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# Chp 5 ⇒ River

## Question Bank

1) What is river?

Ans) A river is an important part of the hydrological cycle, in which water gets transported from one point to another one over the earth's surface along a channel. According to Jackle Smith, 'A river is a large stream of fresh water flowing downhill within a channel to enter another river, lake or sea. Eg ⇒ R. Ganga

2) Explain the main works of a river.

Ans) A river performs three works in her course. Such as:
a) erosion, b) Transportation, c) deposition

a) erosion ⇒ In this activity, a river breaks down and wears away its bed and the sides of its channel as well as the materials it is carrying. This activity consists of the following four actions — i) hydraulic action: Quarrying and removing of the loose bedrocks by the force of the running water is known as hydraulic action. ii) Corrasion: When erosion takes place by collision between the flowing rock, fragements and the static rocks of the walls of



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the channel it is known as Corrasion. It is of two types— Vertical corrasion and Lateral corrasion. (iii) Attrition: When the flowing rock fragements strike against one another and wear down, it is called attrition. iv) Solution: It is the action in which the river dissolves the soluble rocks and minerals.

b) transportation ⇒ Steams transport eroded materials from one place to another. This activity is known as transportation. This work is done in four ways —

[I] Traction: The heavier and large rock fragements like gravel, pebbles, etc. are forced by the flow of water to roll on the floor of the river channel. These fragements can roll, slip and bump. This is called traction.

[II] Saltation: The fragments of the rocks move downstream by jumping continuously. This process is called as saltation

[III] Suspension: When the finest particles are carried by the stream their weight is reduced by the buoyancy of water. The reduced weight of the fragements keep them in suspension. [IV] Solution: Soluble particles are carried in solution.

c) Deposition ⇒ the work in which the stream sheds and accumulates the transported material is called deposition. Materials deposited by rivers in their channels or over



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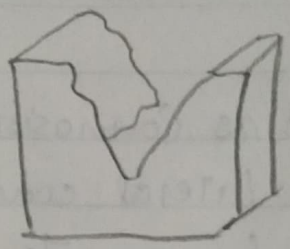
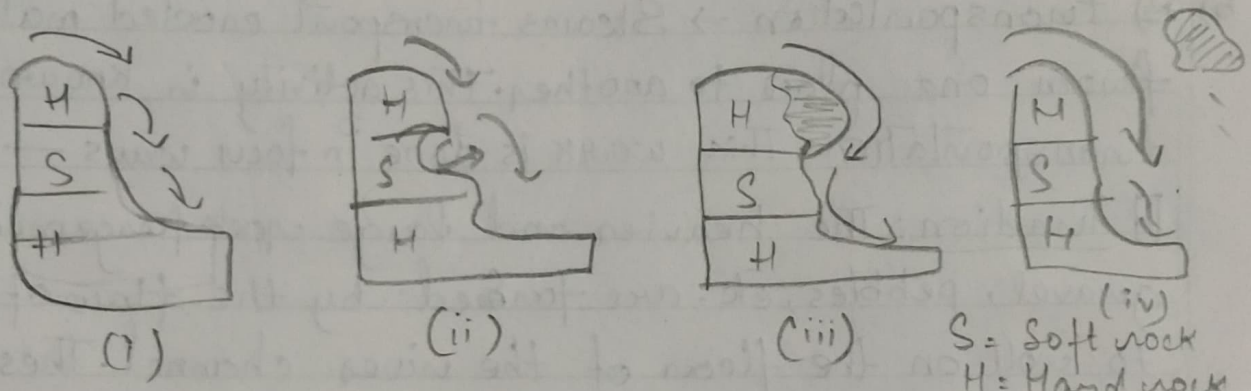
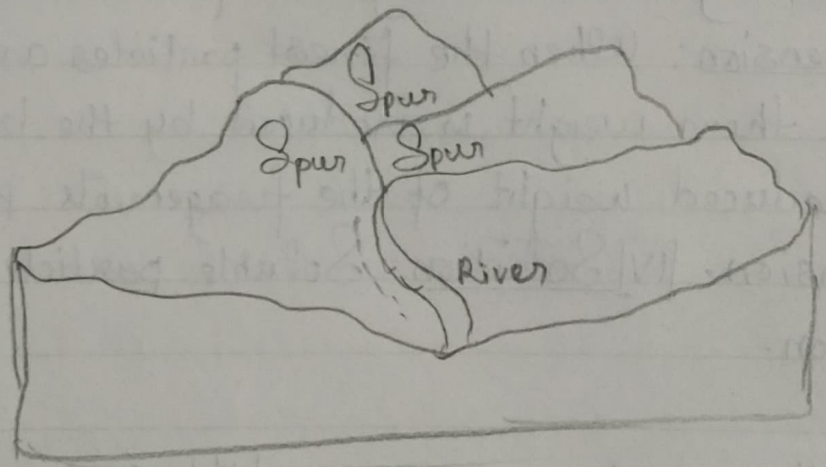


a) V-shaped valley




b) Formation of waterfalls




c) Interlocking Spurs

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surrounding flood plains are called alluvium.

