars **(3)** uneven **(4)** Equatorial low

Q.6. (a) Pressure belts



(b) Temperature zones



***Q.7.** The heated air becomes lighter, starts ascending and after reaching higher altitudes, moves towards the polar region. Due to low temperatures at the higher altitudes, the air cools down and becomes heavier. This heavier air descends down in both the hemispheres in the region between 25° to 35° parallels. This leads to the formation of high pressure belts in the parallels of latitudes in both the hemispheres. This air is dry, hence the region does not get rainfall. Consequently, most of the hot deserts on the earth are formed in these regions.

Intext Question

* **Can you tell ?**

(1) (1) Equatorial low pressure belt its found in the Tropics.

(2) (a) Polar high pressure belt (b) Frigid zone

(3) The temperature is very high in the Tropics. The sun's rays are perpendicular between the Tropic of Cancer and Tropic of Capricorn.

- (4) Between Mid-latitude high pressure belt and Sub-Polar low pressure belt winds in the temperate zone are associated.
- (5) (a) Equatorial low pressure belt 5° N to 5° S.
(b) Sub polar low pressure belts 55°–65° N and 55°–65° S.
- (2) (1) In the Northern hemisphere isobars are far from each other. In Southern hemisphere isobars are very close to each other.
- (2) (a) Mid-latitude high pressure belts are between 25° – 35° North and South of the equator.
(b) Equatorial low pressure belt is between 5° North and 5° South of the equator.
(c) Sub Polar low pressure belts are between 55° – 65° North and South of the equator.
(d) Polar high pressure belts are between 80° – 90° North and South of the equator.
- (3) The distance between successive isobars over oceans is close to each other where as the distance between successive isobars over land is more and they are further away from each other.
- (4) In the Northern hemisphere isobars are hardly parallel to each other. They go round in circular shapes and there is lots of distance between them.
In the Southern hemisphere isobars are more parallel to each other and nearer to each other.
- (5) Since the isobar lines are forming a circular path, it shows that the pressure is the same throughout Asia.
- (6) These lines show high pressure.
- (7) They show that there is low pressure in these areas.

Think about it!

- As the temperature drops the air gets cooled, it contracts and becomes heavier. This heavy air moves in the downward direction and the air pressure increases.

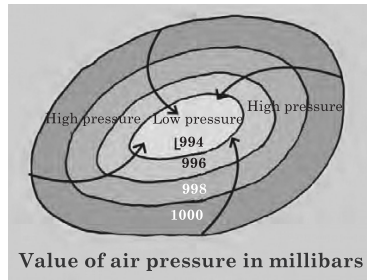
Use your brain power!

- If there is low pressure at the equator, the air pressure in the Arctic Zone will be high.

Topic 5 : Winds

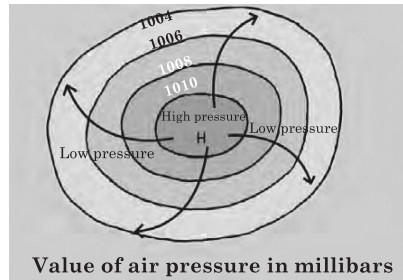
- Q.1. (A)** (1) earth's surface (2) velocity
(3) Knots (4) rotation
(5) Southern (6) Roaring forties
(7) Mountains (8) sunset
(9) stable, opaque (10) Indian sub-continent
- (B)** (1)-(d), (2)-(a), (3)-(b), (4)-(c), (5)-(e).
- Q.2. (1)** becomes thinner
(2) blow towards regions of low air pressure
(3) turn to the east
(4) north-east to south-west.
(5) blow in the areas around 40° S parallel
- Q.3. (1)** South west monsoon winds
(2) Polar winds
(3) Mountain breeze

