HOME ASSIGNMENT (3)
CLASS 8-MATHEMATICS

DATE : 23/04/2020

Solution of CHAPTER-2 (EXPONENTS AND POWERS)

❖ **EX. 2.1 → 2)**

$$\left[(2)^{-1}+(4)^{-1}+(3)^{-1}\right]^{-1} = \left[\frac{1}{2}+\frac{1}{4}+\frac{1}{3}\right]^{-1} \qquad \left(\because (a)^{-m} = \frac{1}{a^m}\right)$$

$$= \left[\frac{6+3+4}{12}\right]^{-1}$$

$$= \left(\frac{13}{12}\right)^{-1}$$

$$= \frac{12}{13}$$

AND

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$$\left[(5)^2 - \left(\frac{1}{4}\right)^{-2}\right] \times \left(\frac{3}{4}\right)^{-2} = \left[(25) - (4)^2\right] \times \left(\frac{4}{3}\right)^2$$

$$= [25 - 16] \times \frac{16}{9}$$

$$= 9 \times \frac{16}{9}$$

$$= 16.$$

4)

$$(125)^{-4} = (5 \times 5 \times 5)^{-4}$$

$$= ((5)^3)^{-4}$$

$$= 5^{3 \times (-4)}$$

$$= 5^{(-12)}$$

10)

Let the number which should divide $\left(\frac{3}{-2}\right)^{-3}$ to get $\left(\frac{2}{3}\right)^{2}$ be x.

$$\Rightarrow \frac{\left(\frac{3}{-2}\right)^{-3}}{x} = \left(\frac{2}{3}\right)^{2}$$

$$\Rightarrow \frac{3^{-3}}{(-2)^{-3}} = \frac{x \times 2^{2}}{3^{2}}$$

cross multiply

$$\Rightarrow 3^{-3} \times 3^{2} = x \times 2^{2} \times (-2)^{-3}$$

$$\Rightarrow 3^{-3+2} = x \times (2)^{2-3} \qquad (\because (-a)^{2} = (a)^{2})$$

$$\Rightarrow 3^{-1} = x \times (-2)^{-1}$$

$$\Rightarrow x = \frac{3^{-1}}{(-2)^{-1}}$$

$$\therefore x = -2/3$$

11)

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$$9^m \div 3^{-2} = 9^4.$$

$$\Rightarrow \frac{9^m}{3^{-2}} = 9^4$$

$$\Rightarrow 9^m \times 9 = 9^4 \qquad \left(\because \frac{1}{a^m} = a^{-m}\right)$$

$$\Rightarrow 9^{m+1} = 9^4$$

If $a^m = a^n$ then $m = n$

$$\Rightarrow m+1 = 4$$

$$\therefore m = 3.$$

14)

i) $$5^{2x-1} = \frac{1}{(125)^{x-3}} \Rightarrow 5^{2x-1} = \frac{1}{(5^3)^{x-3}}$$

$$\Rightarrow 5^{2x-1} \times 5^{3(x-3)} = 1$$

$$\Rightarrow 5^{(2x-1)+3(x-3)} = 5^0 \qquad (\because a^0 = 1)$$

$$\therefore 2x - 1 + 3x - 9 = 0$$

$$\Rightarrow 5x = 10$$

$$\therefore x = 2.$$

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❖ **EX. 2.2 → 1)**

$6020000000000000 = 6.02 \times 10^{15}$

$0.00000000837 = 8.37 \times 10^{-9}$

2)

1.007×10^{11}

100700000000

AND

7.579×10^{-14} - 7.579×10^{-14}

0.00000000000007579

6)

Mass of Mars = 6.42×10^{29} kg

Mass of Sun = 1.99×10^{30} kg

Total Mass = Mass of Mars + Mass of Sun

= $6.42 \times 10^{29} + 1.99 \times 10^{30}$

= $0.642 \times 10^{30} + 1.99 \times 10^{30}$

Total Mass = 2.632×10^{30} kg (∵ make powers equal in both terms)

∴ Total mass = 2.632×10^{30} kg

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❖ **HOTS → 1)**

$(5^0 + 3^0)(5^0 - 3^0) = (1 + 1)(1 - 1) = 2 \times 0 = 0$

Multiplicative inverse of 0 does not exist.

2)

$$\left(\frac{x^p}{x^q}\right)^{p+q} \times \left(\frac{x^q}{x^r}\right)^{q+r} \times \left(\frac{x^r}{x^p}\right)^{r-p}$$

$$= (x^{p-q})^{p+q} \times (x^{q-r})^{q+r} \times (x^{r-p})^{r+p}$$

$$= x^{(p-q)(p+q)} \times x^{(q-r)(q+r)} \times x^{(r-p)(r+p)}$$

$$= x^{p^2-q^2} \cdot x^{q^2-r^2} \cdot x^{r^2-p^2}$$

$$= x^{p^2-q^2+q^2-r^2+r^2-p^2} = x^0 = 1$$

3)

$$\frac{x^p}{x^p + x^q} + \frac{1}{x^{p-q} + 1}$$

$$\frac{x^p}{x^p + x^q} + \frac{1}{\frac{x^p}{x^q} + 1}$$

$$\frac{x^p}{x^p + x^q} + \frac{1}{\frac{x^p + x^q}{x^q}}$$

$$\frac{x^p}{x^p + x^q} + \frac{x^q}{x^p + x^q} = \frac{x^p + x^q}{x^p + x^q} = 1$$

CHAPTER-3 (SQUARES AND SQUARE ROOTS)

Properties of square numbers:

1) A number having 2, 3, 7 or 8 at its unit place is never a square number.
2) A number ending in an odd number of zeros is never a perfect square.
3) Squares of even natural numbers are even and squares of odd natural numbers are odd.

4) If a number has 1 or 9 in the unit's place, then its square ends in 1.
5) If a number has 4 or 6 in the unit's place, then its square ends in 6.
6) If a number has 2 or 8 in the unit's place, then its square ends in 4.
7) If a number has 3 or 7 in the unit's place, then its square ends in 9.
8) If a number has 5 in the unit's place, then its square ends in 5.
9) If a number has 0 in the unit's place, then its square ends in 0.
10) There are 2n non-square numbers between the squares of two consecutive numbers n and (n+1).
11) If a natural number cannot be expressed as a sum of successive odd natural numbers starting with 1, then it is not a perfect square.
12) We can express the square of any odd number greater than 1 as the sum of two consecutive natural numbers.
13) Numbers that end with 0, we can find their square by using the formula → $(a5)^2$ = a (a+1) hundreds + 25.

Pythagorean triplet:

For any natural number m > 1, we have

$$(2m)^2 + (m^2 - 1) = (m^2 + 1)^2$$

So (2m, m^2 - 1 and m^2 +1) forms a Pythagorean triplet.

Example 1. *Can we say whether the following numbers are perfect squares? Give reasons*
(*i*) 2037 (*ii*) 2353 (*iii*) 9278 (*iv*) 67302
Solution. (*i*) 2037 is not a perfect square, since it ends with 7 at unit's place.
(*ii*) 2353 is not a perfect square, since it ends with 3 at unit's place.
(*iii*) 9278 is not a perfect square, since it ends with 8 at unit's place.
(*iv*) 67302 is not a perfect square, since it ends with 2 at unit's place.

Example 2. *The square of which of the following numbers would be an odd number/an even number? Why?*
(*i*) 997 (*ii*) 238 (*iii*) 579
Solution. (*i*) $(997)^2$ is odd because 997 is an odd number.
(*ii*) $(238)^2$ is even because 238 is an even number.
(*iii*) $(579)^2$ is odd because 579 is an odd number.

Example 3. *How many natural numbers lie between 9^2 and 10^2?*
Solution. We know that there are $2n$ non-square numbers between n^2 and $(n + 1)^2$
$\therefore$ natural numbers between 9^2 and $(9 + 1)^2$ are $2 \times 9 = 18$
Hence, there are 18 natural numbers between 9^2 and 10^2.

starting with 1, then it is ...

Example 4. *Find whether each of the following numbers is a perfect square or not?*

(*i*) 81 (*ii*) 59.

Solution. (*i*) Given number is 81. Successively subtract 1, 3, 5, 7, ... from it.

$81 - 1 = 80$; $80 - 3 = 77$; $77 - 5 = 72$; $72 - 7 = 65$;

$65 - 9 = 56$; $56 - 11 = 45$; $45 - 13 = 32$; $32 - 15 = 17$;

$17 - 17 = 0$

Thus, $81 = 1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17$.

Since 81 can be expressed as the sum of consecutive odd natural numbers starting with 1.

Hence, 81 is a perfect square.

(*ii*) Given number is 59. Successively subtract 1, 3, 5, 7, ... from it.

$59 - 1 = 58$; $58 - 3 = 55$; $55 - 5 = 50$; $50 - 7 = 43$;

$43 - 9 = 34$; $34 - 11 = 23$; $23 - 12 = 11$; $11 - 13 = -2$

Since 59 cannot be expressed as the sum of consecutive odd natural numbers starting with 1.

Hence, 59 is not a perfect square.

