

## RIVERS OF INDIA

### **Tributary and Distributary**

A tributary or affluent is a stream or river that flows into a larger stream or main stream (or parent) river or a lake. A tributary does not flow directly into a sea or ocean.

A distributary is a stream that branches off and flows away from a main stream channel.

India possesses a vast network of rivers. The rivers in India are divided into two categories:

1. Himalayan rivers
2. Peninsular rivers

### **What Is the Difference Between Himalayan Rivers and Peninsular Rivers?**

- Himalayan rivers originate in the Himalayas, whereas peninsular rivers originate in small hills and plateaus.
- Himalayan rivers are perennial in nature, whereas peninsular rivers are seasonal and dry up in summers as they are dependent on rainfall.
- Himalayan rivers cause much erosion and have a great flow of water, whereas peninsular rivers create less erosion and also have a weaker flow of water.
- Himalayan rivers are much longer and deeper than peninsular rivers.

### **Himalayan Rivers**

<b>The Indus System (Indus and its tributaries)</b>		
<b>River</b>	<b>Source</b>	<b>Information</b>
Indus	Tibet (near Mansarovar Lake)	<ul style="list-style-type: none"><li>▪ Mountain tributaries: Gilgit, Shyok.</li><li>▪ Plain tributaries: Jhelum, Chenab, Ravi, Sutlej, and Beas.</li></ul>
Jhelum	Verinag at the foothills of Pir Panjal	<ul style="list-style-type: none"><li>▪ Flows through the valley of Kashmir and Wular Lake before entering Pakistan.</li></ul>
Chenab	Bara-lacha Pass (Himachal Pradesh)	
Ravi	Kullu Hills (Himachal Pradesh)	<ul style="list-style-type: none"><li>▪ Flows through Chamba district.</li></ul>
Sutlej	Rakas Lake, Tibet	<ul style="list-style-type: none"><li>▪ Enters India through Shipki La and flows through Himachal Pradesh and Punjab</li></ul>

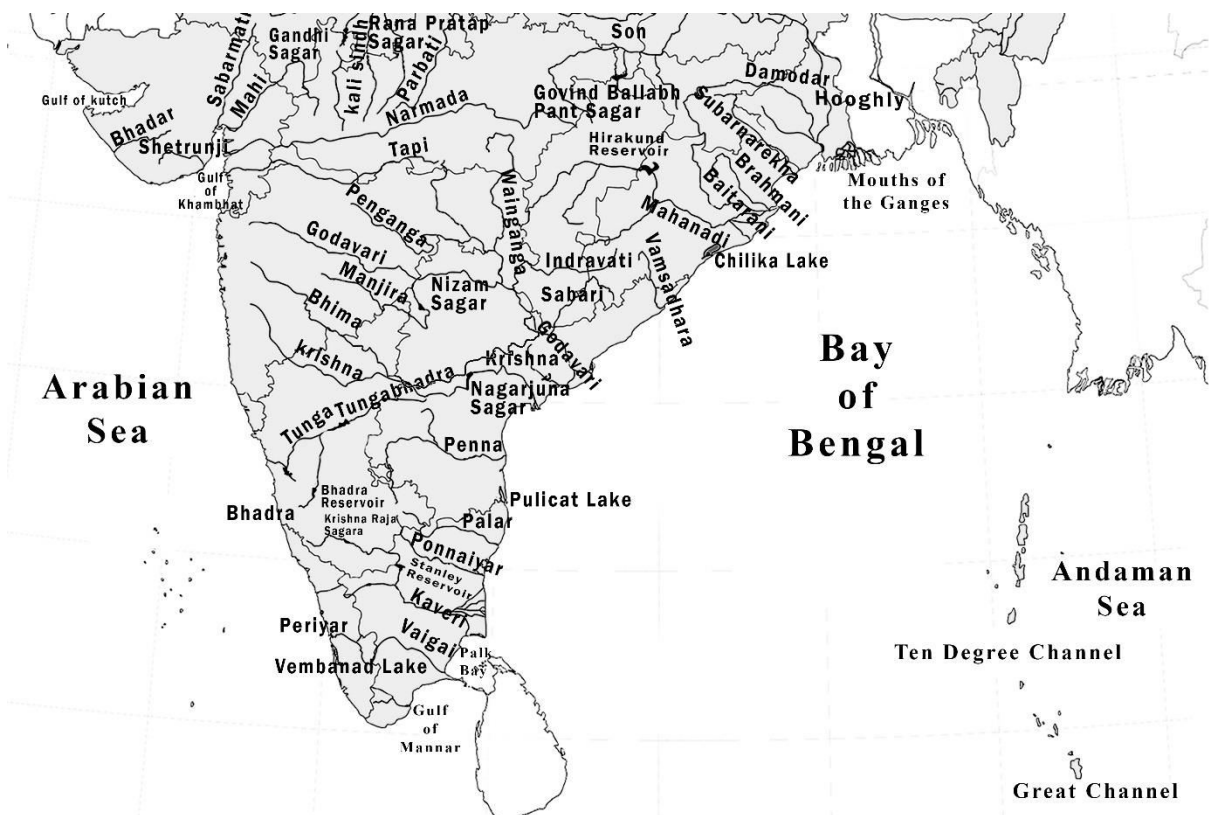
		before entering Pakistan.
Beas	Beas Kund near Rohtang Pass, Kullu Hills (Himachal Pradesh)	<ul style="list-style-type: none"> <li>Joins Sutlej near Harike (Punjab).</li> </ul>