Q.4. • 990, 994, 996, 1000



Cyclone

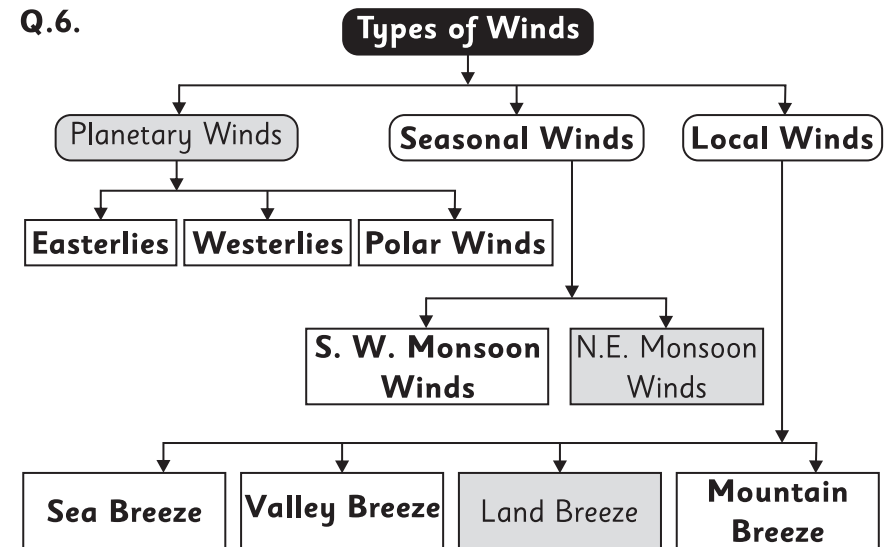
• 1030, 1020, 1010, 1000



Anticyclone

- Q.5 (1)** The region between 5° N and 5° S around the equator is a region of low pressure. Winds in both the hemispheres blow towards the equator and lose their velocity as they near the equator and get deflected to the east or west due to the rotation of the earth, hence this area is a calm area. It is also called as the equatorial calm zone or the Doldrums.
- (2)** The southern hemisphere is mostly occupied by oceans. In this hemisphere the obstacle caused by the relief of the land surface is almost absent. As there is no obstacle, winds blow with greater velocities in the southern hemisphere as compared to the northern hemisphere.
- (3)** From September to December, because of the low pressure area developing near the equator, winds blow from the Indian sub-continent towards the equator. These are called north-east monsoon winds. They are dry winds.

Q.6.



- Q.7. (1)** In both the hemispheres it is very cold in Polar areas, the temperature is very low. It is around 0°C in these areas, hence the pressure is high. The lower the temperature, the higher is the pressure.
- (2)** The direction of the winds is influenced by the rotation of the earth. In the northern hemisphere, winds get deflected towards the right of their original direction, whereas in the southern hemisphere, they get deflected towards the left of their original direction. The rotation from west to east causes the change in the original direction of the winds.
- (3)** Cyclonic conditions are created when a low pressure area is surrounded by high pressure areas. In these conditions, winds start blowing towards the low pressure area from the surrounding high pressure areas. Due to the rotation of the earth the cyclonic winds in the northern hemisphere move in an anticlockwise direction, whereas they move in a clockwise direction in the southern hemisphere.

- (4) Cyclones are formed when a low pressure area is surrounded by high pressure areas. Winds start blowing from the surrounding high pressure areas to the low pressure area in the centre.

Effects : The sky becomes cloudy, winds blow with very high velocity and it rains heavily.

Intext Question

Give It A Try

Pressure Belts	Northern Hemisphere	Southern Hemisphere
Mid Latitudes	Winds get deflected towards the right of their original direction	Winds get deflected towards the left of their original direction
Poles	North to South	South to North

* Can you tell ?

- (1) (1) The Easterlies. (2) Southward direction.
 (3) The Westerlies.
 (4) Polar winds blow from high pressure areas at the North Pole and South Pole to the sub-polar low pressure areas, hence in the north they blow south wards and in the south, they blow north wards.
 (5) The Easterlies, the Westerlies and the Polar winds.
 (6) In both the hemispheres the Easterlies blow from the mid-latitude high pressure belt to the equatorial low pressure belt.
- (2) (1) Land gets heated faster than water and the air pressure on land decreases. Sea water gets heated slowly, hence the air is less heated and air pressure remains high. Winds here blow from sea to land.

- (2) At night cool land breeze blows from the land towards the sea.
 (3) The textbook figure 5.5 (a) shows day time. We have cool sea breeze blowing to the land. On land, the pressure is low because the air is heated up. The warm air moves towards the sea and the air becomes cooler. Over the sea the pressure is high. The sea breeze blows from the high pressure belt above the sea to low pressure belt on the land.

(4)

	Sea breeze		Land breeze
(a)	In 5.5 (a) (textbook) we have high temperature on the land and low temperature on the sea.	(a)	In 5.5 (b) (textbook) we have warm air cooling and coming in the downward direction, while warm air over the sea goes upward.
(b)	Air pressure is low on land and high on water.	(b)	Air pressure is high on land and low on water.
(c)	Wind blow from high pressure areas on the sea to low pressure areas on land.	(c)	Wind blow from high pressure belts over the land to low pressure belts on water.

- (5) Land breezes are shown in textbook 5.5 (b) These breezes blow from the land towards the sea at night. Sea breezes are shown in textbook 5.5 (a). These breezes blow from high pressure over the water to low pressure over the land 5.5 (a)(textbook).
 (6) Land and sea breezes are experienced on the Western coast of India and the Eastern coast of India.

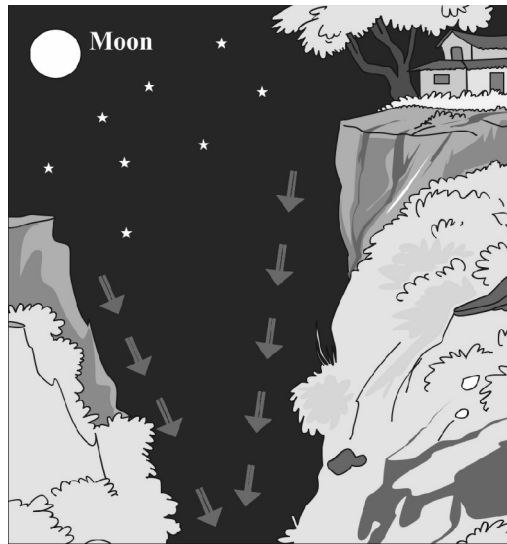
(7) Yes, I experience sea and land breezes as I stay on the west coast of India.