Example 5. *Express the following as the sum of two consecutive integers:*

(*i*) 21^2 (*ii*) 29^2

Solution. (*i*) Given number is $21^2 = 441$

So first number is $\frac{21^2 - 1}{2} = \frac{441 - 1}{2} = \frac{440}{2} = 220$

and second number is $\frac{21^2 + 1}{2} = \frac{441 + 1}{2} = \frac{442}{2} = 221$

$\therefore \quad 21^2 = 220 + 221$

(*ii*) Given number is $29^2 = 841$

So first number is $\frac{29^2 - 1}{2} = \frac{841 - 1}{2} = \frac{840}{2} = 420$

and second number is $\frac{29^2 + 1}{2} = \frac{841 + 1}{2} = \frac{842}{2} = 421$

$\therefore \quad 29^2 = 420 + 421.$

Example 6. *Find the squares of the following numbers without actual multiplication*

(*i*) 37^2 (*ii*) 53^2

Solution. (*i*) $37^2 = (30 + 7)^2 = (30 + 7)\ (30 + 7)$

$= 30\ (30 + 7) + 7\ (30 + 7)$

$= 30^2 + 30 \times 7 + 7 \times 30 + 7^2$

$= 900 + 210 + 210 + 49 = 1369$

(*ii*) $53^2 = (50 + 3)^2 = (50 + 3)\ (50 + 3)$

$= 50\ (50 + 3) + 3\ (50 + 3)$

$= 50^2 + 50 \times 3 + 3 \times 50 + 3^2$

$= 2500 + 150 + 150 + 9 = 2809.$

Example 7. *Find the square of 85.*

Solution. Given number is 85,

comparing it with $a5$, we have $a = 8$.

We know that

$(a5)^2 = a\ (a + 1)$ hundreds $+ 25$

$\therefore \quad (95)^2 = 8(8 + 1)$ hundreds $+ 25$

$= (8 \times 9)$ hundreds $+ 25 = 7225.$

Example 8. *Write a Pythagorean triplet whose smallest number is 8.*

Solution. Given number is 8.

We know that, we can find Pythagorean triplet by using $(2m, m^2 - 1, m^2 + 1)$

Let us first assume $m^2 - 1 = 8 \Rightarrow m^2 = 9 \Rightarrow m = 3$

Therefore, $2m = 6$ and $m^2 + 1 = 10$

$\therefore$ The triplet is 6, 8, 10. But 8 is not the smallest number of this triplet.

So, let us assume $2m = 8 \Rightarrow m = 4$

$\therefore\ m^2 - 1 = 4^2 - 1 = 15$ and $m^2 + 1 = 4^2 + 1 = 17$

$\therefore$ The required triplet is (8, 15, 17) with smallest number 8.

Example 9. *Find a Pythagorean triplet whose one number is 12.*

Solution. Given number is 12.

Let us first assume, $m^2 - 1 = 12 \Rightarrow m^2 = 13$

$\Rightarrow$ value of m will not be a natural number.

Now, we assume $m^2 + 1 = 12 \Rightarrow m^2 = 11$

$\Rightarrow$ value of m will not be a natural number.

Now, let us assume $2m = 12 \Rightarrow m = 6$

$\therefore\ m^2 - 1 = 6^2 - 1 = 35$ and $m^2 + 1 = 6^2 + 1 = 37$

$\therefore$ The required triplet is (12, 35, 37) with one number 12.

SOLVE YOURSELVES

EX.-3.2

5) How many natural numbers lie between square of the following numbers?

i) 12 and 13 ii) 90 and 91

7) Express 64 and 121 as the sum of successive odd natural numbers.

8) Express the following as the sum of two consecutive integers:

i) 19^2 iii) 47^2

9) Find the squares of the following numbers without actual multiplication:

i) 31 iv) 94

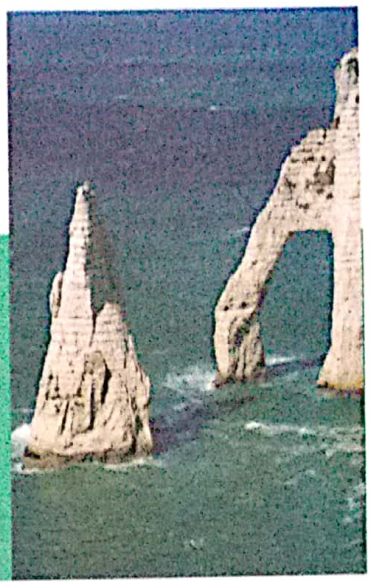
10) Find the squares of the following numbers containing 5 in unit's place:

ii) 305 iii) 525

11) Write a Pythagorean triplet whose one number is

i) 8 ii) 15

1 Representation of Geographical Features



Learning outcomes

By the end of this lesson, you will be able to:

- explain what contour lines are
- distinguish between steep and gentle slopes through contour lines
- identify landforms on a topographical sheet with the help of contour patterns
- differentiate between different patterns of settlements on a topographical sheet
- draw contours and related landforms on plain paper
- interpret and analyse topographical sheets

Topographical maps, we learnt in class 7, are large-scale maps that show the natural and cultural (human-made) features of an area in detail. They are of great use to geographers, planners, hikers and the defence forces.

However, for a map to be of use to us, we should know how to read and **interpret** (understand) the symbols used in the map. Last year, we learnt how colours, conventional signs and symbols, and contour lines are used on maps to represent various natural and human-made features. This year, we will learn to identify contour patterns, drainage patterns, settlement patterns, and patterns of land use, on topographical maps. We will also learn how to locate places on a topographical map using four and six-figure grid references, and how to interpret and analyse a topographical map.

REPRESENTING PHYSICAL FEATURES ON TOPOGRAPHICAL MAPS

Topography or **relief** refers to the shape of the land. In topographical maps, relief is shown with the help of contour lines.

Contour Lines

Contour lines are lines drawn on maps that join places having the same height above mean sea level.

By studying the pattern and density of the contour lines, we get an idea about the topography of the area. Each topographic feature is represented by a unique pattern of contour lines. By learning what this pattern is, we can identify specific landforms, such as mountain peaks and ranges, **valleys**, **spurs**, passes and waterfalls, on the map.

Characteristics of contour lines

- All contour lines are numbered and drawn at regular intervals. The number of the contour line indicates the height (in metres) of that area above sea level.
- The vertical distance, or the difference in elevation between two successive contour lines, is known as the **vertical interval** or **contour interval**. The vertical interval remains constant for any given map. In the maps of the **Survey of India**, the vertical interval is always 20 metres.

Spotlight: Survey of India

The Survey of India is the national survey and mapping organisation. It surveys the entire country and uses the data collected to make the topographical maps of India.

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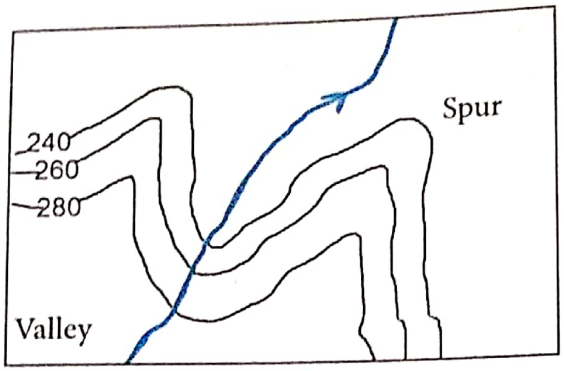


The contours of a spur are V-shaped, with the apex of the 'V' pointing towards lower elevation.

Interlocking spurs protruding into a river valley

Valleys

Valleys are V-shaped lowlands between two highlands. A valley is usually occupied by a river or a stream.

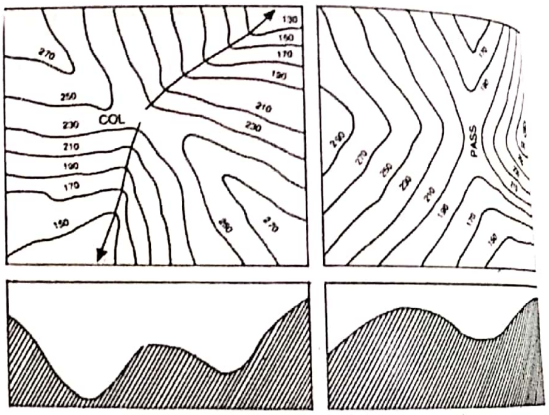
V-shaped contours with the apex of the 'V' pointing towards higher elevations, indicate valleys. Thus, while both spurs and valleys are indicated by V-shaped contour lines, the apex of the 'V' points towards highland (and upstream) for valleys, and downwards (and downstream) for spurs.

Passes

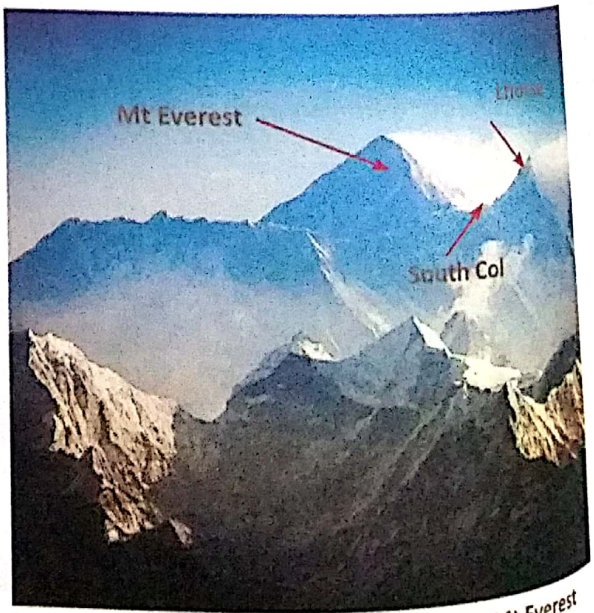
Passes are low points or openings between two peaks in a range of mountains. They provide a passage across mountain ranges. They are indicated on contour maps by spaces between two closed contour lines that represent peaks.

Cols

Cols are dips in the summit line of mountain ranges. They are formed by the erosive action of glaciers. A col is more rugged and difficult to cross than a pass. The South Col, for example, is a dip between Mount Everest and Lhotse, two of the highest mountain peaks in the world. The South Col is the one of the first camps of mountaineers attempting to climb Everest.