The Ganga System (Ganga and its tributaries)		
Ganga	Gangotri glacier of the	<ul style="list-style-type: none"> <li>Formed by the joining of Alaknanda and Bhagirathi at Devprayag.</li> <li>Panch Prayags (confluence of two rivers):</li> </ul>

	Great Himalayas	<p><b>Vishnuprayag</b>—Dhauliganga and Alaknanda (from Satopanth glacier).</p> <p><b>Nandaprayag</b>—Nandakini and Alaknanda.</p> <p><b>Karnaprayag</b>—Alaknanda and Pindar.</p> <p><b>Rudraprayag</b>—Alaknanda and Mandakini.</p> <p><b>Devprayag</b>—Bhagirathi, the chief stream of the Ganges (from Gangotri) and the Alaknanda.</p> <p><b>Left bank tributaries:</b> Ramganga, Gomti, Ghaghara, Gandak, Kosi, Bagmati, Mechi.</p> <ul style="list-style-type: none"> <li>▪ Bagmati passes through Kathmandu, capital of Nepal.</li> <li>▪ Right bank tributaries: Yamuna, Son.</li> <li>▪ Rihand is a tributary of Son.</li> <li>▪ The Bhagirathi–Hooghly is the westernmost distributary.</li> </ul>
		<ul style="list-style-type: none"> <li>▪ Beyond Farakka, it bifurcates itself into Bhagirathi–Hooghly in West Bengal and Padma–Meghna in Bangladesh.</li> </ul>

## Peninsular Rivers



East-flowing rivers		
River	Source	Information

Mahanadi	Foothills of Dandakaranya, Raipur district, Chhattisgarh	<ul style="list-style-type: none"> <li>▪ Mahanadi drains into Bay of Bengal.</li> </ul>
Subarnarekha, Brahmani, and Baitarani	<p>Subarnarekha originates in Ranchi district of Jharkhand.</p> <p>Brahmani originates in the Santhal Parganas in Jharkhand. Damodar river, Subarnarekha and Brahmani arise from Chota Nagpur Plateau.</p> <p>Baitarni originates in Eastern Ghats.</p>	<ul style="list-style-type: none"> <li>▪ Brahmani and Baitarani pass through Bhitarkanika</li> </ul>
Godavari	Satmala range	<ul style="list-style-type: none"> <li>▪ Largest river system of Peninsular India.</li> <li>▪ <b>Left bank tributaries:</b> Penganga, Wardha, Wainganga, Indravati, Sabari, and Sileru.</li> <li>▪ <b>Right bank Tributary:</b> Manjra.</li> </ul>
Krishna	Western Ghats	<ul style="list-style-type: none"> <li>▪ Tributaries: Bhima, Tungabhadra, Ghatprabha, Malaprabha, Musi, Hagari, Varada, and Koyna.</li> </ul>
Cauvery (Kaveri)	Brahmgiri range of Western Ghats	<ul style="list-style-type: none"> <li>▪ Waters are shared between Karnataka, Kerala, Tamil Nadu, and Puducherry.</li> </ul>
<b>West-flowing rivers</b>		
Sabarmati	Aravalli range	<ul style="list-style-type: none"> <li>▪ Sabarmati drains into Gulf of khambhat.</li> </ul>
Mahi	Vindhya range	<ul style="list-style-type: none"> <li>▪ Mahi drains into Gulf of khambhat.</li> </ul>
Narmada	Amarkantak in Madhya Pradesh	<ul style="list-style-type: none"> <li>▪ Flows through rift valley between Vindhya and Satpura range.</li> <li>▪ Largest west-flowing river of Peninsular India.</li> </ul>
Tapti	Satpura range in Betul district, Madhya Pradesh	<ul style="list-style-type: none"> <li>▪ Twin of Narmada.</li> <li>▪ Second longest west-flowing river of Peninsular India.</li> </ul>