(Note : Student can write their own answer as per the place where they live, answer may vary.)

* **Try this**

- (A) (1) The valley zone remains cool due to more numbers of tree.
(2) Air pressure is more than mountain top in the valley.
(3) Winds blow from the valleys in the upward direction.
(4) The hot and light air from the valley is pushed upwards and the cool air rushes down into the valley.
(5) Valley breeze blows during daytime.

(B)



Mountain breeze

Topic 6 : Natural Regions

- Q.1. (A) (1) 65°,90° (2) rainfall, snowfall (3) very cold
(4) 25 (5) 200

(B) (1)-(c), (2)-(a), (3)-(d), (4)-(b).

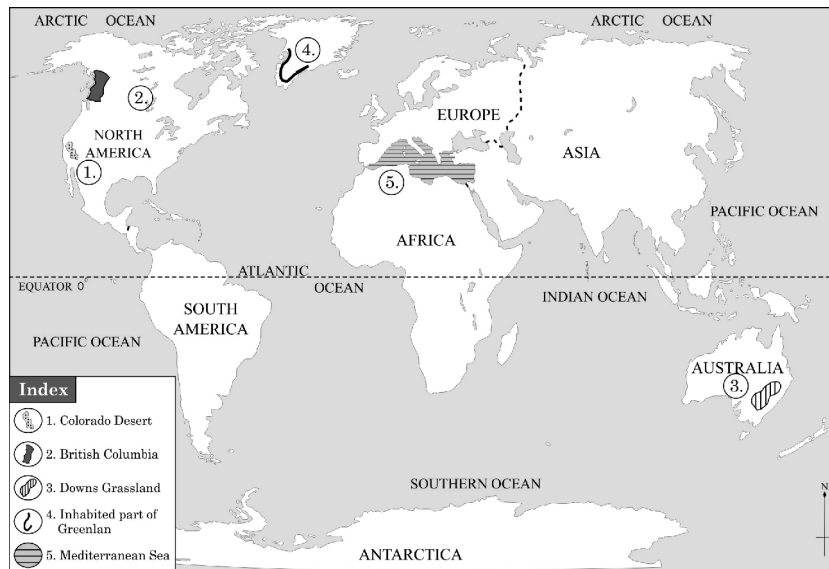
- Q.2. (1) False - They are industrious and enthusiastic people.
(2) False - The prairie region is called the wheat granary of the world.
(3) True (4) True
(5) False - Crocodile, anaconda and hippopotamus are found in equatorial regions. Lions and tigers are found in monsoon region.

- Q.3. (1) In this region the rainfall is from 250 to 2500 mm. Rainfall is highly variable and its distribution is quite uneven. These areas get rain in specific seasons from the S.W. Monsoon winds, hence people are engaged in agriculture.
(2) The annual rainfall here is between 2500 and 3000 mm. There is high heat and rainfall throughout the year. The land too is swampy in general. Hence tall hardwooded trees like mahogany, ebony, etc., grow here.
(3) In these regions, the temperature is very low. It is approximately -20° to -30° C. The mean annual rainfall is 25 - 300 mm. This is the reason why there is very short lived vegetal life in the Tundra region.

- Q.4. (1) The latitudinal extent is approximately between 55° and 65° N parallels, from Alaska to the Atlantic coast.
(2) Giraffe, elephant, zebra are some herbivorous animals. For self protection, nature has gifted the animals here with speedy legs. Skins of the animals have colourful spots or stripes bands to help them merge with the natural surroundings.
(3) (a) The monsoon regions are situated between 10° and 30° N and S parallels.

- (b) The areas are : Indian subcontinent, West Indies, N. Australia, E. Africa, etc.
- (c) Rainfall is 250 to 2500 mm. The S. West Monsoon winds give rain to these areas.
- (d) Vegetation depends on the distribution of rainfall, hence there are semi-evergreen and deciduous forests. Trees such as banyan, peepal, teak, sal, etc., grow here.
- (e) There are wild animals like tigers, lions, wolves, peacocks, etc., and domesticated animals such as cattle, goats, horses, etc.
- (f) People are involved mostly in agriculture.

- Q.5.** (1) Colorado Desert (2) British Columbia
 (3) Downs Grassland (4) Inhabited part of Greenland
 (5) Mediterranean Sea



- (1) Monsoon region, mountainous region.
- (2) Africa. (3) Asian continent.

- (4) The Southern hemisphere has less land and more water.
- (5) Taiga region. (6) Island near the Arctic circle.
- (7) Prime Meridian passes west European type climate region, mountainous region, Mediterranean region and grasslands in the Torrid zone. (Savanna) through continental dry climate and hot desert regions.

* **Think about it !**

- (1) On the western side mean summer temperature is high, it is between 30° to 45° C. There is tremendous heat in the western side, hence deserts are mostly located here.
- (2) Since it is very hot and there is no rain, crops cannot be cultivated in the desert areas. People must have some occupation. Animal rearing is the best thing that can be done in desert areas.
- (3) People move from one area to another in search of water. When the water in their area gets dried up or exhausted they move to another place in search of water. Hence they live a nomadic life.
- (4) Carnivorous animals like to move about freely. Since grasslands are very large, we find both carnivorous as well as herbivorous animals here. Carnivorous animals also find plenty of food in the grasslands since carnivorous animals live on the flesh of herbivorous animals.
- (5) Because of hot and humid climate animals like lions are not found in equatorial forest.