A pass A col



The South Col lies between the peaks Mt Everest and Lhotse.

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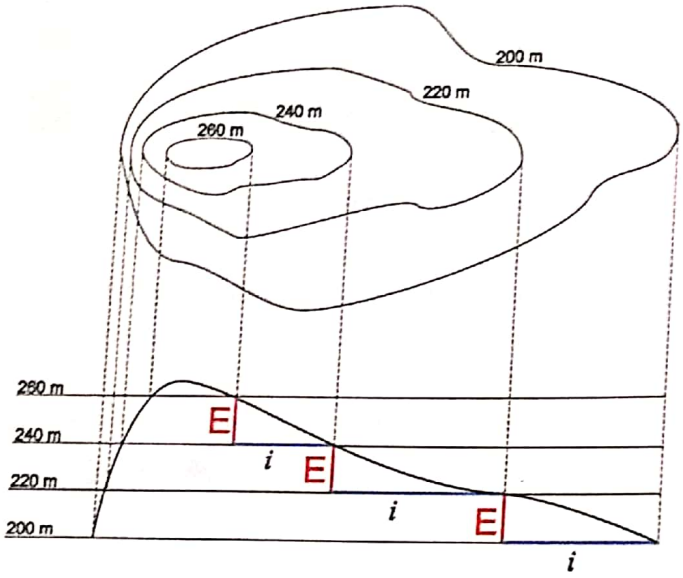
- The horizontal distance between consecutive contour lines, called the **horizontal equivalent**, indicates the slope of the land. Closely spaced contour lines indicate steep slopes, while widely spaced lines represent gentle slopes. Uniformly spaced lines depict uniform slopes. When the lines are very far apart it means that the land is flat.

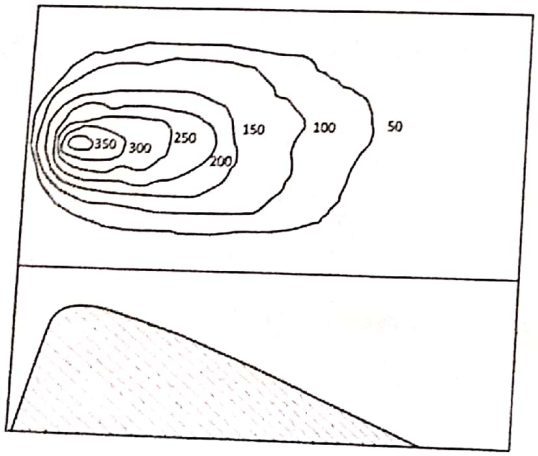


The figure above shows the difference between vertical interval (i) and horizontal equivalent (E).

Identifying landforms through contour patterns

Scarp slope and dip slope

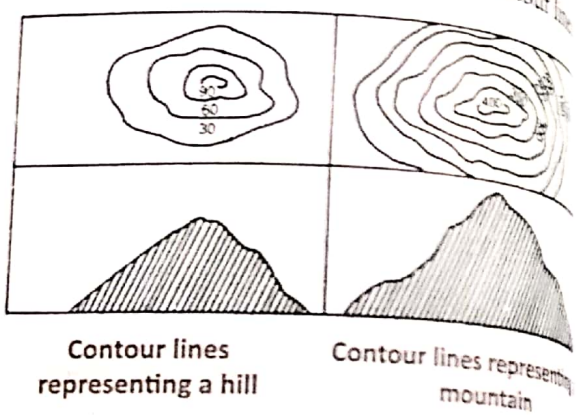
A highland that has a steep slope on one side and a gentle slope on the other is called an **escarpment**. The steep slope is called the **scarp slope** and is shown by closely spaced contour lines. The gentle slope on the other side of the escarpment is called a **dip slope**. It is shown by widely spread contour lines.



A scarp and dip slope—note how the contours are closer together on the steeper side, and further apart on the gently sloping side

Hills and mountains

Hills or mountains are shown by contour lines that are arranged in the form of concentric circles. Peaks of hills and mountains are indicated with the help of **spot heights**. Spot heights are points on a map with their elevation marked beside them. They show the height of points that lie between contour lines.

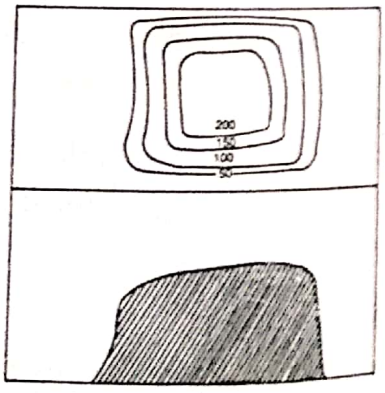


Contour lines representing a hill

Contour lines representing a mountain

Plateaus

Plateaus are broad highlands that rise abruptly from the surrounding land. They have level, almost flat, tops. On topo sheets they are shown by evenly spaced contour lines surrounding an area with no lines or hardly any lines, signifying that the top is rather flat.



Contour lines representing a plateau

Scanned with CamScanner

A plateau

Cliffs

Cliffs are very steep, almost vertical, rock faces. They are usually found along highlands off sea coasts.

Contour lines that are very close together, and that sometimes even merge to form a single line, indicate a cliff. The closer the contour lines are to each other, the steeper the slope of the cliff.

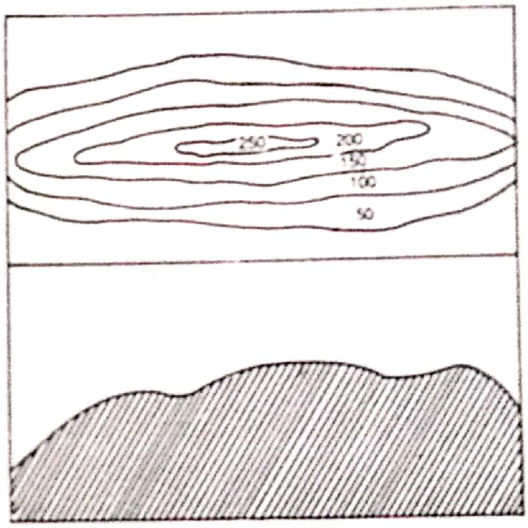
Contour lines representing a cliff

A cliff

Ridges

Ridges are long, narrow, continuous areas of highland, consisting of a series of mountain peaks or hills. The sides of the ridge slope away from the narrow top on either side.

The contours formed by a ridge are long, narrow and elliptical in shape. The lines are close together on both sides, indicating steep slopes.



Contour lines representing a ridge

A ridge

Spurs

Spurs are pieces of hard rock that protrude into river valleys. They form an interlocking pattern, with the river meandering around them. They often separate one valley from another.

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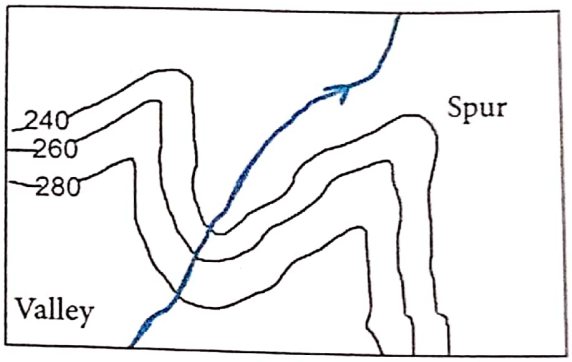

The contours of a spur are V-shaped, with the apex of the 'V' pointing towards lower elevation.

Interlocking spurs protruding into a river valley

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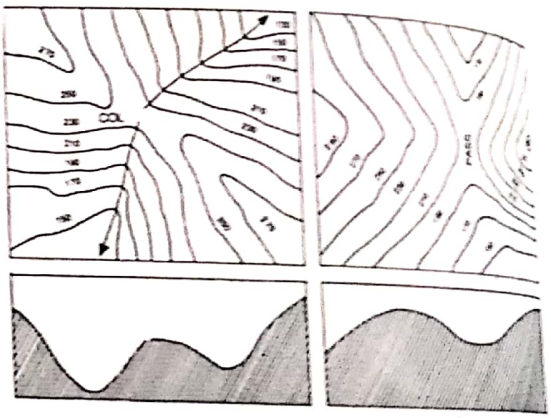
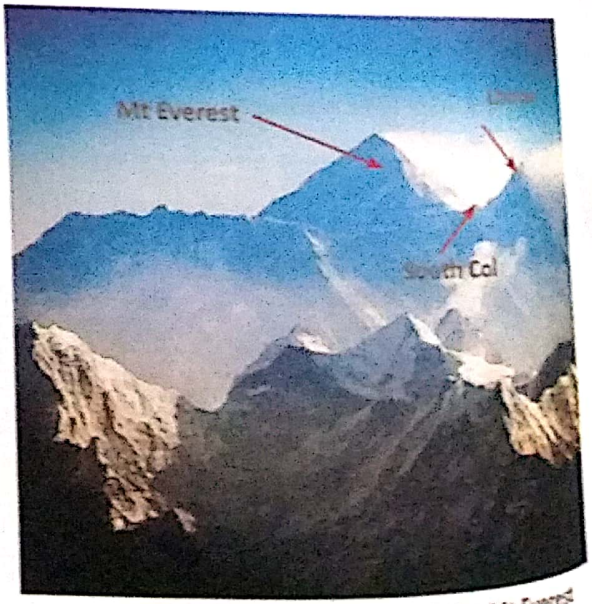


A pass A col



The South Col lies between the peaks Mt Everest and Lhotse.