### Some other Important Rivers

Kalinadi	Karnataka	<ul style="list-style-type: none"> <li>West-flowing peninsular river.</li> </ul>
Sheravati	Karnataka	<ul style="list-style-type: none"> <li>Jog Falls are located on this river. Jog Falls are the highest waterfalls in India.</li> </ul>
Ghaggar	Rises from Himachal Pradesh	<ul style="list-style-type: none"> <li>Flows through Punjab and Haryana.</li> <li>Enters Rajasthan and dries up.</li> </ul>
Luni	Sambhar Lake, Rajasthan	<ul style="list-style-type: none"> <li>Dries up in Rann of Kutch.</li> </ul>
Penneru (Pennar)	Nandi hills, Karnataka	<ul style="list-style-type: none"> <li>The Pennar rises in the Karnataka and runs through the state of Andhra Pradesh to the Bay of Bengal.</li> <li>The river forms Gandikota canyon in Kadapa district of Andhra Pradesh near village of Gandikota. The canyon is famously adjudged as the Grand Canyon of India, after the Grand Canyon formed by Colorado river in the USA.</li> </ul>
Ponnaiyar	Nandi Hills, Karnataka	<ul style="list-style-type: none"> <li>It rises in the Karnataka, flowing through Tamil Nadu, into the Bay of Bengal.</li> </ul>
Palar	Nandi Hills, Karnataka	<ul style="list-style-type: none"> <li>It rises in the Karnataka and flows through Andhra Pradesh and Tamil Nadu before its confluence into the Bay of Bengal.</li> </ul>
Bhadar and Shetrunji	Gujarat	<ul style="list-style-type: none"> <li>These are rivers in Gujarat and they flow in the Arabian Sea.</li> </ul>
Bharathappuzha (also known Bharata, Nila or Ponnani river; referred to as "Peraar" in ancient texts)	Western Ghats near the Anamalai hill ranges in Tamil Nadu	<ul style="list-style-type: none"> <li>After emerging in Tamil Nadu, flows through Palakkad Gap to enter Kerala before draining into Lakshadweep Sea.</li> </ul>

### Important Canals in India

**Indira Gandhi Canal:** The Indira Gandhi Canal is one of the largest canal projects in India. It starts from the Harike Barrage at Harike, a few kilometres below the confluence of the Satluj and Beas rivers in Punjab and terminates in the Thar Desert, in the north-west of Rajasthan. Previously known as the Rajasthan Canal, it was renamed the Indira Gandhi Canal in 1985, following the assassination of Prime Minister Indira Gandhi.

**Kommanur Canal:** Kommanur Canal, also called the Buckingham Canal, joins eastern Andhra Pradesh and north-eastern Tamil Nadu. It was constructed between 1806 and 1882 along the Coromandel Coast. It extends for a distance of 1100 km from eastern Tamil Nadu northwards to the Krishna and Godavari deltas.

## IMPORTANT INDIAN CITIES LOCATED ON RIVERS

Rivers	Cities located
Jhelum	Srinagar
Ravi	Chamba
Yamuna	Delhi
Chambal	Kota
Ganga	Patna, Kanpur, Varanasi, Murshidabad
Brahmaputra	Guwahati
Sabarmati	Ahmedabad, Gandhinagar
Tapti	Surat
Mahi	Vadodara or Baroda
Gomti	Lucknow
Hooghly (Hugli)	Kolkata
Kaveri	Tiruchirappalli (Trichy)
Musi (tributary of Krishna)	Hyderabad

## IMPORTANT RIVER VALLEY PROJECTS

Project	River	State/UT
Bhakra Nangal Multipurpose Project (One of the highest Gravity dam)	Sutlej. Reservoir: Govind Sagar Lake (Himachal Pradesh)	Punjab, Haryana, and Rajasthan (joint venture)
Thein Dam	Ravi	Punjab
Dulhasti	Chenab	Jammu and Kashmir
Salal	Chenab	Jammu and Kashmir
Kishanganga	<ul style="list-style-type: none"> <li>■ Kishanganga (a tributary of Jhelum)</li> <li>■ Called River Neelum in Pakistan</li> </ul>	Jammu and Kashmir
Ratle	Chenab	Jammu and Kashmir
Hirakud Multipurpose Project (India's longest mainstream dam)	Mahanadi	Odisha
Nagarjuna Sagar	Krishna	Telangana
Chambal Project: Gandhi Sagar Dam (Madhya Pradesh), Rana Pratap Sagar, and Jawahar Sagar or Kota Dam	Chambal	Rajasthan, Madhya Pradesh
Sardar Sarovar Dam	Narmada	Gujarat

Tehri Dam	Bhagirathi	Uttarakhand
Mullaperiyar	Periyar	Kerala

- The Ratle Hydroelectric Plant is a hydroelectric power station currently under construction on River Chenab in the Ratle village of Doda district of Jammu and Kashmir.
- The Kishanganga Hydroelectric Plant is a part of the hydroelectric power scheme that is designed to divert water from River Kishenganga to a power plant in the River Jhelum basin.
- Both these projects are contested by Pakistan, which regards these projects against the Indus Waters Treaty.
- Dulhasti and Salal are also objected by Pakistan.