- (1) Tundra region (2) In Sudan Type grasslands
- (3) Mediterranean region (4) Equatorial region
- (5) Desert area (6) Monsoon regions, grasslands
- (7) Mediterranean region

Topic 7 : Soils

- Q.1. (A)** (1) hardness, climate (2) basalt
 (3) weathering (4) biotic
 (5) humus (6) vermicompost
 (7) degradation (8) fertile
 (9) Vidarbha (10) extreme rainfall

(B) (1)-(b), (2)-(c), (3)-(d), (4)-(a).

	Factors/Process	Role in the formation of soils
(1)	Parent Rock	Turns into powdery material.
(2)	Regional climate	Weathering of rocks.
(3)	Organic material	Gets mixed with the soil and changes to humus.
(4)	Micro-organisms	Help to decompose the dead remains of organic materials.

- Q.2. (1)** The Sahyadri have a humid climate. The leaching of the basalt rocks takes place because of the humid climate. This leads to formation of laterite soil.
- (2)** The vegetal litters, roots of plants and remains of animals etc., get decomposed due to water. In places where there is water and heat, microorganisms and certain other organisms help decompose the dead remains of organic materials at a faster rate. This gets mixed with the soil and humus is formed.
- (3)** The process of weathering of rocks and formation of soil depends on the climate of the region. In equatorial regions the climate is humid. When it is hot and wet, the

formation of the soil process is much faster than in dry places like the Deccan. In humid places, leaching of the rocks takes place faster and soil is formed.

- (4)** Excessive irrigation draws the salts from the soil upwards and makes the soil saline. This saline soil then becomes unproductive. Excessive irrigation is bad for the soil.
- (5)** Konkan area in Maharashtra has laterite soil. This soil is fertile and the rainfall that Konkan gets is sufficient for the growth of rice. Hence, rice is the staple diet of the people of Konkan since the local agricultural produce determines the staple diet of the people.
- (6)** The top layer of the soil gets removed due to wind or water. This means that the soil gets eroded. Running water, climate and diversity in physiography are reasons of soil erosion.
- (7)** (a) The soil quality may get lowered due to various reasons. This is called as soil degradation. (b) To get higher yield of crops, we use chemical fertilizers, insecticides, weedicides, etc. (c) These along with spraying of chemicals lead to soil degradation. (d) Excessive irrigation makes the soil saline and unproductive. This leads to the lowering of humus content in the soil and plants do not get micro-nutrients.

- Q.3. (1)** (a) Soil has to be conserved since in many areas it is becoming infertile and is getting washed away.
- (b) Soil conservation includes works like construction of embankments and planting trees on them, construction of gully plugs against the steep slopes, etc.
- (c) Such works are taken up by the Department of Soil Conservation.

- (d) Continuous Contour Trenches (CCT) are constructed along slopes at different heights to check the velocity of water running along the slopes.
- (e) The Government of Maharashtra has implemented the watershed development program along the slopes of rural areas under the title, "Arrest water, let it percolate."
- (f) Recently the Government has launched a scheme called 'Jalayukt Shivar' for construction of farm bunds and arresting water of small streams.
- (2)** Decomposition of the remains of plants and animals can give us organic manure. The vegetal litters, roots of plants, remains of animals, faeces of animals, etc., get decomposed. This can be used as manure. Microorganisms and other organisms help decompose the dead remains of organic matter. Now-a-days production of vermicompost is undertaken on a large scale.
- (3)** We get information about suitability of a soil for a particular crop at the Agricultural office. The agricultural officer will visit the site and advise accordingly.
- (4)** Food crops, fruits and flowers are produced according to the type of soil found in that particular area. The regions where soils are fertile can be self-reliant as far as food production is concerned. For the production and growth of plants, soil is indispensable. It provides support to plants. Vegetation is abundant in regions that have fertile soil eg. the Equatorial region. However, in areas where the soil is not fertile, vegetation is scanty e.g., in deserts and where there is shortage of soil, vegetation is not seen eg., Polar areas. Fertile soil favours plant growth.

Q.4.

	Action	Effect	Results (w.r.t fertility)
(1)	Construction of embankments	Raising of the ground water level reduces erosion	Soil and water used for cultivation
(2)	Planting of trees	Wind speed decreased	Reduces land erosion
(3)	Farm land is kept fallow for some period	Micro-organisms increase in the soil	Soil becomes fertile
(4)	Biotic material mixed with soil	Humus content increased	Soil becomes fertile
(5)	Trenches are dug across a slope	Checks the velocity of water running along the slopes Reduces soil erosion	Water percolates into the ground
(6)	Litter is burnt in the farm	Less decomposition in the soil	Fertility drops
(7)	Vegetal litters, roots of plants, remains of animals	Proves favourable for micro-organisms	Produces organic material to mix with the soil (humus)
(8)	Excessive irrigation	Salt content in the soil increases	Soil becomes saline and unproductive

(9)	Chemical fertilizers used excessively	Soil degradation	Soil becomes infertile due to loss of micro-nutrients
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Intext Question

- (1) Laterite soil on the western coast and Regur soil all over occupies most of the area in Maharashtra.
- (2) Along the western coast - Raigad, Ratnagiri and Sindhudurg and Gadchiroli.
- (3) Regur or black soil is found in the river valleys of Maharashtra.
- (4) Laterite soil is found in parts of the Sahyadri ranges.
- (5) Alluvial soil is found at the mouth of the rivers in the western coastal strip e.g., the areas around Panvel - Uran coast, Dharamtar creek, etc.