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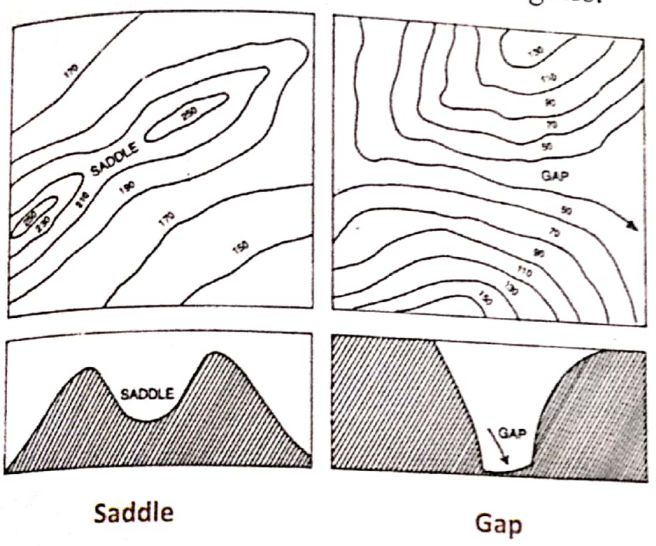
Saddles

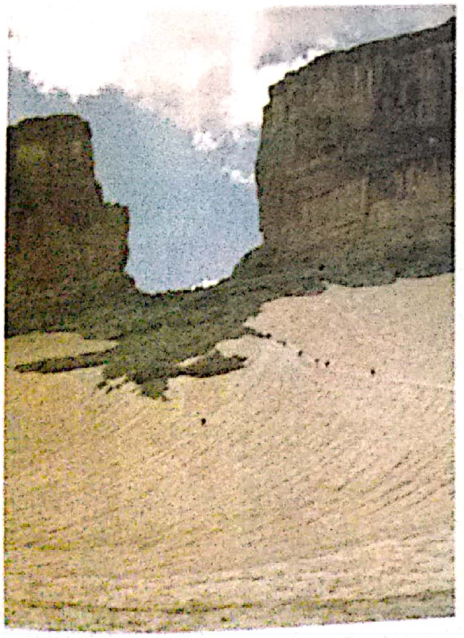
A **saddle** is a dip or low point between two summits. A saddle usually has higher ground on two sides, and lower ground on the other two sides. On a topo sheet, it is indicated by contour lines that appear like an hourglass.



Saddle Gap

Gaps

Gaps are low areas between two mountain ranges. Gaps are usually carved by the erosive action of rivers and streams. In some cases, they still have streams or rivers flowing through them. A gap is similar to a pass, but as a result of erosion, its base is closer to the valley floor than that of a pass.

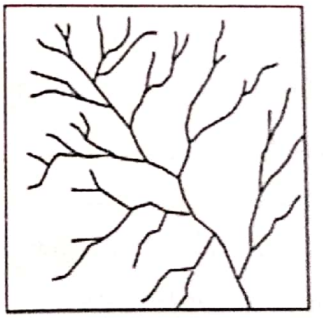


Roland's Breach is a natural gap in the Pyrenees on the border of Spain and France.

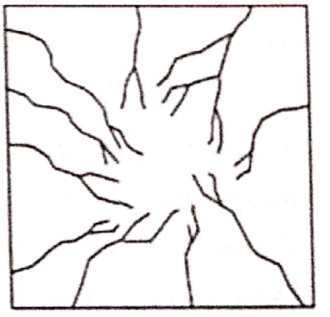
Drainage patterns

Topographical maps can also be used to understand and depict the drainage pattern of the area under study. Drainage pattern refers to the patterns formed by a river and its tributaries in a particular drainage basin. It is influenced by the relief of the land, the nature of rocks (whether hard or soft), and the gradient or slope of the land. There are three main types of drainage patterns:

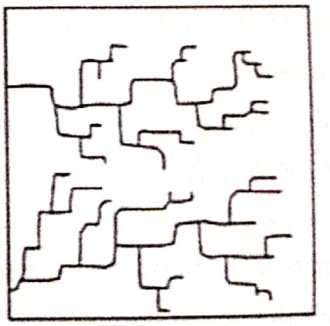
- **Dendritic**: Here the main river and its tributaries form a pattern like that of a branching tree; this is seen in areas of flat relief with rocks of a uniform structure.
- **Radial**: Here the rivers and streams flow outwards from a central point, forming a pattern that looks like the spokes of a wheel; this is mainly seen in areas where conical mountains exist.
- **Trellised**: Here the rivers flow in a rectangular pattern; this is seen in areas where there are alternating bands of hard and soft rock, forcing the rivers to flow along the bands of soft rock; the tributaries join the main river at right angles.



Dendritic drainage



Radial drainage



Trellised drainage

Scanned with CamScanner

By studying the drainage pattern, we can make inferences about the relief and the nature of underlying rocks in an area.

Perennial and seasonal water bodies

On topo sheets, perennial water bodies (rivers, lakes and wells) are shown in blue, while temporary or seasonal water bodies are shown in black. The nature of the water bodies indicates the climate of the region, especially the amount of rainfall the region receives.

REPRESENTING CULTURAL FEATURES ON TOPOGRAPHICAL MAPS

Types of Settlements

Settlements are places where people live. Settlements are of different types. They can vary in size from settlements consisting of single dwellings (houses), to major cities where millions of people live.

Permanent and temporary settlements

Settlements can be permanent or temporary. Permanent settlements are those where people live all around the year, and have been doing so for several years. They usually have basic infrastructural facilities like water, electricity, roads, drainage, schools, hospitals and markets.

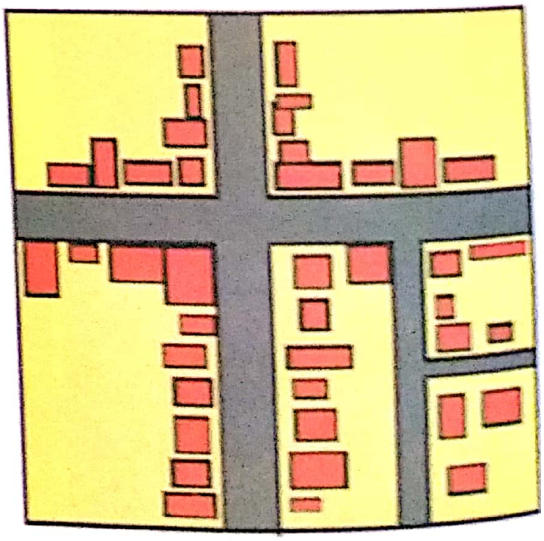
Temporary settlements are those in which people stay for a brief period of time. These include the settlements of nomads or refugee camps. They often lack basic facilities like water, electricity and drainage.

On the basis of the **settlement pattern**, or the shape of the settlement as seen from above, settlements can be classified as **nucleated**, **linear** and **dispersed**. The shapes of settlements are influenced by the relief of the surrounding land, the occupations of the people, and the resources available there.

Nucleated settlements

Nucleated or clustered settlements are those in which all the houses and buildings are grouped close together. They are mainly found in the plains, where the fertile soil is favourable for agriculture, and where there is no physical restrictions to the outward growth of the settlement. Nucleated settlements often develop around a prominent physical or cultural feature like a lake, a factory or a place of worship. All essential facilities, like hospitals, schools, police stations and post offices are usually found within these settlements. On topo sheets they appear as several red squares clumped together.

Stevenage is an industrial town in Prague. Note how the buildings are clustered around the factory.



A nucleated settlement as it appears on a topo

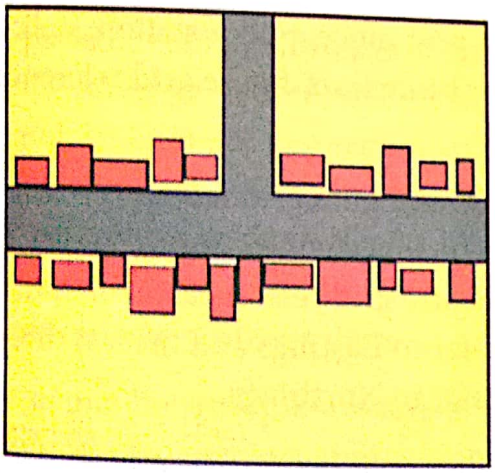
Scanned with CamScanner

Linear settlements

Small settlements that occur along a linear (straight) line, are called linear settlements. They usually occur along transport routes, such as rivers, roads or railway tracks. Because of this, along with a small number of houses, the settlements include small shops, eateries, automobile repair stations, and petrol pumps.

Champlain in Canada is a linear settlement. It has developed along a road.

Such settlements can be seen on topo sheets as red squares occurring in a line along roads and waterways, instead of being grouped together.

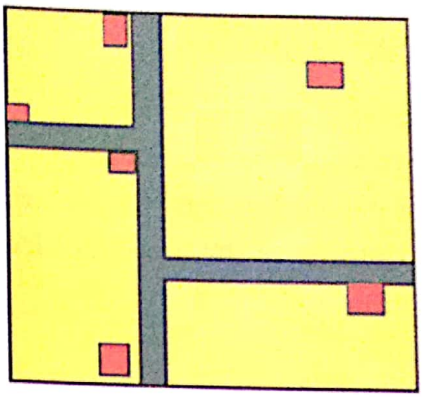


A linear settlement as it appears on a topo sheet

Dispersed settlements

A dispersed or scattered settlement is one where houses and farms are scattered over a wide area. Such settlements are usually found in remote rural or mountainous areas. On topo sheets, they are indicated by isolated red squares spread over a wide area.

This village in the Swiss Alps is a dispersed settlement.



A dispersed settlement as it appears on a topo sheet

Larger and denser settlements are found in the fertile plains. Smaller settlements and dispersed settlements are found in rocky or mountainous terrains, thickly forested areas and arid regions.