3) Explain the landforms formed by the river in its upper upper course. (Explain any three)

Ans) The dominant work of the river in this course is that of erosion. The river in this course develops following typical landforms.

a) V-Shaped valley or Gorge ⇒ As the slope of the land is steeper and the velocity higher in mountains, vertical erosion or downcutting of a river far exceeds lateral erosion. The valley thus developed is V-Shaped. This valley is narrow and the sides are steep. Such valleys are called Gorges. Eg: The royal george of Afrakansas, the Sampo gorge of Tibet, the gorges of the Sindh etc. are thousands of metres deep.

b) Waterfalls ⇒ When a river water falls suddenly from certain height, along a vertical or very steep slope, it is known as waterfall. Waterfalls are formed in several ways: (i) when a bar of resistant rocks lies transversely across a river valley e.g the Nigara Falls, USA. ii) when a fault-line scarp caused by faulting lies across river, e.g. Victoria falls on river Zambezi of Africa. iii) when water plunges down the edge of a plateau like Livingstone falls.



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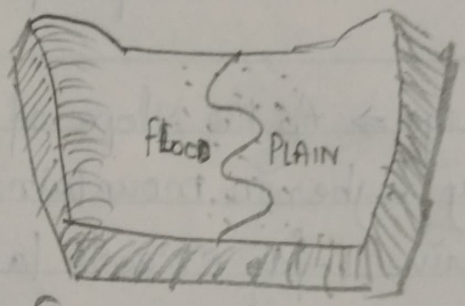
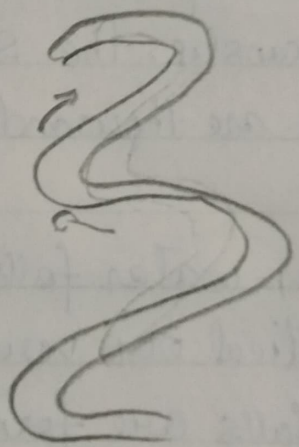



b) Food Plain



c) Meanders

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c) Inter-locking spurs ⇒ When a number of projecting ridges or spurs extend from opposite sides of the wall of a young V-shaped valley alternately, they seem to overlap or interlock like a zip. Such series of spurs are known as interlocking spurs.

4) ~~(i)~~ Explain any two landforms formed by the river in its middle course with diagram.

Ans) In middle course transportation and deposition are the principal works of a river. Erosion is less important. The remarkable landforms of this stage are:

a) Alluvial Cone ⇒ As a river descends from a mountain and enters into a plain, the river deposits its extra load on the foot hill in the form of a cone, called alluvial cone.

b) Flood Plain ⇒ Rivers in the middle course often overflow their banks in the rainy season. The flood water spreads out over the adjoining areas and leaves layers of silt on the plains after they recede. Such plains are called flood plains.

c) Meanders ⇒ The river develops broad bends or loops in its channel as it winds along the broad flood plain of the



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rivers are called ~~to~~ meanders.

5) Explain delta with proper examples.

Ans) The velocity of a river is greatly reduced where it meets the the sea or the lake. So the heaviest deposition occurs here. The river channel often gets blocked and the river waters have to find their way to the sea through a number of channels and distributaries that form a network. These form fan-shaped alluvial tract that resemble the Greek alphabet 'Δ'. Eg: The Ganga-Brahmaputra delta is the largest delta in the world. There are three basic types of deltas —— i) Bird's foot delta, where delta formation is river dominated and less subject to tides and waves. E.g ⇒ The mississipi delta, ii) Arcuate delta, where the delta has a rounded convex outer margin. E.g. The Nile Delta, iii) Cuspate delta, where the material brought down by the river is evenly spread on either side of the channel. It is shaped like a cup. Eg⇒ Tiber delta in Italy.

6) Write short notes on ⇒
• Source • Channel • Course • Tributaries • Distributaries
• Mouth • Confluence • River Basin • Watershed
• Sixth power law.

Ans) • Source ⇒ The begining of a river is called its source.
• Channel ⇒ The bed of the river through which the river


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flows.