## Practice Questions

1. On the banks of which river is the city of Kathamandu located?  
(a) Arun  
(b) Saptakosi  
(c) Bagmati  
(d) Sunkosi
2. In which of the following state does river Bhadar flow?  
(a) Rajasthan  
(b) Haryana  
(c) Madhya Pradesh  
(d) Gujarat
3. The correct sequence of the eastward flowing rivers of Peninsular India from north to south is  
(a) Subranarekha, Mahanadi, Godavari, Krishna, Pennar, Cauvery, and Vagai  
(b) Subranarekha, Mahanadi, Godavari, Cauvery, Vagai, Pennar, and Krishna  
(c) Mahanadi, Subarnarekha, Godavari, Krishna, Cauvery, Pennar, and Vagai  
(d) Mahanadi, Subarnarekha, Krishna, Godavari, Cauvery, Vagai, and Pennar
4. Consider the following statements:  
1. There are no west-flowing rivers in Gujarat.  
2. There are no east-flowing rivers in Madhya Pradesh.  
Which of the statements given above is/are correct?  
(a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2
5. Consider the following pairs:

<b>Dam Project</b>	<b>River</b>
1. Tilaiya	Hooghly
2. Hirakud	Mahanadi
3. Koyna	Kaveri

How many of the above pairs are correctly matched?  
(a) Only one  
(b) Only two  
(c) All three  
(d) None
6. Consider the following rivers:  
1. Arkavati



2. Kabini
3. Sina
4. Amravati
5. Hemavati

Which of the above rivers are tributaries of Kaveri?

- (a) 1, 2, and 3 only
- (b) 2 and 3 only
- (c) 1, 2, and 4 only
- (d) 1, 2, 4, and 5

7. For the Assertion (A) and Reason (R) given below, choose the correct alternative from the following:

Assertion (A): Most of the east-flowing rivers over the Deccan plateau make deltas.

Reason (R): East-flowing rivers cut through soft rocks of the Deccan plateau.

Choose the correct answer from the following code:

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
- (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).
- (c) Assertion (A) is true and Reason (R) is false.
- (d) Assertion (A) is false and Reason (R) is true.

8. Which of the following rivers are linked by the Kommanur Canal?

- (a) Cauvery and Tungabhadra
- (b) Godavari and Krishna
- (c) Mahanadi and Sone
- (d) Narmada and Tapi

9. Which one among the following is the correct order of west-flowing rivers in terms of decreasing length?

- (a) Narmada–Tapi–Sabarmati–Mahi
- (b) Tapi–Narmada–Mahi–Sabarmati
- (c) Sabarmati–Narmada–Tapi–Mahi
- (d) Narmada–Tapi–Mahi–Sabarmati

10. What is the correct sequence of the rivers Godavari, Mahanadi, Narmada, and Tapi in the descending order of their lengths?

- (a) Godavari–Mahanadi–Narmada–Tapi
- (b) Godavari–Narmada–Mahanadi–Tapi
- (c) Narmada–Godavari–Tapi–Mahanadi
- (d) Narmada–Tapi–Godavari–Mahanadi

11. Which among the following is the correct sequence of rivers starting from north to south?

- (a) Bhima–Godavari–Penganga–Tungabhadra
- (b) Godavari–Penganga–Tungabhadra–Bhima
- (c) Penganga–Godavari–Bhima–Tungabhadra
- (d) Penganga–Bhima–Godavari–Tungabhadra

12. Which one among the following Indian rivers originates in Maharashtra and flows through Karnataka, Telangana, and Andhra Pradesh to meet the Bay of Bengal in Andhra coast?

- (a) Mahanadi
- (b) Cauvery
- (c) Krishna
- (d) Tapi

13. In the wake of the Ken–Betwa river link project getting environment, forest, and tribal clearances, consider the following statements:

- 1. It will irrigate the drought-prone Bundelkhand region.
- 2. It will submerge some part of the Kanha Tiger Reserve.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

14. Which one among the following is the correct order of the states through which River Chambal flows?

- (a) Madhya Pradesh-Rajasthan-Uttar Pradesh
- (b) Madhya Pradesh-Gujarat-Rajasthan
- (c) Rajasthan-Madhya Pradesh-Bihar
- (d) Gujarat-Madhya Pradesh-Uttar Pradesh

15. Match List I with List II

River	Source
A. Ganga	1. Amarkantak
B. Son	2. Gaumukh
C. Godavari	3. Mahabaleshwar
D. Krishna	4. Trimbakeshwar

Select the correct answer using the codes given below:

- (a) A-1, B-2, C-4, D-3
- (b) A-2, B-1, C-3, D-4
- (c) A-4, B-3, C-1, D-2
- (d) A-2, B-1, C-4, D-3

16. Match List I with List II and select the correct answer using the codes given below:

<b>List I</b>	<b>List II</b>
<b>(name of the river)</b>	<b>(tributary joining)</b>

A. Godavari	1. Purna
B. Krishna	2. Hemavati
C. Tapi	3. Pranhita
D. Cauvery	4. Koyana

(a) A-1, B-4, C-3, D-2

(b) A-3, B-2, C-1, D-4

(c) A-1, B-2, C-3, D-4

(d) A-3, B-4, C-1, D-2

17. What is the difference between Himalayan rivers and Peninsular rivers?

1. The Himalayan rivers may shift their beds, while the peninsular rivers have little scope for shifting their beds.

2. The Himalayan rivers are examples of antecedent drainage, whereas the peninsular rivers are examples of consequent drainage.