* **Think about it !**

- (1) The climate of equatorial regions is hot and humid. Because of this climate vegetal litters decompose faster and make the soil fertile.
- (2) In deserts the heat is tremendous and the rainfall is very low. Vegetation needs fertile soil, abundant water supply and favourable climate throughout the year. Hence, vegetation is sparse in the deserts.

Topic 8 : How Seasons Occur – Part 2

- Q.1. (A)** (1) Uttarayan (2) diurnal (3) perihelion
 (4) equinox (5) Solstice (6) 4
 (7) India
- (B)** (1)-(c), (2)-(a), (3)-(d), (4)-(b).
- (C)** (1) It appears that the sun moves to the north or south in a year.

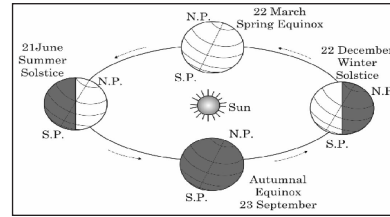
- (2) Different parallels on the earth would have experienced the same climate throughout the year.
- (3) The sun starts its southward journey from Tropic of Cancer on 21st June and northward journey from Tropic of Capricorn on 22nd December.
- (4) Summer and winter.

- Q.2. (1)** Seasons occur due to the revolution of the earth around the sun, as well as due to the tilt of its axis of rotation. It is the tilt of the axis that leads to the occurrence of seasons.
- (2) On equinox days, nighttime and daytime are of equal duration.
 - (3) Seasons have been decided on the basis of duration of sunlight, equinoxes and solstices. Hence, the climate in this region does not change at all and effects of seasons are not experienced.
 - (4) This is the case because the sun does not actually move, it is stationary in one place but this happens due to the earth's revolution around the sun and its rotation around its own axis.
 - (5) Penguins evolved to adapt to colder climate which prevents them from spreading to the other pole as the warmer climate between the poles is warmer.

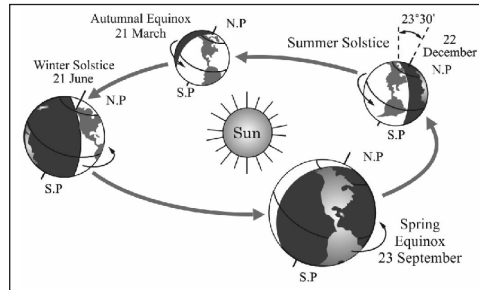
- Q.3. (1)** The earth's velocity varies due to the gravitational forces of the sun and the earth.
- (2) We can observe the apparent movement of the sun from both the hemispheres-north as well as south.
 - (3) The dates of equinox are the same every year i.e. 21st March and 23rd September.
 - (4) North Canada experiences winter from September to March.
 - (5) South Africa and Australia have summer at the same time.

(6) Duration of daytime is the same on equinox days.

Q.4. The dates of Summer Solstice and Winter Solstice with respect to northern hemisphere are mentioned incorrectly.



*Q.5. Cycle of seasons, equinoxes, solstices



Intext Question

- (1) (a) Winter solstice on December 22nd.
 (b) Spring equinox on March 21st.
 (c) Summer solstice on June 21st.
 (d) Autumnal equinox on September 23rd.
- (2) Winter.
- (3) Summer.
- (4) Summer.
- (5) The reason is that the sun does not appear in the same position in both the hemispheres.

The position of the rising sun keeps on moving towards the south from 21st June to 22nd December and towards the north from 22nd December to 21st June.

Use your brain Power!

- (1) On 20th March sun crosses the equator and enters the northern hemisphere, so the North Pole will have sunrise on 21st March.

(2) Though India and England are located in the same hemisphere they lie on different latitudes due to latitudinal difference climatical conditions vary, so cricket matches in these two countries are arranged in different months.

(3) On 21st March and 23rd September, the equator receives perpendicular rays on two days in a year. On these days, both the poles are at the same distance from the sun. Everywhere on the earth nighttime and daytime are of equal duration. But the sunrays are perpendicular on the equator. The circle of illumination coincides with the great circle defined by two opposite meridians so some parts experience summer and some parts winter on these days.

- (4) (i) Newzealand and Australia.
 (ii) Newzealand stretches approximately between the latitudes 34°23'S and 47°12'S while Australia stretches approximately between the latitudes 10°20'S and 43°39'S.

(5) Due to the location and climatical condition Jammu and Kashmir have two capitals, i.e., the summer capital is Srinagar and the winter capital is Jammu.

During winter temperature goes down below 0°C in Srinagar it makes difficult for trade and administration, so they shift all their trade and administrative matters to Jammu in the winter which comparatively has lesser amount of cold.

