

DRAINAGE PATTERN

Distribution of stream courses and their spatial relationship to one another.

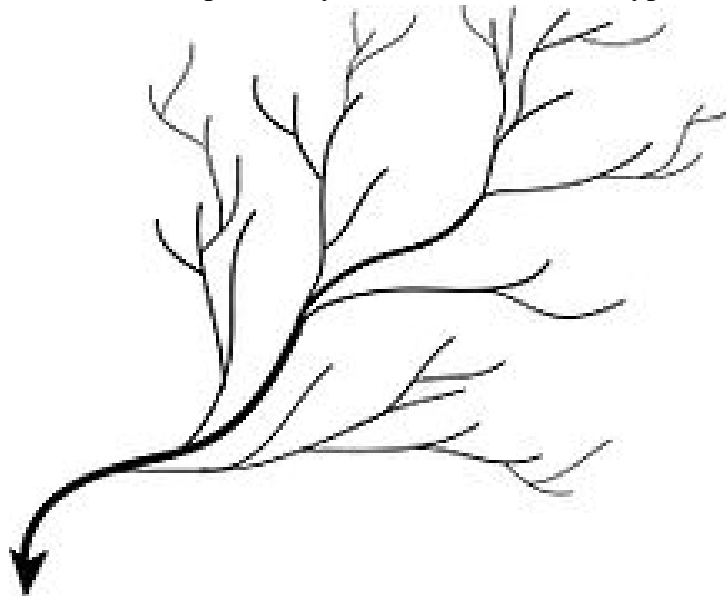
Types

1. Dendritic
2. Trellis
3. Rectangular
4. Radial
5. Annular
6. Parallel
7. Irregular

1.DENDRITIC DRAINAGE PATTERN

A drainage pattern which looks like tree branches is known as Dendritic drainage pattern. In a dendritic system, there are many contributing streams (analogous to the twigs of a tree), which are then joined together into the tributaries of the main river (the branches and the trunk of the tree, respectively). They develop where the river channel follows the slope of the terrain.

Dendritic systems form in V-shaped valleys; as a result, the rock types must be impervious and

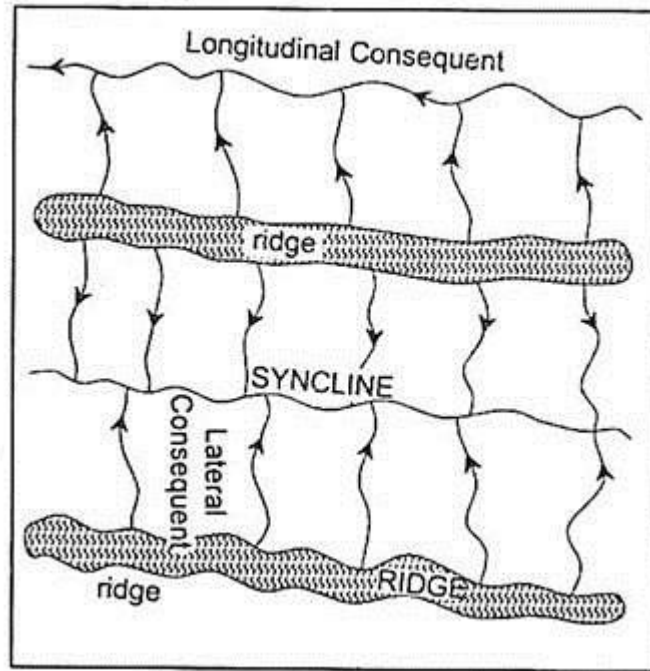


non-porous.

2. TRELLIS DRAINAGE PATTERN

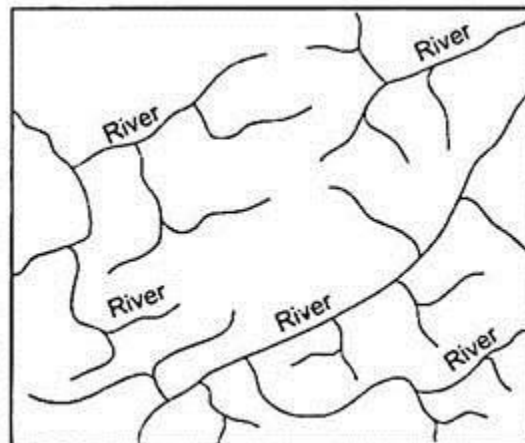
Trellis drainage pattern is formed when the primary tributaries of main rivers flow parallel to each other and secondary tributaries join them at right angles. For example, rivers in the upper

part of the Himalayan region. Trellis drainage is characteristic of folded mountains, such as the Appalachian Mountains in North America and in the north part of Trinidad.