Which of the statement given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

18. With reference to the Himalayan rivers, consider the following statements:

1. They flow against the general dip direction.

2. They have formed the courses cutting across the mountain ranges.

Which of the above statements indicate that the Himalayan rivers are older than the Himalayas?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

19. Consider the following statements:

1. The Buckingham Canal runs through the coast from Guntur district to Bhitarkanika.

2. For the Indira Gandhi Canal, waters of Beas and Yamuna are diverted and the canal terminates in Barmer district.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

20. Consider the following rivers:

1. Banas
2. Ghaggar
3. Machhu
4. Luni

Which of the above neither flow into the sea nor merge with any major river that flows into the sea, but are lost in the desert?

- (a) 1 and 2 only
- (b) 2, 3, and 4 only
- (c) 1, 3, and 4 only
- (d) 1, 2, 3, and 4

21. Which one of the following statements is **not** correct?

- (a) River Karanphuli originates in Meghalaya and flows into Bangladesh.
- (b) River Sabarmati originates in Rajasthan and flows into the Gulf of Khambhat.
- (c) River Ghaghara originates in Tibet and enters India through Nepal.
- (d) River Jhelum originates in Kashmir and enters Pakistan through the Pir Panjal range.

22. River Ganga flows through which of the following states?

1. Himachal Pradesh
2. Chhattisgarh
3. Bihar
4. Odisha

Select the correct answer using the codes given below:

- (a) 1 and 3 only
- (b) 2, 3, and 4 only
- (c) 3 only
- (d) 1, 2, 3, and 4

23. Consider the following statements:

1. Godavari is the largest peninsular river and is known as Dakshin Ganga.
2. It originates at Mahabaleshwar in Sahyadri.
3. Godavari passes through the states of Telangana and Andhra Pradesh.

How many of the statements given above is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

24. With reference to River Krishna, consider the following statements:

1. It acts as a geographical border between the states of Telangana and Andhra Pradesh.

2. It originates in the state of Karnataka.  
3. Rivers Koyna and Tungabhadra are its important tributaries.  
Which of the following statements given above is/are correct?

(a) 1 only  
(b) 1 and 3 only  
(c) 2 and 3 only  
(d) 1, 2, and 3

25. With reference to antecedent rivers, consider the following statements:

1. An antecedent stream is a stream that maintains its original course and pattern despite the changes in the underlying rock topography.  
2. Sutlej, Indus, and Brahmaputra are antecedent rivers.

Which of the statements given above is/are correct?

(a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

### **Perfecting Past Prelims**

1. Which one of the following rivers originates at Amarkantak? (2007)

(a) Damodar  
(b) Mahanadi  
(c) Narmada  
(d) Tapi

2. Match List I with List II and select the correct answer using the codes given below: (2007)

<b>List I</b> <b>(Town)</b>	<b>List II</b> <b>(river nearer to it)</b>
A. Betul	1. Indravati
B. Jagdalpur	2. Narmada
C. Jabalpur	3. Shipra
D. Ujjain	4. Tapti

Codes:

A B C D  
(a) 1 4 2 3  
(b) 4 1 2 3  
(c) 4 1 3 2  
(d) 1 4 3 2

3. Consider the following pairs: (2008)

**Tributary river      Main river**

1. Chambal: Narmada
2. Sone: Yamuna
3. Manas: Brahmaputra

Which of the pairs given above is/are correctly matched?

- (a) 1, 2, and 3
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 3 only

4. Which of the following pairs are correctly matched? (2008)

**Irrigation project      State**

1. Damanganga: Gujarat
2. Gima: Maharashtra
3. Pamba: Kerala

Select the correct answer using the codes given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2, and 3

5. On which one of the following rivers is the Tehri Hydropower Complex located? (2008)

- (a) Alaknanda
- (b) Bhagirathi
- (c) Dhauliganga
- (d) Mandakini

6. With which one of the following rivers is the Omkareshwar Project associated? (2008)

- (a) Chambal
- (b) Narmada
- (c) Tapi
- (d) Bhima

7. Which of the following pairs are correctly matched? (2008)

**Waterfalls      River**

1. Kapildhara Falls : Godavari
2. Jog Falls: Sharavati
3. Sivasamudram Falls: Cauvery

Select the correct answer using the codes given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2, and 3

8. In India, which one of the following states has the largest inland saline wetland? (2009)

- (a) Gujarat
- (b) Haryana
- (c) Madhya Pradesh
- (d) Rajasthan

9. The Dul Hasti Power Station is based on which one of the following rivers?(2009)

- (a) Beas
- (b) Chenab
- (c) Ravi
- (d) Sutlej

10. Which one of the following rivers does **not** originate in India? (2009)

- (a) Beas
- (b) Chenab
- (c) Ravi
- (d) Sutlej

11. At which one of the following places do two important rivers of India originate; while one of them flows towards north and merges with another important river flowing towards the Bay of Bengal, the other one flows towards the Arabian Sea? (2009)