- Course ⇒ The path of a river from its source to its known as the course of the river.
- Tributaries ⇒ Many smaller rivers having their sources elsewhere, and flowing into the main river are known as tributaries.
- Distributaries ⇒ Near its mouth, a river often divides up into smaller streams. Such streams which go out of the main river are called distributaries.
- Mouth ⇒ The end of the river is its mouth
- Confluence ⇒ Confluence is the place where two rivers meet.
- River Basin ⇒ The area drained by a main river along with all its tributaries and distributaries is known as the R. Basin.
- Watershed ⇒ A river basin is separated from other basin by a highland. Such highlands will be marked as the boundary between areas drained by two streams is called watershed.
- ~~The~~ # Sixth Power Law ⇒ The transportation capacity of a river depends on river's velocity, volume or amount of water and amount of water and amount carried by the river. If the velocity of a river is doubled, the transportation capacity of that river increases by 64 times or $2^6 = 64$ times. This is called the Sixth power law of river.



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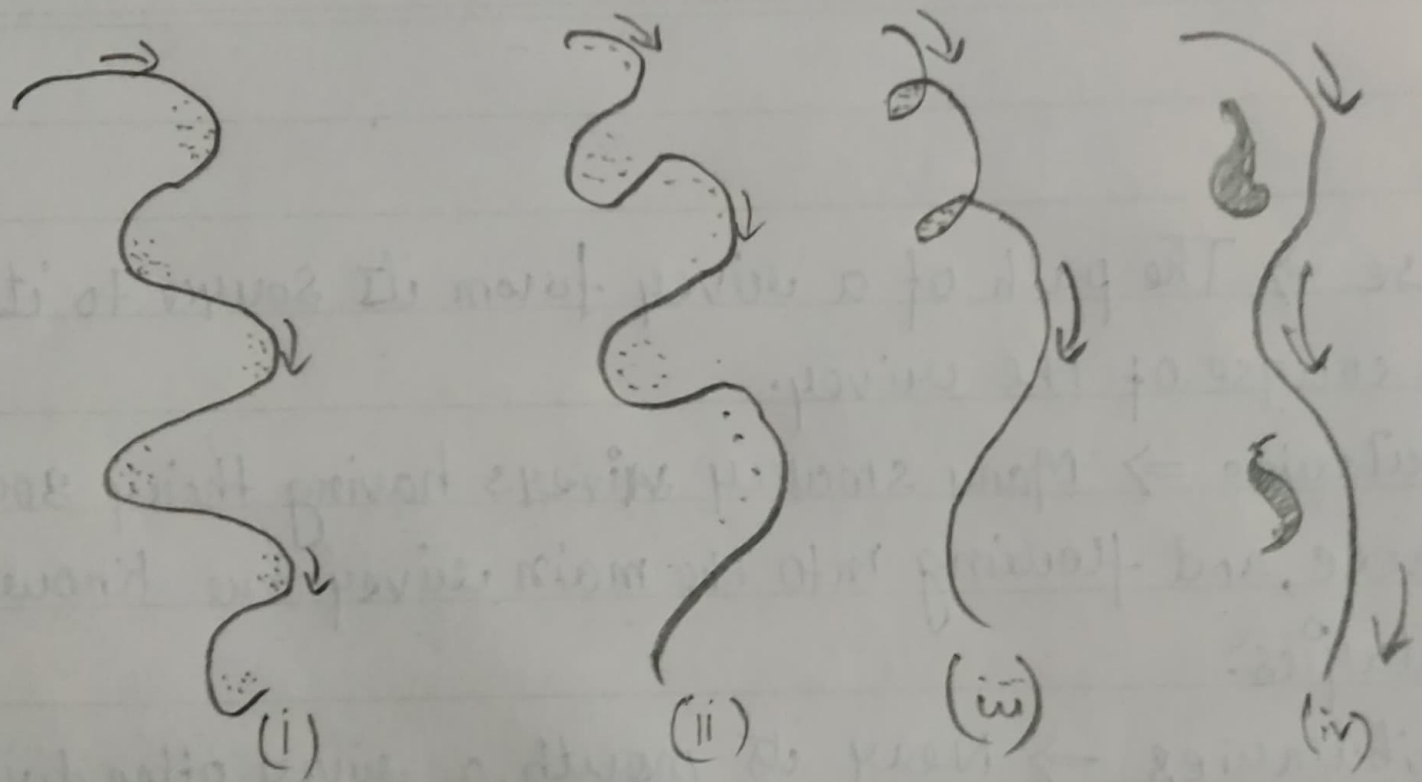


Formation of ox-bow lake

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7) Explain the formation of oxbow lake with proper diagram.

Ans) An ox-bow lake is produced when bends of a meander move too close, then join to form a neck and leave behind a horse-shoe shaped body of stagnant water.