METHODS OF RELIEF REPRESENTATION

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- The earth is much diversified. We all know that several topographical features are found on the earth. We also know the names of some of these topographical features. Among them waterfall, conical hills, Lakes, 'V' shaped valley, plateau etc. are important. The expression of these features on the map is called Relief Expression / Representations. In other words relief expression means that method of mapping through which three - dimensional features found on the surface of the earth are expressed on plain surface. All the topographical features found on the surface of the earth has length, width and height, this is the reason why they are called three dimensional. These topographical features are expressed on plain surface in two dimensional forms. Therefore, to express these three - dimensional features on the map many methods have been developed from time to time.

Details of some of the important methods developed to express relief features found on the surface of the earth are given here :

- This method was developed by an Austrian Army officer Lehman. In this method for expression of relief small, thin and broken lines are drawn in the map. These lines are drawn in the direction of slope or flow of water. As a result near the areas which are having steep slope, these lines are drawn in thicker and deeper shade. Whereas for lesser slope areas the lines drawn are thinner and far apart. The plain areas are left vacant. In this condition that part of the earth which is having greater slope, in the hachure method maps it is expressed in much darker shade. In this method the map looks attractive and live and through this the slope magnitude can be gauged accurately. But it takes lots of time and effort to represent relief through this method.

Hill Shading:

- In this method for the expression of relief it is imagined that light is falling from above on the north-west corner of the topographical feature. Due to this reason, the portion lying in darkness or the slope is filled with dark shade whereas portion lying in the light or portion having lesser slopes are shaded with light shade (or left) or can be left vacant. Through this method it is possible to express the relief of mountainous region more effectively but from these maps also the accurate inclination of the slope cannot be gauged.

Bench Mark

- Through actual survey, on the permanent structures such as buildings, bridges, pillars and stones, the mark expressing the height measured from the sea level is called 'Bench Mark'. To express such height on the map the height is written in either feet or meter.

Spot Heights:

- Height of a particular place measured with the help of Bench Mark is called Spot Height. In this method different places are shown on the map by points and heights are written in digits.

Trigonometric station

- Trigonometric station is related to those points which were used in triangulation method (a type of survey) survey in the form of station. By making a triangle on the map and writing their height from the sea level beside the triangle.

Layer Tints

- A standard has been fixed to show relief features through different shades of colour in the coloured maps. You must have seen the use of this method in Atlas and wall maps. With the increase in height the shades of the colour becomes lighter. In these maps the ocean or water bodies are shown in blue colour, plains in green and mountains in Almond light brown colour whereas snow covered areas are shown in white colour.

Contour lines

- The method of showing relief feature with the help of contour lines has been accepted as the best. It is a standard method. Thus, contours are imaginary lines joining places having the same elevation from the mean sea level. These lines are drawn on the basis of actual survey in the area. With every contour line in the map the value of their height is also written. In the map theses contour lines are shown in Almond colour.

- To show different relief features different forms of contour lines are drawn. To express even slope the contour lines are drawn at even space. The contour lines are closely spaced to show steep slope whereas for gentle slope these lines are drawn far apart. When the contour lines of greater height (value) are closely spaced and contour lines of lesser height are widely spaced in a map then it indicates that the group of contour lines are showing concave slope. Situation opposite to it represents convex slope. For stair shaped slope pair of two contour lines intervals are drawn. Similarly several geomorphological features are expressed on the map through contour lines.

Representation of Different Topographical Features through Contours:

- To represent topographical features through contour lines one must possess full knowledge of those features because shape of the contour lines are formed according to the topographical features and the numerical value of those contour lines (According to height) are determined. For example, if you draw eight ten circular shaped contours then through these two topographical features can be shown, first conical hill and second Lake. But in both these topographical features the value of contours are different according to height. The value of contour lines for conical hill increases from outside . In other words the contour with more height is towards inside. On other hand to express Lake, the value of contour is more on outside and less on inside, by saying this it is meant that while drawing the contours to represent topographical features the value of those lines must be understood properly. On the contour map after drawing the cross section line back ground figure is drawn. With the help of this background figure topographical features can be understood clearly:

Mountain:

- Mountains are that feature found on the surface of the earth whose base is very wide and top is very narrow. It rises above other topographical features nearby. It is conical in shape. The hills formed due to volcanic activity are conical in shape. The contours drawn for conical hills are almost circular in shape. The size of the circles decreases from outside to inside. The contour in the center expresses maximum height. The value of the contours increases from outside to inside respectively.

Plateau:

- Plateau is such a feature found on the surface whose base and top both are broad and stretched. But its stretched top is rugged. As a result, to express plateau areas the contours drawn are almost vertical in shape. Each contour line is drawn in closed shape. Its central contour line drawn is also sufficiently broad.

Waterfall:

- When a river in the course of journey through in its valley makes a sudden descent on a steep slope, then it is called Waterfall. To express this feature many contour lines are joined together at a place near the steep slope and the rest lines are drawn according to the slope.

‘V' shaped valley:

- This type of valley is formed by the river. Almost vertical 'V' shaped valley is formed by the river in its youth stage. To express this feature the contour lines are drawn in the form of inverted 'V' letter of English. In this, the value of contour lines decreases from outside towards inside respectively.

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