- (a) Amarkantak
- (b) Badrinath
- (c) Mahabaleshwar
- (d) Nasik

12. Consider the following statements:

- 1. There are no east-flowing rivers in Kerala.
  - 2. There are no west-flowing rivers in Madhya Pradesh.
- Which of the statements given above is/are correct? (2009)

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

13. Rivers that pass through Himachal Pradesh are (2010)

- (a) Beas and Chenab only
- (b) Beas and Ravi only
- (c) Chenab, Ravi, and Satluj only
- (d) Beas, Chenab, Ravi, Satluj, and Yamuna

14. With reference to River Luni, which one of the following statements is correct? (2010)

- (a) It flows into Gulf of Khambhat.
- (b) It flows into Gulf of Kutch.
- (c) It flows into Pakistan and merges with a tributary of Indus.
- (d) It is lost in the marshy land of the Rann of Kutch.

15. Which one of the following pairs is not correctly matched? (2010)

**Dam/Lake      River**

- (a) Govind Sagar: Satluj
- (b) Kolleru Lake: Krishna
- (c) Ukai Reservoir: Tapi
- (d) Wular Lake : Jhelum

16. The Brahmaputra, Irrawady, and Mekong rivers originate in Tibet and flow through narrow and parallel mountain ranges in their upper reaches. Of these rivers, Brahmaputra makes a U-turn in its course to flow into India. This U-turn is due to (2011)

- (a) Uplift of folded Himalayan series.
- (b) Syntaxial bending of geologically young Himalayas.
- (c) Geotectonic disturbance in the tertiary folded mountain chains.
- (d) Both (a) and (b).

17. The Narmada river flows to the west, while most other large peninsular rivers flow to the east. Why? (2013)

- 1. It occupies a linear rift valley.
  - 2. It flows between the Vindhya and the Satpuras.
  - 3. The land slopes to the west from Central India.
- Select the correct answer using the codes given below.

- (a) 1 only
- (b) 2 and 3
- (c) 1 and 3
- (d) None

18. Consider the following rivers: (2014)

- 1. Barak
- 2. Lohit
- 3. Subansiri

Which of the above flows/flow through Arunachal Pradesh?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2, and 3



19. Consider the following rivers:

1. Vamsadhara
2. Indravati
3. Pranahita
4. Pennar

Which of the above are tributaries of Godavari? (2015)

- (a) 1, 2, and 3
- (b) 2, 3, and 4
- (c) 1, 2, and 4
- (d) 2 and 3 only

20. Which of the following is/are tributary/ tributaries of Brahmaputra? (2016)

1. Dibang
2. Kameng
3. Lohit

Select the correct answer using the codes given below:

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2, and 3

21. Recently, linking of which of the following rivers was undertaken? (2016)

- (a) Cauvery and Tungabhadra
- (b) Godavari and Krishna
- (c) Mahanadi and Sone
- (d) Narmada and Tapi

22. With reference to river Teesta, consider the following statements: (2017)

1. The source of river Teesta is the same as that of Brahmaputra, but it flows through Sikkim.
2. River Rangeet originates in Sikkim and it is a tributary of river Teesta.
3. River Teesta flows into Bay of Bengal on the border of India and Bangladesh.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

23. Gandikota canyon of South India was created by which one of the following rivers? (2022)

- (a) Manjira
- (b) Pennar

- (c) Cauvery
- (d) Tungabhadra

24. Consider the following pairs: (2019)

Famous place- River

- 1. Pandharpur- Chandrabhaga
- 2. Tiruchirappalli- Cauvery
- 3. Hampi- Malaprabha

Which of the pairs given above are correctly matched?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

25. Consider the following pairs: (2019)

Glacier: River

- 1. Bandarpunch: Yamuna
- 2. Bara Shigri: Chenab
- 3. Milam: Mandakini
- 4. Siachen: Nubra
- 5. Zemu: Manas

Which of the pairs given above are correctly matched?

- (a) 1, 2 and 4
- (b) 1, 3 and 4
- (c) 2 and 5
- (d) 3 and 5

26. With reference to the Indus River system, of the following four rivers, three of them pour into one of them, which joins the Indus River directly. Among the following, which one is such river that joins the Indus directly? (2021)

- (a) Chenab
- (b) Jhelum
- (c) Ravi
- (d) Sutlej

27. Consider the following Rivers: (2021)

- 1. Brahmani
- 2. Nagavali
- 3. Subarnarekha
- 4. Vamsadhara

Which of the above rise from the Eastern Ghats?

- (a) 1 and 2
- (b) 2 and 4

- (c) 3 and 4  
(d) 1 and 3

28. Consider the following pairs: (2022)

Reservoirs: States

1. Ghataprabha: Telangana
2. Gandhi Sagar: Madhya Pradesh
3. Indira Sagar: Andhra Pradesh
4. Maithon: Chhattisgarh

How many pairs given above are not correctly matched?