Land Use

Land use refers to the use to which land has been put, such as cultivation, forestry, mining or quarrying. To understand the pattern of land use in an area, we need to study the relief and drainage of the area, as both influence land use. A yellow wash of colour on the land indicates cultivated land, while white indicates waste land. Green indicates forested land.

Means of Transport

A topo sheet also gives us an idea of the nature of transportation in an area; for example, metalled or unmetalled roads, cart tracks, broad gauge or narrow gauge railway lines.

Scanned with CamScanner

Dreamland school

Geography class Vlll

Chapter-1 (Topographical maps)

Home assignments 2020-2021 23/4/2020

For a map to be of use to us ,we should know how to read and interpret the symbols used in the map. In topographical maps relief is shown with the help of contour lines and spot height. Contour lines join places having the same height above the mean sea level. By studying the pattern and density of the contour lines, we get an idea about the topography of the area. Each topographic feature, such as mountain ranges,peaks, valleys,spurs, plateaus, passes and water falls, is represented by a unique pattern of contour lines. We should be able to study the drainage pattern, the land use pattern, the settlement pattern and the means of transportation used in the are under study and interpret the results accordingly. There are different kinds of settlements permanent, temporary, nucleated,linear and dispersed. Sheet numbers and grid references are important tools of topo maps. Two kinds of grid references are used to locate places on a topo sheet- four-figure grid references and six- figure grid references.

Define

- Topography- relief of the land

Contour lines- lines drawn on the maps that join places that

that lie at the same height above the sea level.

Eastings- vertical lines that run north to south across

The topo sheet.

Northings – horizontal lines that run east to west across the topo sheet.

Grid-network created by intersecting lines

Answer the following questions-

Q1what are topographical maps ?

Ans A topographical map is a type of map characterized by large scale details and quantitative representation of relief usually using contour lines.

Q2what is a grid reference?

Ans A grid is a set of lines used to find the exact location of Places on the map . The National Grid reference is a system of Rectangular coordinate. The origin of the grid reference lies at a point in south-west corner of the map.

Class-VIII Subject- Higher Hindi

Date:- 23.04.2020 Solution for Home Assignment 2020-21

Solution for first home assignment---

1. निबंध---

परोपकार शब्द का अर्थ है दूसरों का भला करना। अपनी चिन्ता किए बिना, शेष सभी (सामान्य-विशेष) के भले की बात सोचना, आवश्यकतानुसार तथा यथाशक्ति उनकी भलाई के उपाय करना ही परोपकार कहलाता है। परोपकार के लिए मनुष्य को कुछ-न-कुछ त्याग करना पड़ता है।परोपकार की यह शिक्षा हमें प्रकृति से मिली है।

नदियाँ परोपकार के लिए बहती हैं। वृक्ष धूप में रहकर हमें छाया देता है। सूर्य की किरणों से सम्पूर्ण संसार प्रकाशित हो रहा है। चन्द्रमा से शीतलता, समुद्र से वर्षा, वृक्षों से फलफूल और सब्जियाँ, गायों से दूध और वायु से हम सब जीवों को प्राण शक्ति मिल रही है। आचार्यश्री क्षेत्रपाल मन्दिर में चल रही धर्मसभा को सम्बोधित कर रहे थे। उन्होंने आगे कहा कि परोपकार के अनेक रूप हैं। दूसरों की सहायता कर हम आत्मिक आनन्द प्राप्त करते हैं। प्यासे को पानी पिलाना, बीमार या घायल व्यक्ति को चिकित्सालय पहुँचाना, बुजुर्ग को बस में सीट देना, नेत्रहीन को सड़क पार करवाना। भूखे को

रोटी, वस्त्रहीन को वस्त्र देना, गौशाला बनवाना, मुफ्त चिकित्सालयों में अनुदान देना, छायादार वृक्ष लगवाना, शिक्षण केन्द्र और धर्मशाला बनवाना परोपकार के रूप हैं। है।परोपकारी मानव के हृदय में शांति तथा सुख का निवास है। इससे हृदय में उदारता की भावना पनपती है। संतों का हृदय नवनीत के समान होता है। उनमे किसी के प्रति द्वेष तथा ईर्ष्या नहीं होती। परोपकारी स्वम् के विषय में चिंतन ना होकर दूसरों के सुख दुख में भी सहभागी होता है। परोपकार की हृदय में कटुता की भावना नहीं होती है। समस्त पृथ्वी ही उनका परिवार होती है। गुरु नानक, शिव, दधीचि, ईसा मसीह, आदि ऐसे महान पुरुष अवतरित हुए जिन्होंने परोपकार के निमित्त अपनी जिंदगी कुर्बान कर दिया।

भारतीय संस्कृति की भावना का मूलाधार परोपकार है। दया, प्रेम, अनुराग, करुणा, एवं सहानुभूति आदि के मूल में परोपकार की भावना है। गांधी, सुभाष चंद्र बोस, जवाहरलाल नेहरू तथा लाल बहादुर शास्त्री का नाम बड़े आदर के साथ लिया जाता है इन महापुरुषों ने इंसान की भलाई के लिए अपने घर परिवार का त्याग कर दिया था।

परोपकारी मानव किसी बदले की भावना अथवा प्राप्ति की आकांक्षा से किसी के हित में रत नहीं होता, वरन् इंसानियत के नाते दूसरों की भलाई करता है। **"सर्वे भवंतु सुखिनः सर्वे संतु निरामया "** के पीछे भी परोपकार की भावना ही प्रतिफल है। परोपकार सहानुभूति का पर्याय है। यह सज्जनों की विभूति

होती है। परोपकार आंतरिक सुख का अनुपम साधन है। हमें "स्व" की संकुचित भावना से ऊपर उठा कर "पर" के निमित्त बलिदान करने को प्रेरित करता है।

2. पत्र---

सेवा मे,

प्रधानाचार्य जी,

ड्रीमलैंड स्कूल,

माखला

दिनांक: 06.04.2020

विषय- अवकाश के लिए पत्र

महोदय,

मै रघु, इस विद्यालय की कक्षा आठ 'स' का छात्र हूँ । मै अपने चाचा जी की शादी के लिए सपरिवार अपने गावं आया था, लेकिन अचानक दादी जी की तबियत खराब होने की वजह से एक हफ्ता और गावं में रुकना पड़ेगा ।

सविनय निवेदन है की मुझे एक सप्ताह (16 मार्च से 21 मार्च तक) का अवकाश प्रदान करने की कृपा करे । मै आपको विश्वास दिलाता हूँ कि दादी जी की तबियत ठीक होते ही जब मैं लौटूंगा, तब इस सप्ताह का सारा कार्य संपन्न कर लूँगा ।

धन्यवाद सहित

आपका आज्ञाकारी शिष्य

रघु सुतारिया

कक्षा आठ 'स'

3. निम्नलिखित मुहावरों से शब्द बनाइये---

i. रंग में भंग पड़ना- कवि सम्मलेन के बीच में वर्षा आ जाने से रंग में भंग पड़ गया ।

ii. धूल में मिलना- इतना बड़ा मीनार आतंकवादियों ने मिनटों में धुल में मिला दिया ।

iii. दातो तले ऊँगली दबाना- शिवाजी की वीरता देखकर मुघलो ने दातो टेल उंगलिया दबा ली ।

iv. अक्ल का दुश्मन- तुम तो निरे अक्ल के दुश्मन हो, कोई भी काम तुमपर नहीं छोड़ा जा सकता ।

v. सर नीचा होना- अनन्या के पिता अपनी बेटी की मेहनत पर हमेशा गर्व करते थे लेकिन इस वर्ष हाई स्कूल में उसके फेल हो जाने पर उनका सर नीचा हो गया ।

vi. शेर के दांत गिनना- प्रधानाचार्य के कार्यालय में जाकर अपनी मांगे रखना शेर के दांत गिनने के समान है ।

vii. हंसो के बीच कौवा- साक्षर लोगो के बीच अनपढ़ लोग हंसो के बीच कौवा प्रतीत होते है ।

viii. बहती गंगा में हाथ धोना- उन दिनों सरकार सुनारों को हर तरह की छूट दे रही थी, गैयु सुनार कब मौका चूकने वाला था? उसने भी बहती गंगा में हाथ धो लिया ।

ix. मक्खियाँ मरना- सारा दिन उसने कोई काम नहीं किया बस मक्खिय ही मरता रहा ।

x. पांचो उँगलियाँ घी में होना- चाचाजी के मृत्यु के बाद तुम ही सर्वेसर्वा हो । अब तो तुम्हारी पांचो उँगलियाँ घी में है ।

Solution for second assignment---

Question.1. निम्नलिखित शब्दों के लिंग परिवर्तन कीजिए----

1. प्राचार्य- प्राचार्या
2. नर्तक- नर्तकी
3. प्रेषक- प्रेशिका
4. रूपवान- रूपवती
5. बछड़ा- बछिया
6. राजपूत- राजपूतनी
7. मेहतर- मेहतरानी
8. जुलाहा- जुलाहिन
9. प्रार्थी- प्रार्थिनी
10. वक्ता- वक्त्री

Question.2. रेखांकित शब्दों का लिंग बदलकर वाक्य वापस लिखिए----

1.हमारे शिक्षक बहुत बुद्धिमान है ।

2.सम्राज्ञी ने बौद्ध धर्म का प्रचार किया ।

3.सेठानी नौकरानी के साथ अच्छा व्यवहार करती है ।

4.वरुण अपनी बेटी को उच्च शिक्षा दिलाना चाहता है ।

5.सभी कवित्रियों ने देशभक्ति की कवितायें पढ़ी ।

CLASS-VIII
SUBJECT- HIGHER BENGALI
PREVIOUS STUDY MATERIAL SOLUTION 2020-21(DATE- 21.04.2020)
CHAPTER-1 BISORGO SONDHI (ANSWER SHEET)
অধ্যায়-১ বিসর্গ সন্ধি (উত্তরপত্র)

