

For XAT , CMAT , SNAP , MAT , IIFT Exam

DRAINAGE SYSTEM OF INDIA

- A drainage system is an integrated system of tributaries and a trunk stream which collects and drains surface water into the sea, lake or some other body of water.
- The drainage system of India is broadly divided into two major groups on the basis of their location. They are Himalayan Rivers and the Peninsular Rivers.
- The river system provides irrigation, drinking water, and navigation, power as well as grant livelihoods for a large number of populations.
- **Perennial Rivers:** The rivers which flow throughout the year and have permanent source of water
- A river drains the water collected from a specific area, which is called its '**catchment area**'.
- An area drained by a river and its tributaries is called a **drainage basin**. The boundary line separating one drainage basin from the other is known as the **watershed**.
- The Indus River system, the Ganga River system and the Brahmaputra River system have made the agricultural lands of north India as fertile land. These rivers are perennial in nature.
- Narmada, Tapti, Mahi and Sabarmathi rivers confluence with the Arabian Sea.
- Mahanadi, Godavari, Krishna and Cauvery are the major east flowing rivers and drain into Bay of Bengal.

THE HIMALAYAN RIVERS

- The major Himalayan Rivers are the Indus, the Ganga and the Brahmaputra. These rivers are long, and are joined by many large and important tributaries
- Perennial in nature

The Indus River System

- The river Indus rises in Tibet, near Lake Mansarowar. Flowing west, it enters India in the Ladakh district of Jammu and Kashmir
- Its length is about 2,880 km (Only 709 km is in India)
- Its major tributaries are Jhelum, Chenab (Largest tributary of Indus), Ravi, Beas and Sutlej. It enters into with the Arabian Sea.
- A little over a third of the Indus basin is located in India in the states of Jammu and Kashmir, Himachal Pradesh and the Punjab and the rest is in Pakistan
- According to the regulations of the **Indus Water Treaty (1960)**, India can use only 20 per cent of the total water carried by Indus river system. This water is used for irrigation in the Punjab, Haryana and the southern and western parts of Rajasthan

The Ganga River System

- The Ganga River system is the largest drainage system of India it extend over and area of 8,61,404 sq km in India
- The river Ganga originates as Bhagirathi from the Gangotri Glacier in Uttar Khasi District of Uttarkhand state, at an elevation of 7,010 m
- The length of the river Ganga is about 2,525 km

- Its major tributaries from the north are Gomti, Gandak, Kosi and Ghaghra and from south, Yamuna (largest tributary of Ganga), Son, Chambal etc
- The river Yamuna rises from the Yamunotri Glacier in the Himalayas. It flows parallel to the Ganga and as a right bank tributary, meets the Ganga at Allahabad
- The Ganga flows eastwards till Farakka in West Bengal. This is the northernmost point of the Ganga delta. The river bifurcates here; the Bhagirathi-Hooghly (a distributary) flows southwards through the deltaic plains to the Bay of Bengal
- The river Ganga is known as the River Padma in Bangladesh.
- The combined river of Ganga and Brahmaputra creates the World's largest delta known as Sundarbans in Bangladesh before joining the Bay of Bengal

The Brahmaputra River System

- The river Brahmaputra originates from the Chemayungdung Glacier of the Kailash range to the east of Lake Manasarovar in Tibet at an elevation of about 5,150 m
- This river is known as Tsangpo (Purifier) in Tibet.
- The length of this river is about 2,900 km (900 km in India).
- It enters into India through a gorge in Arunachal Pradesh namely Dihang. It has many tributaries. Tista, Manas, Barak, Subansiri are some of them.
- This river is called as Jamuna in Bangladesh. After it joins with the river Ganga in Bangladesh, the river is called as Meghna.

PENINSULAR RIVERS

- The rivers in south India are called the Peninsular Rivers. Most of these rivers originate from the Western Ghats. These are seasonal rivers (non-perennial).
- Based on the direction of flow, the peninsular rivers are divided into the West flowing and East flowing rivers

WEST FLOWING RIVERS

Narmada

- The Narmada rises in the Amarkantak hills in Madhya Pradesh and flows for a distance of about 1,312 km. It flows towards the west in a rift valley formed due to faulting
- It covers an area of 98,796 sq km and forms 27 km long estuary before out falling into the Arabian Sea through the Gulf of Cambay
- It is the largest among the west flowing rivers of Peninsular India
- Its principal tributaries are Burhner, Halon, Heran, Banjar, Dudhi, Shakkar, Tawa, Barna and Kolar.

Tapti

- The Tapti is one of the major rivers of Peninsular India with the length of about 724 km. It outfalls into the Arabian Sea through the Gulf of Cambay
- Tapti River rises near Multai in the Betul district of Madhya Pradesh at an elevation of about 752 m.
- It is one of only the three rivers in Peninsular India that runs from east to west - the others being the Narmada and the Mahi.
- The major tributaries are Vaki, Gomai, Arunavati, Aner, Nesu, Buray, Panjhra and Bori.
- The coastal plains between Western Ghats and the Arabian sea are very narrow. Hence, the coastal rivers are short. The main west flowing rivers are Sabarmati, Mahi, Bharathpuzha and Periyar.

EAST FLOWING RIVERS

The Mahanadi Basin

- The river Mahanadi originates near Sihawa in Raipur district of Chattisgarh and flows through Odisha. Its length is 860 km
- The main stream of Mahanadi gets divided into several distributaries such as Paika, Birupa, Chitartala, Genguti and Nun
- The Mahanadi empties its water in Bay of Bengal

The Godavari Basin

- The Godavari is the largest Peninsular River. it is also known as the 'Dakshin Ganga'.
- It rises from the slopes of the Western Ghats in the Nasik district of Maharashtra.
- Its length is about 1500 km. It drains into the Bay of Bengal.
- Kolleru, a fresh water lake is located in the deltaic region of the Godavari.
- The Godavari is joined by a number of tributaries such as the Purna, the Wardha, the Pranhita, the Manjra, the Wainganga and the Penganga. The last three tributaries are very large. Because of its length and the area it covers, it is also known as the 'Dakshin Ganga'.

The Krishna Basin

- Rising from a spring near Mahabaleshwar in the Western Ghats of Maharashtra, the Krishna flows for about 1400 km and reaches the Bay of Bengal.
- The Tungabhadra, the Koyana, the Ghatprabha, the Musi and the Bhima are some of its tributaries. Its drainage basin is shared by Maharashtra, Karnataka and Andhra Pradesh.

The Kaveri Basin

- The river Kaveri originates at Talakaveri, Kudagu hills of Karnataka and it reaches the Bay of Bengal. Its length is 760 km
- Its main tributaries are Amravati, Bhavani, Hemavati and Kabini

- The river Kaveri makes the second biggest waterfall in India, known as Sivasamudram falls.
- Beside these major rivers, there are some smaller rivers flowing towards the east. The Damoder, the Brahmani, the Baitarni and the Subarnrekha are some notable examples