- (a) Only one pair  
(b) Only two pair  
(c) Only three pair  
(d) All four pair

29. Consider the following statements: (2023)

1. Jhelum River passes through Wular Lake.
2. Krishna River directly feeds Kolleru Lake.
3. Meandering of Gandak River formed Kanwar Lake.

How many of the statements given above are correct?

- (a) Only one  
(b) Only two  
(c) All three  
(d) None

30. With reference to the Himalayan rivers joining the Ganga downstream of Prayagraj from West to East, which one of the following sequences is correct? (2024)

- (a) Ghaghara – Gomati – Gandak – Kosi  
(b) Gomati – Ghaghara – Gandak – Kosi  
(c) Ghaghara – Gomati – Kosi – Gandak  
(d) Gomati – Ghaghara – Kosi – Gandak

31. Consider the following information: (2024)

Waterfall	Region	River
1. Dhuandhar	Malwa	Narmada
2. Hundru	Chota Nagpur	Subarnarekha
3. Gersoppa	Western Ghats	Netravati

In how many of the above rows is the given information correctly matched?

- (a) Only one  
(b) Only two  
(c) Only three  
(d) All four

## ANSWER KEYS

### Practice Questions

1. (c)	2. (d)	3. (a)	4. (d)	5. (a)
6. (d)	7. (c)	8. (b)	9. (d)	10. (b)
11. (c)	12. (c)	13. (c)	14. (a)	15. (d)
16. (d)	17. (c)	18. (c)	19. (d)	20. (b)
21. (a)	22. (c)	23. (b)	24. (b)	25. (c)

### Perfecting Past Prelims

1. (c)	2. (b)	3. (d)	4. (d)	5. (b)
6. (b)	7. (b)	8. (d)	9. (b)	10. (d)
11. (a)	12. (d)	13. (d)	14. (d)	15. (b)
16. (b)	17. (a)	18. (b)	19. (d)	20. (d)
21. (b)	22. (b)	23. (b)	24. (a)	25. (a)
26. (d)	27. (b)	28. (c)	29. (b)	30. (b)
31. (a)				

## Solutions

### Practice Questions

4. (d) Statement 1 is incorrect. Many rivers passing through Gujarat such as Narmada are west flowing rivers.

Statement 2 is incorrect. There are many east flowing rivers in Madhya Pradesh such as Chambal, Betwa, Son, and Mahanadi.

5. (a) Statement 1 is incorrect. Tilaiya dam is situated on Barakar River in the Koderma district of Jharkhand.

Statement 3 is incorrect. Koyna dam is situated on Koyna River, which is a tributary of Krishna River.

6. (d) Sina River is a tributary of Bhima River, which is further a tributary of Krishna River.

7. (c) The Statement given as Reason is incorrect. Typically, the Deccan Plateau is made up of hard igneous rocks and not of soft or sandy alluvial soils.

9. (d) Narmada—1312 km

Tapi—724 km

Mahi—583 km

Sabarmati—371 km

10. (b) Godavari—1465 km

Narmada—1312 km

Mahanadi—858 km

Tapi—724 km

13. (c) Ken–Betwa interlinking process is going on. The project will help in the irrigation of Bundelkhand region. However, the interlinking will cost some portion of the Kanha Tiger Reserve.

18. (c) Both the statements are correct. Antecedent Himalayan rivers such as Indus, Satluj, etc. flow against the general dip direction. This is possible because these rivers have formed the courses cutting across the mountain ranges.

19. (d) Statement 1 is incorrect. The Buckingham Canal is a 796 km long canal running from Kakinada district in Andhra Pradesh to Villupuram district in Tamil Nadu.

The canal connects most of the natural backwaters along the coast to Chennai (Madras) port. It was constructed during the British rule and was an important waterway during the late nineteenth and early twentieth centuries.

Statement 2 is incorrect. For the Indira Gandhi Canal, waters of Beas and Satluj are diverted and the canal terminates in Hanumangarh district.

20. (b) Banas originates from the Aravalli Range. It flows north-east through the Mewar region of Rajasthan and meets the Chambal.

The River Machhu originates from the hill ranges of Jasdan in Rajkot district and flows in the north-west direction and then finally disappears in the Rann of Kutch.

21. (a) River Karanphuli originates in the Lushai Hills of Mizoram. It flows 270 km in the south-west direction, passes through Chittagong into the Bay of Bengal.

23. (b) Statement 2 is incorrect. Godavari originates from the Satmala Range in Maharashtra.

24. (b) Statement 2 is incorrect. Krishna River originates in the Western Ghats near Mahabaleshwar.

### **Perfecting Past Prelims**

2. (b) Tapi or Tapi rises from the Betul district of Madhya Pradesh.

Jagdalpur is a city in the Chhattisgarh. The city is located on the bank of Indravati River.

Jabalpur is in Madhya Pradesh. Narmada River passes through Jabalpur.