DATE-23.04.2020
THURSDAY

HOMEWORK SOLUTION

ক) সঠিক উত্তরটি বেছে লেখঃ-

১) সরঃ + বর = সরোবর

২) পুরঃ + হিত = পুরোহিত

৩) মনঃ + কষ্ট = মনঃকষ্ট

৪) প্রাতঃ + ভ্রমণ = প্রাতর্ভ্রমণ

(উপরের প্রশ্নে প্রতিঃ – এর জায়গায় প্রাতঃ হবে।)

৫) অতঃ + পর = অতঃপর

CLASS-VIII
SUBJECT- HIGHER BENGALI
STUDY MATERIAL 2020-21
CHAPTER – 3 BISESSOPODER SRENIBIBHAG
(অধ্যায় – ৩ বিশেষ্যপদের শ্রেণিবিভাগ)

DATE – 23.04.2020
THURSDAY

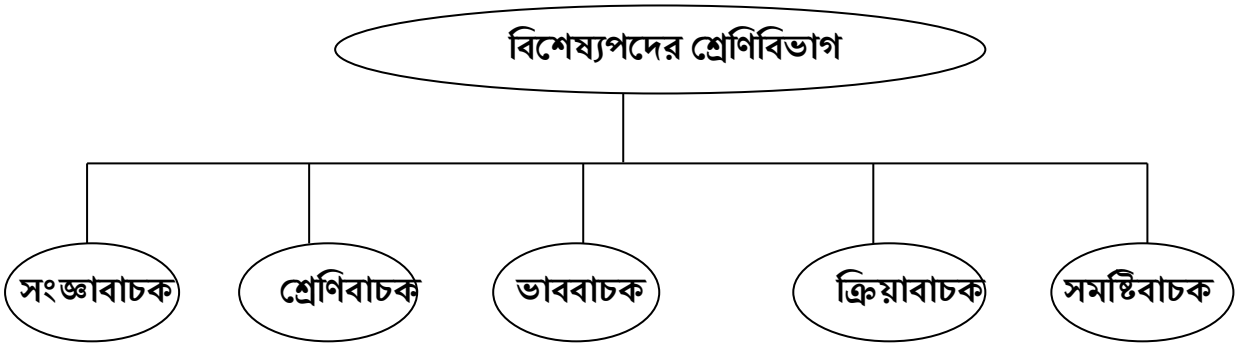
পূর্বের শ্রেণিতে তোমরা পদ সম্পর্কে ধারণালাভ করেছো। এই অধ্যায়ে আমরা বিশেষ্যপদ ও তার শ্রেণিবিভাগ সম্পর্কে ধারণালাভ করব।

রবীন্দ্রনাথ গীতাঞ্জলি রচনা করেন।
সাঁতার একটি ভালো ব্যায়াম।
সততা একটি মহৎ গুণ।

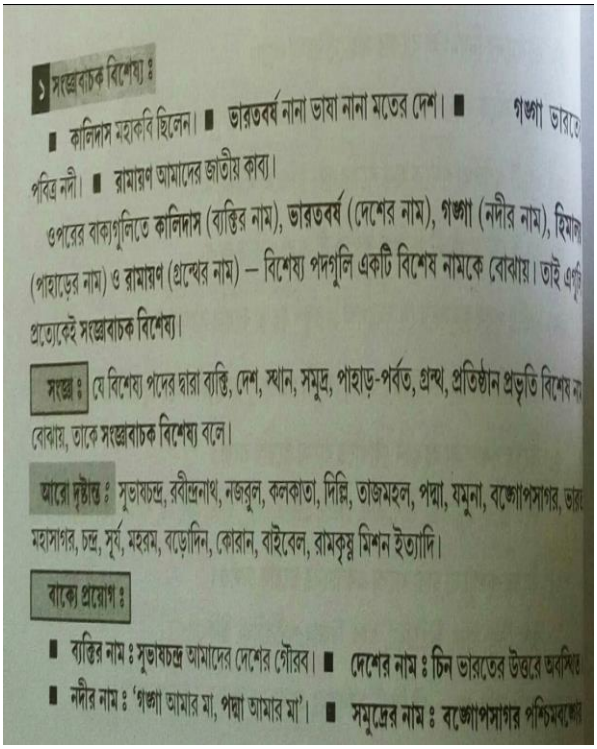
—— উপরের বাক্যগুলিতে প্রত্যেকটি চিহ্নিত পদই কোন না কোন কিছুর নাম নির্দেশ করছে। তাই এগুলি হল নামপদ বা বিশেষ্যপদ। অর্থাৎ ——

- **বিশেষ্যপদ – যে পদের দ্বারা কোন ব্যক্তি , বস্তু , স্থান , জাতি , গুণ , ক্রিয়া ও সমষ্টির নাম বোঝায় , তাকে বিশেষ্যপদ বলে।**

- বিশেষ্য পদ পাঁচ প্রকার। সেগুলি হল –



- নিম্নে বিশেষ্য পদের শ্রেণিগুলির বিবরণ দেওয়া হল ————



১ সংজ্ঞাবাচক বিশেষ্য ঃ

■ কালিদাস মহাকবি ছিলেন। ■ ভারতবর্ষ নানা ভাষা নানা মতের দেশ। ■ গঙ্গা ভারতে পবিত্র নদী। ■ রামায়ণ আমাদের জাতীয় কাব্য।

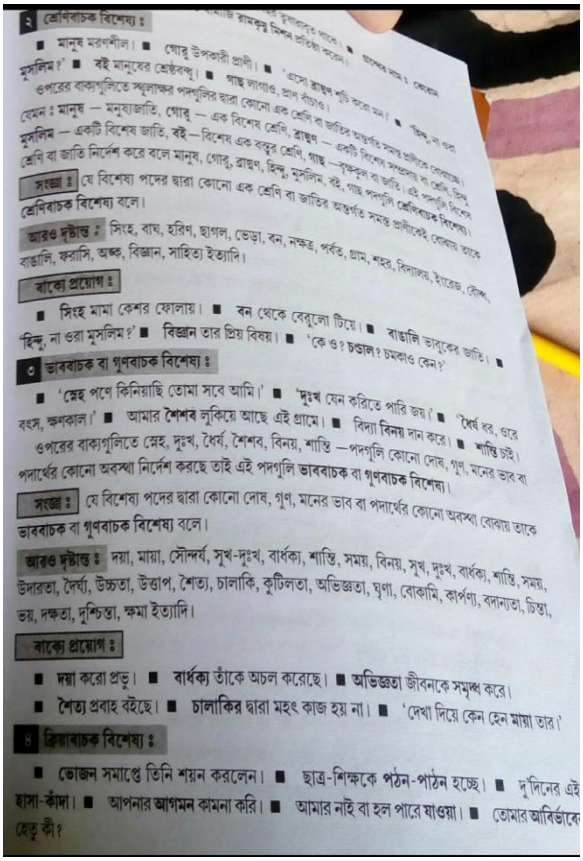
ওপরের বাক্যগুলিতে কালিদাস (ব্যক্তির নাম), ভারতবর্ষ (দেশের নাম), গঙ্গা (নদীর নাম), হিমালয় (পাহাড়ের নাম) ও রামায়ণ (গ্রন্থের নাম) — বিশেষ্য পদগুলি একটি বিশেষ নামকে বোঝায়। তাই এগুলি প্রত্যেকেই সংজ্ঞাবাচক বিশেষ্য।

সংজ্ঞা ঃ যে বিশেষ্য পদের দ্বারা ব্যক্তি, দেশ, স্থান, সমুদ্র, পাহাড়-পর্বত, গ্রন্থ, প্রতিষ্ঠান প্রভৃতি বিশেষ নাম বোঝায়, তাকে সংজ্ঞাবাচক বিশেষ্য বলে।

আরো দৃষ্টান্ত ঃ সুভাষচন্দ্র, রবীন্দ্রনাথ, নজরুল, কলকাতা, দিল্লি, তাজমহল, পদ্মা, যমুনা, বঙ্গোপসাগর, ভারত মহাসাগর, চন্দ্র, সূর্য, মহরম, বড়োদিন, কোরান, বাইবেল, রামকৃষ্ণ মিশন ইত্যাদি।

বাক্যে প্রয়োগ ঃ

■ ব্যক্তির নাম ঃ সুভাষচন্দ্র আমাদের দেশের গৌরব। ■ দেশের নাম ঃ চিন ভারতের উত্তরে অবস্থিত ■ নদীর নাম ঃ 'গঙ্গা আমার মা, পদ্মা আমার মা'। ■ সমুদ্রের নাম ঃ বঙ্গোপসাগর পশ্চিমবঙ্গের



২ শ্রেণিবাচক বিশেষ্য ঃ

■ মানুষ মরণশীল। ■ গোরু উপকারী প্রাণী। ■ 'এসো ব্রাহ্মণ শুচি করো মন।' ■ 'হিন্দু, না ওরা মুসলিম?' ■ বই মানুষের শ্রেষ্ঠবন্ধু। ■ গাছ লাগাও, প্রাণ বাঁচাও।