Can you tell ?

- (1) In Fig 'A' North pole is receiving sunlight.
- (2) In fig 'B' North pole is not receiving sunlight.
- (3) Northern hemisphere has longest daytime on 21st June.
- (4) Northern hemisphere will have the longest night on 22nd December.
- (5) On 21st June Tropic of Cancer will receive perpendicular sunrays.

- (6) From 22nd March to 23rd September in the northern hemisphere it will be summer considering the position of North pole.
- (7) Australia has summer between 23rd September to 21st March during that period only, cricket matches will be held in Australia. Australia being in Southern hemisphere weather conditions are just the opposite to the Northern hemisphere.
- (8) Between 22nd March to 23rd September 'midnight sun' is observable in Norway and during this period it will be summer in Norway.
- (9) Midnight sun will be visible at 'Bharti' research station of India at Antarctica between 23rd September to 21st March and it will be summer at that time.

Think about it !

- (1) Towards the north.
- (2) The changes in the atmosphere, vapour, in the air, the wind and the precipitation influences the seasons. Due to the local conditions seasons other than summer and winter are seen to occur in different parts so we have four seasons. Summer, rainy, the period of retreating monsoon and winter which affects human life, mainly agriculture. Some times excess rainfall affects the crops and human life. Scanty rainfall may bring drought, famine, etc.

Topic 9 : Agriculture

- Q.1. (A)**
- | | |
|---|-------------------------|
| (1) Commercial | (2) honey, wax |
| (3) pollination | (4) cocoon |
| (5) Greenhouse | (6) Intensive, shifting |
| (7) maximum | |
| (8) Extensive grain farming, plantation agriculture | |
| (9) cowdung, compost | (10) vermicompost |

- Q.2. (1)** (a) Intensive
- (2) (b) Use of animals, implements, machines and manpower.
- (3) (d) In India factors like climate, soils, water, etc., are conducive.
- (4) (c) Population is growing and there are agro-based industries.

- Q.3. (1)** Water is one of the basic necessities of farming. We have seen that crops do not grow on land that is dry and gets no rainfall. Irrigation is supplying water from rivers or from stored water bodies such as tanks, nullas and canals to the fields where seeds can be sown and where these sown seeds can grow into crops. Without irrigation, crops will not grow. We cannot depend on the rain, since rain is a natural phenomenon. Water is a must for agriculture.
- (2) Irrigation where water is brought from rivers and taken with the help of pipes, and irrigation where sprinklers are put in fields. This water is also from rivers and lakes, but here, the water does not get wasted because the sprinklers spray the water around. Both these types of irrigation are used a great deal today, since we are facing bad monsoon and water shortage.
- (3) The major types of farming are Subsistence farming that comprises of intensive farming and shifting cultivation and commercial farming that is made up of extensive grain farming, plantation farming, market gardening and horticulture.

Intensive Farming - Gives maximum production from a minimum area. It is seen in developing regions. The farm production is low and the economic condition of the cultivator is also poor. Here mostly animated energy is used. Cereals and vegetables are grown.

Extensive Grain Farming - The size of the farm is more than 200 hectares. Farming is carried on with the help of machines and pesticides are sprayed with the help of helicopters. Monocrops such as wheat or corn or barley are grown. Heavy capital investment is needed to buy machinery, fertilisers, pesticides, etc. This type of farming faces problems of droughts, pest attacks and market fluctuations.

- (4) The characteristics of plantation farming are :
- (a) The farm size is 40 hectares or above.
 - (b) Local manpower is used since this type of plantation is on hilly tracts.
 - (c) It is a single-crop cultivation practice.
 - (d) It produces crops like tea, rubber, coffee, coconut, spices, etc.
 - (e) Needs large scale capital investment due to the long duration of crops, use of scientific methods, exportable production, etc.
 - (f) This type of production faces issues of climate, manpower, deterioration of environment, etc.
 - (g) Practised in India, South and Central America, South Asian countries, Africa, etc.
- (5) In our areas, that is, Konkan area, we have rice crop grown. These places get good amount of rainfall during the monsoon season and rice needs a good amount of water. The summers are hot, hence the earth absorbs as much rain as possible during the monsoon season and stores the water that is used by the sown seeds. After the rice is harvested, watermelons are grown.

- (6) In India, agriculture is seasonal because food crops need water and in India, it does not rain throughout the year, but for three to four months after the summer season. Since, water is absolutely necessary to grow crops, in India, agriculture is seasonal.