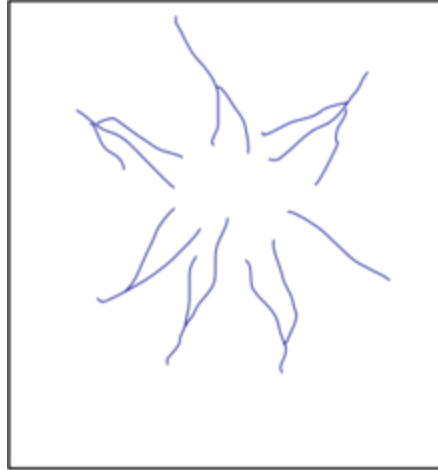
3. RECTANGULAR DRAINAGE PATTERN

Rectangular pattern is generally developed in the regions where the rock joints form rectangular pattern. The rocks are weathered and eroded along the interfaces of joints, fractures and faults and thus surface runoff collects in such long and narrow clefts (resulting from the weathering and erosion of joints) and forms numerous small rills. These rills are further extended in length and width and become channels. With the march of time a network of streams is developed wherein streams follow the lines of weakness (joints and fractures). The tributaries join their master streams almost at right angles and thus a rectangular drainage pattern is formed.



4. RADIAL DRAINAGE PATTERN

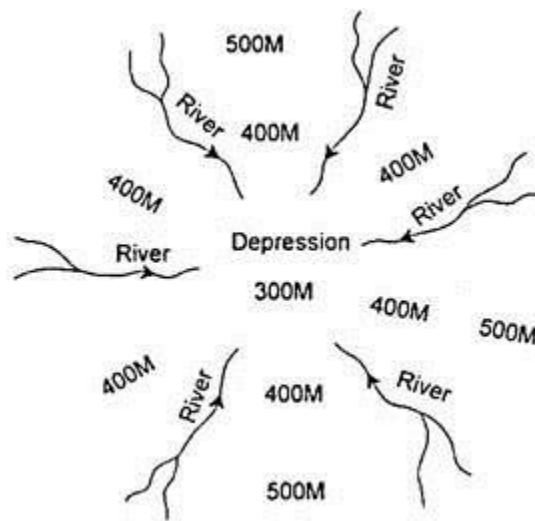
Radial drainage patterns form when rivers originate from a hill and flow in all directions. In a radial drainage system, the streams radiate outwards from a central high point. Volcanoes usually display excellent radial drainage. They can sometimes also be found on tops of mountains. Other geological features on which radial drainage commonly develops are domes and laccoliths. On



these features the drainage may exhibit a combination of radial patterns. The radial pattern develops when streams flow in different directions from a central peak or dome like structure.

CENTRIPETAL DRAINAGE PATTERN

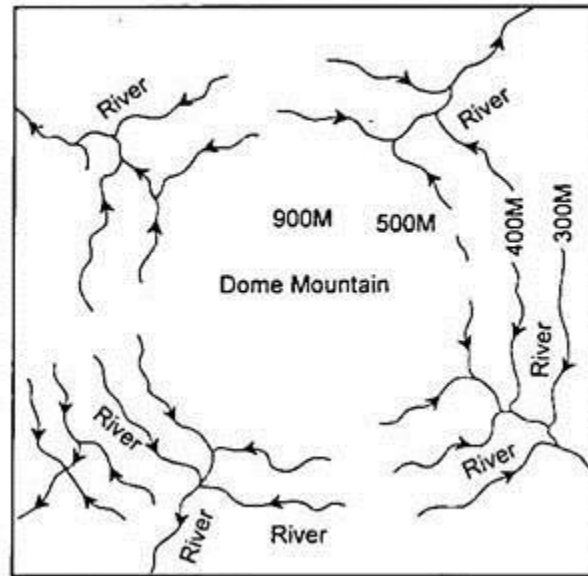
Centripetal drainage pattern is formed when rivers discharge their waters from all directions into a lake or a depression. Centripetal or inland drainage pattern opposite to the radial drainage pattern because it is characterized by the streams which converge at a point which is generally a depression or a basin. This pattern is formed by a series of streams which after emerging from surrounding uplands converge in a central low land which may be a depression, or a basin or a crater lake. The Kathmandu valley of Nepal presents an ideal example of centripetal drainage pattern wherein the tributary streams of the Baghmati converge in the tectonically formed circular basin. The depression formed at the top of Raigarh Dome in the Lower Chambal Basin



has given birth to centripetal drainage pattern.

5. ANNULAR DRAINAGE PATTERN

Annular pattern, also known as 'circular pat-tern' is formed when the tributaries of the master consequent streams are developed in the form of a circle. Such pattern is developed over a mature and dissected dome mountain characterised by a series of alternate bands of hard and soft



rock beds.

6. PARALLEL DRAINAGE PATTERN

Parallel drainage pattern comprises numerous rivers which are parallel to each other and follow the regional slope. This pattern is more frequently developed on newly emerged coastal plains.