ওপরের বাক্যগুলিতে স্থূলাক্ষর পদগুলির দ্বারা কোনো এক শ্রেণি বা জাতির সমস্ত প্রাণীকে বোঝাচ্ছে। যেমন ঃ মানুষ — মনুষ্যজাতি, গোরু — এক বিশেষ শ্রেণি, ব্রাহ্মণ — একটি বিশেষ সম্প্রদায়, মুসলিম — একটি বিশেষ জাতি, বই — বিশেষ এক বস্তুর শ্রেণি, গাছ — বৃক্ষকুল বা জাতি। এই পদগুলি কিসের শ্রেণি বা জাতি নির্দেশ করে বলে মানুষ, গোরু, ব্রাহ্মণ, হিন্দু, মুসলিম, বই, গাছ পদগুলি শ্রেণিবাচক বিশেষ্য।

সংজ্ঞা ঃ যে বিশেষ্য পদের দ্বারা কোনো এক শ্রেণি বা জাতির অন্তর্গত সমস্ত প্রাণীকেই বোঝায় তাকে শ্রেণিবাচক বিশেষ্য বলে।

আরও দৃষ্টান্ত ঃ সিংহ, বাঘ, হরিণ, ছাগল, ভেড়া, বন, নক্ষত্র, পর্বত, গ্রাম, শহর, বিদ্যালয়, ইংরেজ, চৌর, বাঙালি, ফরাসি, অঙ্ক, বিজ্ঞান, সাহিত্য ইত্যাদি।

বাক্যে প্রয়োগ ঃ

■ সিংহ মামা কেশর ফোলায়। ■ বন থেকে বেরুলো টিয়ে। ■ বাঙালি ভাবুকের জাতি। ■ 'হিন্দু, না ওরা মুসলিম?' ■ বিজ্ঞান তার প্রিয় বিষয়। ■ 'কে ও? চণ্ডাল? চমকাও কেন?'

৩ ভাববাচক বা গুণবাচক বিশেষ্য ঃ

■ 'স্নেহ পণে কিনিয়াছি তোমা সবে আমি।' ■ 'দুঃখ যেন করিতে পারি জয়।' ■ 'ধৈর্য ধর, ওরে বৎস, ক্ষণকাল।' ■ আমার শৈশব লুকিয়ে আছে এই গ্রামে। ■ বিদ্যা বিনয় দান করে। ■ শান্তি চাই।

ওপরের বাক্যগুলিতে স্নেহ, দুঃখ, ধৈর্য, শৈশব, বিনয়, শান্তি —পদগুলি কোনো দোষ, গুণ, মনের ভাব বা পদার্থের কোনো অবস্থা নির্দেশ করছে তাই এই পদগুলি ভাববাচক বা গুণবাচক বিশেষ্য।

সংজ্ঞা ঃ যে বিশেষ্য পদের দ্বারা কোনো দোষ, গুণ, মনের ভাব বা পদার্থের কোনো অবস্থা বোঝায় তাকে ভাববাচক বা গুণবাচক বিশেষ্য বলে।

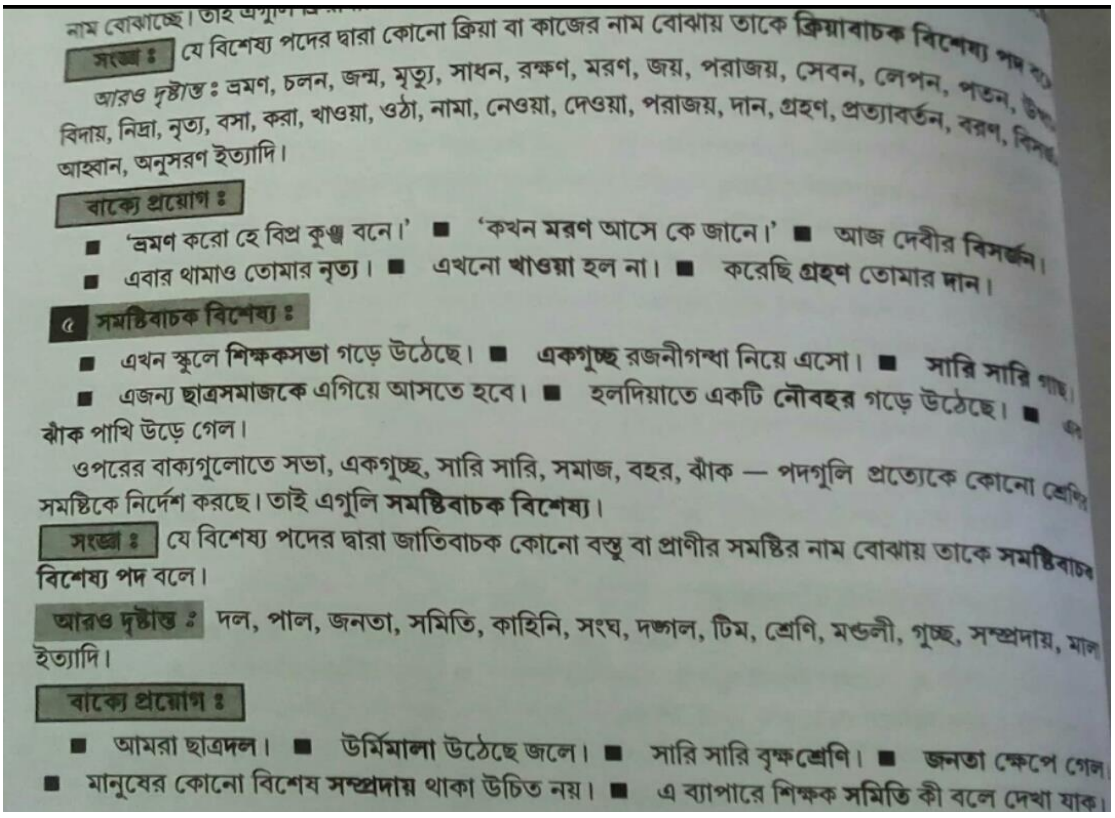
আরও দৃষ্টান্ত ঃ দয়া, মায়া, সৌন্দর্য, সুখ-দুঃখ, বার্ধক্য, শান্তি, সময়, বিনয়, সুখ, দুঃখ, বার্ধক্য, শান্তি, সময়, উদারতা, দৈর্ঘ্য, উচ্চতা, উত্তাপ, শৈত্য, চালাকি, কুটিলতা, অভিজ্ঞতা, ঘৃণা, বোকামি, কার্পণ্য, বদান্যতা, চিন্তা, ভয়, দক্ষতা, দুশ্চিন্তা, ক্ষমা ইত্যাদি।

বাক্যে প্রয়োগ ঃ

■ দয়া করো প্রভু। ■ বার্ধক্য তাঁকে অচল করেছে। ■ অভিজ্ঞতা জীবনকে সমৃদ্ধ করে। ■ শৈত্য প্রবাহ বইছে। ■ চালাকির দ্বারা মহৎ কাজ হয় না। ■ 'দেখা দিয়ে কেন হেন মায়া তার।'

৪ ক্রিয়াবাচক বিশেষ্য ঃ

■ ভোজন সমাপ্তে তিনি শয়ন করলেন। ■ ছাত্র-শিক্ষকে পঠন-পাঠন হচ্ছে। ■ দু'দিনের এই হাসা-কাঁদা। ■ আপনার আগমন কামনা করি। ■ আমার নাই বা হল পারে যাওয়া। ■ তোমার আবির্ভাবে হেতু কী?



নাম বোঝাচ্ছে। তাই এগুলি ...

সংজ্ঞা ঃ যে বিশেষ্য পদের দ্বারা কোনো ক্রিয়া বা কাজের নাম বোঝায় তাকে ক্রিয়াবাচক বিশেষ্য পদ বলে।

আরও দৃষ্টান্ত ঃ ভ্রমণ, চলন, জন্ম, মৃত্যু, সাধন, রক্ষণ, মরণ, জয়, পরাজয়, সেবন, লেপন, পতন, উত্থান, বিদায়, নিদ্রা, নৃত্য, বসা, করা, খাওয়া, ওঠা, নামা, নেওয়া, দেওয়া, পরাজয়, দান, গ্রহণ, প্রত্যাবর্তন, বরণ, বিসর্জন, আহ্বান, অনুসরণ ইত্যাদি।

বাক্যে প্রয়োগ ঃ

■ 'ভ্রমণ করো হে বিপ্র কুঞ্জ বনে।' ■ 'কখন মরণ আসে কে জানে।' ■ আজ দেবীর বিসর্জন। ■ এবার থামাও তোমার নৃত্য। ■ এখনো খাওয়া হল না। ■ করেছি গ্রহণ তোমার দান।

৫ সমষ্টিবাচক বিশেষ্য ঃ

■ এখন স্কুলে শিক্ষকসভা গড়ে উঠেছে। ■ একগুচ্ছ রজনীগন্ধা নিয়ে এসো। ■ সারি সারি গাছ। ■ এজন্য ছাত্রসমাজকে এগিয়ে আসতে হবে। ■ হলদিয়াতে একটি নৌবহর গড়ে উঠেছে। ■ এক ঝাঁক পাখি উড়ে গেল।

ওপরের বাক্যগুলোতে সভা, একগুচ্ছ, সারি সারি, সমাজ, বহর, ঝাঁক — পদগুলি প্রত্যেকে কোনো শ্রেণির সমষ্টিকে নির্দেশ করছে। তাই এগুলি সমষ্টিবাচক বিশেষ্য।

সংজ্ঞা ঃ যে বিশেষ্য পদের দ্বারা জাতিবাচক কোনো বস্তু বা প্রাণীর সমষ্টির নাম বোঝায় তাকে সমষ্টিবাচক বিশেষ্য পদ বলে।

আরও দৃষ্টান্ত ঃ দল, পাল, জনতা, সমিতি, কাহিনি, সংঘ, দঙ্গল, টিম, শ্রেণি, মণ্ডলী, গুচ্ছ, সম্প্রদায়, মালা ইত্যাদি।