The difficulties for perennial agriculture are -

- (a) It is very difficult and sometimes impossible to get water throughout the year to have perennial agriculture.
 - (b) The ground loses its fertility and chemical fertilizers have to be used on the ground and also sprayed on the crops. This is very dangerous not only to the crops but also for people who are going to eat these crops as food items.
- (7) **Greenhouse farming** : Greenhouse farming facilitates getting maximum product from the land. It can have a total control on natural factors like climate, heat, atmospheric moisture as well as soil moisture. It assists in getting maximum economic benefits. Greenhouse farming is a highly specialized type of farming of the modern era. For erecting a greenhouse, galvanized iron pipes and plastic sheets are used. Its main aim is to control the pest attack by controlling water, light and temperature. Green houses are used on larger scales for growing flowers like lily and gerbera to give maximum economic returns.
- (8) When farming is done using all vegetal matter mixed in the soil it is called organic farming. The crop obtained from organic farming is high in quality. The nutrient that the soil provides for crops is sometimes not sufficient. Therefore, replenishment of used up nutrients is

necessary. Nutrients are also used abundantly to increase the yield of the crop. Hence, organic fertilizers are prepared by — decomposing litter in the ground, burying grasses like sesbania or jute in the soil for making manures, etc. Chemical fertilizers and pesticides are not used in such a type of farming.

- (9) (a) Shifting cultivation is practised in tropics in densely forested areas of hilly tracts. (b) The land is cleared by cutting down trees and plants and removing grass and shrubs. (c) The cut trees etc., are dried out and burnt. The ash gets mixed with the soil and acts as manure. (d) Sowing and harvesting is done before the rainy season. (e) After the land loses its productivity after a couple of years, a different piece of land is chosen for cultivation.
- (10) Marketing systems are necessary for making the goods produced by the farmers available to the consumer at a fair price and on time.
- (11) (a) Agriculture in India is scattered over vast areas.
(b) All farmers are not organised.
(c) Some farmers are economically weak and cannot market their production on their own.
(d) Farm products are perishable.
The system of Agricultural Produce Market Committees is established to help farmers at the taluka level.

Intext Question

* **Use your brain Power!**

- (1) There is huge expenditure for the purchase of machinery, fertilizers, pesticides, godowns, transport cost, etc. Hence, extensive commercial farming needs more capital.

- (2) This type of cultivation uses scientific methods, exportable production and processing. This cannot be done by villagers, hence experienced and skilled people are required to do the job well.
- (3) Ground water is distributed across land by raising the water table through a system of pumping stations, canals, gates and ditches.

Give It A Try

- (1) Improper practices arising out of man's greed observed in agriculture are :
- Using chemical spray over plants and crops.
 - Using chemicals to ripen the fruits to put them in the market for sale.
 - Artificial chemicals and pesticides are employed profusely.
- (2) Sprinklers, water pipes that carry water from rivers and lakes are means of irrigation available in our area .
- (3) Yes, there is a lot of wastage. Flowing water pipes are put on the ground and the labourer just goes away to finish other jobs. In the meantime, water just gushes out of the pipe and makes the place wet, muddy and useless.
- (4) Artificial pesticides and chemicals should be banned as food on which such chemicals are used does not last long and can be poisonous.

The government has to look into this and send their representatives to fields to check what type of fertilizers are being used. Cow dung, compost manure and vermicompost must be used.

Topic 10 : Human Settlements

- Q.1. (A)** (1) metropolitan cities (2) human settlements
(3) tribal hamlets (4) stability
(5) facilities, services (6) pollution
(7) social services (8) linear settlements

(B) (1)-(c), (2)-(a), (3)-(d), (4)-(b).

Q.2. (1) The various types of human settlements are :

(a) Scattered settlements (b) Nucleated settlements and
(c) Linear settlements.

(a) Scattered Settlements :

- (i) Houses are found in areas of high-relief, dense forests, grasslands, hot deserts, etc.
- (ii) Houses are far apart with limited population.
- (iii) Since these settlements are closer to nature, they are free from pollution.
- (iv) Facilities and services are not available here.

(b) Nucleated Settlements :

- (i) Close to water resources.
- (ii) Fertile plains, transport hubs, mining and commercial centres help in the development of these settlements.
- (iii) Social services are available here.
- (iv) People of different castes, religions, races and ideologies live together, so they have better social life.

(c) Linear Settlements :

- (i) Developed along rivers, seacoasts, etc.
- (ii) Houses in a single line growing into multiple lines.
- (iii) Roads are parallel to each other.

(2) In scattered settlements, houses are few and far from each other. Generally, such settlements are found in the areas of high relief, dense forests, grasslands, hot deserts, and extensive agricultural lands. In nucleated settlements, houses are close to each other. These settlements are generally close to water sources like brooks, rivulets, rivers, lakes, reservoirs etc. Scattered settlements have limited populations as in small hamlets like pada, wadi, etc. Facilities and services in these settlements are not adequate. Nucleated settlements develop in certain places over certain periods of time they attain particular shapes. Social services are available in these settlements. Scattered settlements are closer to nature, hence, they are free from pollution. They depend on the centrally located villages for their day-to-day requirements. In nucleated settlements, people from different castes, religions, races and ideologies live together, hence, they have a better social life.

(3) In order to flourish, human settlements need favourable geographical conditions such as availability of water, conducive climate, fertile, land, etc. People along the sea coast are engaged in fishing. Their settlements become fishing hamlets. Forest dwellers or tribal people use forest produce for their livelihood, they live in 'tribal hamlets'.

Where the land is fertile and rainfall is good, cultivation of crops can be done. On dry arid land, houses are situated very far from each other and here people have to be occupied with occupations such as mining.

(4) The factors influencing the location of human settlements are —

(a) Physical - Physiography, soil, climate, water supply and river banks.