বাক্যে প্রয়োগ ঃ

■ আমরা ছাত্রদল। ■ উর্মিমালা উঠেছে জলে। ■ সারি সারি বৃক্ষশ্রেণি। ■ জনতা ক্ষেপে গেল। ■ মানুষের কোনো বিশেষ সম্প্রদায় থাকা উচিত নয়। ■ এ ব্যাপারে শিক্ষক সমিতি কী বলে দেখা যাক।

CLASSWORK – প্রশ্ন উত্তর

১) বিশেষ্য পদ কয় প্রকার ও কী কী ?
উঃ- বিশেষ্য পদ পাঁচ প্রকার। সেগুলি হল – সংজ্ঞাবাচক , শ্রেণিবাচক , ভাববাচক , ক্রিয়াবাচক, সমষ্টিবাচক।

২) শ্রেণিবাচক বিশেষ্য কাকে বলে ?উদাহরণ দাও।

উঃ-যে বিশেষ্য দ্বারা কোন এক শ্রেণি বা জাতের অন্তর্গত সমস্ত প্রাণীকেই বোঝায় তাকে শ্রেণিবাচক বিশেষ্য বলে। যেমন – বিজ্ঞান তার প্রিয় বিষয়।

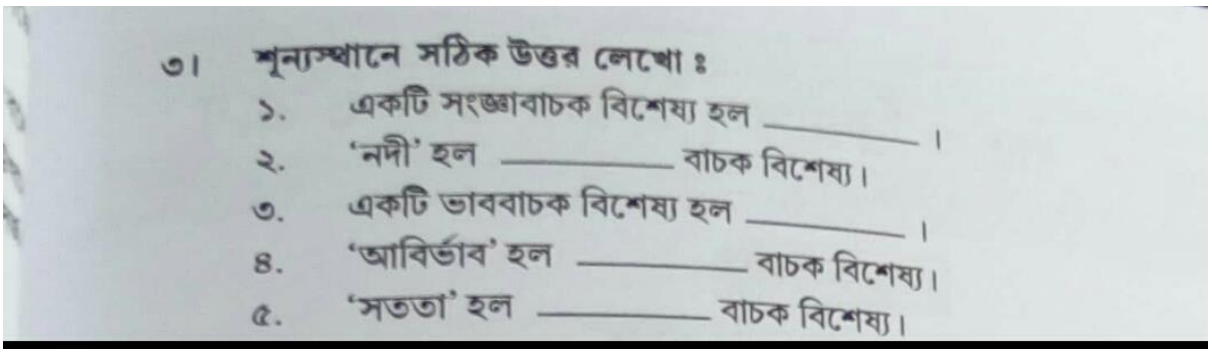
৩) সমষ্টিবাচক বিশেষ্য কাকে বলে ? উদাহরণ দাও।
উঃ- যে বিশেষ্য পদের দ্বারা জাতিবাচক কোন বস্তু বা প্রাণীর সমষ্টির নাম বোঝায় তাকে সমষ্টিবাচক বিশেষ্য বলে। যেমন – এজন্য ছাত্রসমাজকে এগিয়ে আসতে হবে।

HOMEWORK

ক) নিম্নে লিখিত প্রশ্নগুলির উত্তর দাওঃ-

১) বিশেষ্যপদ কাকে বলে ? উদাহরণ দাও।
২) ক্রিয়াবাচক বিশেষ্যপদ কাকে বলে ? উদাহরণ দাও।
৩) সংজ্ঞাবাচক বিশেষ্যপদ কাকে বলে ? উদাহরণ দাও।

খ) শূণ্যস্থান পূরণ করঃ-


৩। শূন্যস্থানে সঠিক উত্তর লেখো ঃ
১. একটি সংজ্ঞাবাচক বিশেষ্য হল _____ ।
২. 'নদী' হল _____ বাচক বিশেষ্য।
৩. একটি ভাববাচক বিশেষ্য হল _____ ।
৪. 'আবির্ভাব' হল _____ বাচক বিশেষ্য।
৫. 'সততা' হল _____ বাচক বিশেষ্য।

Date: 23/04/2020

Class-8, Chapter-1 Home assignment solutions & solved Question answers

Q1. Explain how air can be considered as matter?

Ans: Matter is anything that has mass, occupies space and can be perceived by our senses.

As air also has these characteristics so it can be considered as matter.

Q2. Explain how the three states of matter is generated?

Ans: Depending upon two characteristics matter can be divided into three states. These are:

a) Intermolecular force of attraction
b) Intermolecular space

This intermolecular force of attraction is highest in solid and gradually decreases in liquid and gas whereas the intermolecular space is lowest in solid and gradually increases in liquid and gas. Thus they differ in their physical state.

Q3. Explain why liquid and gasses are called fluids?

Ans: Usually the substance that can flow is called fluid.

In liquids and gasses all the particles inside have sufficient intermolecular space because of their weak intermolecular attraction force. Due to this the particles can flow or move in any direction. Thus the substance become fluid.

Q4. When some marble pieces are dipped into a glass containing some water what will be your observation and explain the reason behind it.

Ans: When some marble pieces are dipped into a glass containing some water it is observed that the level of water in the glass rises up.

As the marble pieces are matter, it occupies some space inside the glass. So water rises up to give the space to the stone.

Q5. If some drop of ink is added into a glass containing water why does the ink dissolve into water after stirring well? Explain.

Ans: If adrop of ink is added to some water due to random motion of the ink particles they will be fit into the intermolecular space of water molecules. So the ink particles will be dissolved very well in the water by making the water also in same colour of the ink.

Some more Solved Question Answers, chapter-1

Q1. Explain why a gas can fill the whole vessel in which it is enclosed.

Ans: In gas the particles are placed far apart from each other having a large inter molecular space because of very weak inter molecular attraction force. So gas particles can scatter very easily by acquiring the whole vessel in which it is enclosed.

Q2. Define the terms:

a) Diffusion: The intermixing of two or more
b) substances due to the motion of their particles in order to get the uniform mixture is called diffusion.
c) Brownian motion: The haphazard random motion of the particles of a substance is called Brownian motion.

Q3. What do you observe when an empty gas jar is inverted over a gas jar containing bromine vapour (reddish brown)? Name the phenomena.

Ans: When an empty gas jar that actually contains air inside is inverted over a gas jar containing bromine vapour (bromine vapour) it is observed that the reddish brown bromine vapour spread out into the upper gas jar. This mixing phenomena is called diffusion.

Q4. Why can a piece of chalk be broken easily into smaller pieces while a coal piece cannot be broken though both are solids?

Ans: Though a chalk and a coal both are solids, the strength of the inert molecular attraction force differs in each substance. This intermolecular attraction force of chalk is lesser than that of a coal. So the chalk can be broken into smaller pieces easily.

As the inter molecular attraction force of coal is very high it becomes very rigid and cannot be broken easily.

Class-8, Chapter-2 Home assignment solutions & solved Question answers

1.
   i. Non-periodic change
   ii. Undesirable change
   iii. Chemical change
   iv. Physical change
   v. Periodic change
   vi. Slow change
   vii. Fast change
   viii. Physical change
2. Explain why change of season is periodic change while change of weather is a non-periodic change?

   Ans: Seasons change by following a particular time period. It means different seasons rotate in a cyclic order in a fixed time interval. So it is considered as periodic change.

   On the other hand weather can change any time a day, a month, a year and so on. So weather change does not follow a fixed time interval. Thus it is a non-periodic change.

3. Is change of state of matter physical change or chemical change? Explain with reason.

Ans: Change of state of matter is a physical change because in state change only the physical property or composition of a matter changes, not the composition. It follows the principal of physical change only. So state change of matter is physical change.

Some more Solved Question Answers, chapter-2

Few terms related to physical and chemical changes:

- Boiling: The process by which a liquid changes into vapour by heating sufficiently is called boiling.
- Boiling point: The particular temperature at which the liquid starts evaporating is called boiling point.
- Freezing: The process by which a liquid changes into solid by decreasing heat is called freezing.
- Freezing point: The particular temperature at which the liquid starts freezing is called freezing point.
- Melting: The process by which a solid changes into liquid by heating is called melting or fusion.
- Melting point: The particular temperature at which the solid starts melting is called melting point.
- Condensation: The natural process by which vapour turns into its original liquid state is called condensation.
- Evaporation: The natural process by which liquid turns into vapour from its upper surface is called evaporation.

Solved Question Answers:

Q1. Write difference between evaporation and boiling.

Ans:

Evaporation	Boiling
1. This is a natural process. 2. It takes place from the upper surface of liquid. 3. It takes place in any temperature. 4. It is a slow process.	1. This is an artificial process. 2. It takes place from all parts of the liquid. 3. It takes place at a fixed temperature. 4. It is a fast process.

Q2. What do you observe when a solid ammonium chloride is heated? Which type of change is this? Explain.
Ans: On heating the solid ammonium chloride directly changes into gas because it is a sublime element.
It is a physical change because only the physical state of ammonium chloride is changed from solid to gas. It can be again turned into solid.

Q3. Explain how is the law of conservation of mass affected by physical or chemical changes or any other types of changes?
Ans: According to the law of conservation of mass, mass can neither be created nor be destroyed in any physical, chemical or any other types of changes. It can only be transferred from one state to other.
In physical or chemical change only the physical or chemical composition of a substance is changed but the total mass remain same. So the law of conservation of mass is not affected any way.

Q4. Write differences between condensation and liquefaction:

Ans:

Condensation	Liquefaction
1. It is a natural process. 2. In this process vapour turns into its original liquid form. 3. Here no external pressure is required.	1. It is an artificial process. 2. In this process a gas is forcefully turned into liquid. 3. Here very high pressure is applied.