(b) Cultural - Defence, health, education, tourism, and historical significance.

(c) Economic - Irrigation, occupation, transport and communication, industries, trade and government offices.

- (5) (i) Using resources from the surroundings, man started his settlements. Human settlements flourished in places with favourable conditions such as availability of water, fertile land, etc.
- (ii) In the early settlements, the occupations of the people were dependent on the locally available natural resources. This gave rise to separate settlements of people engaged in a particular occupation e.g., people living near the sea coasts became fishermen.
- (iii) Agriculture is practiced in fertile areas. Here settlements sprang up near the fields and slowly grew. Agriculture, fishery, etc., are some of the occupations of people in rural settlements.
- (iv) With the passage of time other associated occupations developed gradually. As a result, people from surrounding areas migrated and settled in these areas leading to increase in rural population.
- (v) Importance of secondary and tertiary occupations led to the transformation of rural settlements into urban settlements.
- (6) People who are engaged in a particular occupation live in hamlets. Eg., people along the seacoast engaged in fishing will live in their fishing hamlets while forest dwellers will live in forest areas in tribal hamlets (Adivasi Padas).
- Villages are much bigger than hamlets. People with different occupations live in the village.
- Hamlets are small and have people following the same occupation.

People of other associated occupations settle down and the size of the village grows.

- Q.3. (1) Farmers in scattered settlements.
- (2) Nucleated settlements. (3) Linear settlements.
- (4) Linear settlements. (5) Scattered settlement.
- (6) Nucleated settlements. (7) Scattered settlement.
- (8) Nucleated settlements.

- Q.4. (A) Scattered settlement (B) Nucleated settlement
- (C) Linear settlements (D) Linear settlements

- ★ This is an example of linear settlement. Such settlements are near roads, rivers, sea coasts, railways. One reason is transport facilities will be available quickly. Another reason is such settlements can quickly grow into villages with shops and road or railway or river facilities.

Intext Question

Can you tell ?

1. (1) We can see a school, skyscrapers, monorail train, lonely cottage, busy street with traffic and a vendor.
- (2) The familiar features are skyscrapers, traffic on the roads, vendors.
- (3) Fig. 10.2 c (4) Fig. 10.2 a
- (5) Fig. 10.2 d (6) Fig. 10.2 b
- (7) Rural settlement – a
Tribal settlement or hamlet – c
Town – d City – b
- (8) Sequence in which the pictures need to be arranged as per their level of development is as follows : (c), (a), (d), (b)
2. (1) 'A' is nucleated settlement near water reserve.
'B' is linear settlement along the road.

- (2) 'B' is linear settlement with houses in line along the road. 'C' is a scattered settlement. Houses are far away from each other.
- (3) In 'C' - scattered settlement.
- (4) Nucleated settlement that has turned into a well-developed city.
3. (1) Settlements shown here are (a) Linear (b) Nucleated (c) Scattered
- (2) Pukran, Dumba
- (3) In a linear way. On either side of the road.
- (4) In nucleated settlements as well as linear settlements the houses are close together.
- In nucleated settlements it is so to carry on in an effective manner since, this settlement has transport hubs, commercial centres, mining centres, markets, etc.
- Linear settlements are together but not in a crowd in a line parallel to roadways, railways, etc., for quick transport.
- (5) (a) Faraway houses - Scattered settlements.
 (b) Along roads, railways or rivers - Linear settlements.
 (c) In groups, close to each other near water resources - Nucleated settlements.

Topic 11 : Contour Maps and Landforms

- Q.1. (1) Distribution of the heights and landforms in a region can be shown by contours. The lines determine the slope and the intervisibility between any two points on the map.
- (2) These maps are of immense use to trekkers, mountaineers, soldiers, defence officers, etc.
- (3) Contour lines are drawn by joining places of equal altitudes or heights. Contour lines help us to understand the landform, determine the amount of slope and observe the distance between two points on the map.

- (4) In agricultural work, contour maps are useful as guide lines in planning land improvement projects. The tile drainage system can be conveniently planned with a contour map.

- Q.2. (1) steep (2) heights (3) contour (4) slope

Intext Question

- Q.1 (1) Hills.
- (2) Royal blue, sea blue, yellow, brown and red are the colours used on them.
- (3) Hills with their peaks and hill ranges, rivers, settlements.
- (4) The general direction of the ranges shown in the map is from east to west.
- (5) The flat land is located towards the east.
- (6) Maximum - 800m and minimum - 600m.
- (7) They indicate the heights of the peaks of hills.
- (8) The extra shadow shows where the lines are coming close to each other. Where there is no shadow we find the land quite even. Lines coming close to each other show the depth or height of the area.
- (9) The Text book figure 11.1 (b) gives us more information, that is the height of the peaks, the direction of the ranges, the way the ranges are moving.
- (10) Yes, the lines that move near each other show steep slope, the lines that are a little distant from each other show gentle slope.
- Q.2 (1) In the south. (2) From west to east.
- (3) In the Eastern part.
- (4) The Karha river basin and the direction of flow of the river, shown in the map are not seen in the model. The model shows only landforms of different heights and not about water bodies.
- (5) In the Eastern direction. (6) In the Southern direction.