Ujjain is in the Malwa region of Madhya Pradesh, on the eastern bank of Shipra River.

3. (d) First and second pairs are incorrectly matched.

Chambal is a tributary of Yamuna River.

Son or Sone is a tributary of Ganga River.

Note: Questions 4–6 are based on current affairs. UPSC has a tendency to ask questions on hydropower projects that are in the news.

7. (b) First pair is incorrectly matched. Kapildhara falls are located on the Narmada River.

8. (d) The Sambhar Salt Lake is India's largest inland saline wetland.

12. (d) Statement 1 is incorrect. There are east flowing rivers in Kerala such as Kabani, Bhavani, and Pambar.

Statement 2 is incorrect. Narmada and Tapti are west flowing rivers in Madhya Pradesh.

13. (d) The drainage systems of Himachal Pradesh comprise the Chandra Bhaga or the Chenab, the Ravi, the Beas, the Sutlej, and the Yamuna.

The Beas rises in the Pir Panjal Range near the Rohtang Pass and flows about 256 km (159 miles) in Himachal Pradesh.

The Chandrabhaga or Chenab is formed after the meeting of two streams namely, Chandra and Bhaga, in Lahaul. It flows 122 km in Himachal before entering Kashmir.

The Ravi is born in Kangra district. Chamba lies on its right bank.

The Satluj originates in distant Tibet. The river cuts through both the Great Himalayan Range and crosses the Indo-Tibetan border (near Shipkila and enters Himachal Pradesh).

The Yamuna has its origin in Yamunotri in Uttarkashi district, Uttarakhand. It makes boundary of Himachal Pradesh and Uttarakhand.

15. (b) Govind Sagar Lake in Himachal Pradesh is in Satluj River. The Bhakra Nangal Power Project is on this lake.

Kolleru Lake is formed by the deltas of Krishna and Godavari. It is not located on Krishna River.

Utkal reservoir is on Tapti River in the state of Gujarat near Maharashtra border.

Wular Lake is on Jhelum in Jammu and Kashmir.

16. (b) Brahmaputra originates near Mt. Kailash and is known to take a U-turn near Mount Namcha Barwa. This U-turn is also known as Great Bend. The U-turn is because of the 180° bend of the Himalayan structure.

Himalayas have two syntaxial bends at its northern extremity: In the northwest, it is around the Nanga Parbat Peak with a deep entrenched Indus River hairpin bend, and in the northeast, it is around Namcha Barwa Peak with deep entrenched Brahmaputra River hairpin bend.

The bend in Himalayas has led to U-turn of rivers and upliftment has lead to deep entrenchment.

17. (a) Statement 3 is incorrect. The land slopes to the east in Central India, which is evident from the flow of most of the rivers. It is possible for Narmada to flow in the west direction because it flows through rift valley.

Statement 2 is incorrect. There is another important peninsular river namely Tapi, which also flows in the west direction. It is south of Satpuras. Thus, location of Narmada between Vindhya and Satpuras is not the reason for the west flow of the river.

18. (b) Statement 1 is incorrect. The Barak is an important river in Manipur and Mizoram. The Barak River rises in the hills in Manipur. After Manipur it flows through Mizoram State and into Assam, ending just after it enters Bangladesh.

19. (d) Vamsadhara and Pennar are not tributaries of Godavari.

22. (b) Statement 1 is incorrect. The Teesta River originates in the Himalayas in Sikkim from the Chola Lake. The Brahmaputra has its origin in the Chemayungdung glacier of the Kailash range near the Mansarovar lake.

Statement 3 is incorrect. Teesta is a tributary of Brahmaputra and it does not flow into Bay of Bengal. Teesta joins the Brahmaputra in Bangladesh.

23. (b) The swift flowing waters of River Pennar cut through the granite rocks near the village of Gandikota, naturally eroding the rock and forming a deep valley. Gandikota got its name from 'gandi', the Telugu word for 'gorge'. The spectacular gorge is famously adjudged as the Grand Canyon of India. Gandikota is a small village in the Kadapa district of Andhra Pradesh.

24. (a) 1 and 2 only

This is an interesting question. It can be solved by ascertaining validity of only Statement 3. Statement 3 is incorrect. Malaprabha rises in the Western Ghats and flows in North-West Karnataka, before joining river Krishna. On the other hand, Hampi is in eastern part of Karnataka.

25. (a) 1, 2 and 4

Pair 1 is correct: Bandarpunch glacier feeds the Yamuna River. It is also a major watershed for the Yamuna River, which rises from the Yamunotri glacier.

Pair 2 is correct: Bara-Shigri is the second largest glacier in the Himalayas after Gangotri. It is located in Chandra valley of Lahaul-Spiti district, Himachal Pradesh. The name Bara-Shigiri is also based on local dialect. 'Bara' means large and 'Shigri' means glacier. This glacier feeds river Chenab.

Pair 3 is incorrect: Milam is a glacier in Kumaon Himalayas. It is a source of Goriganga river.

Pair 4 is correct. Siachen glacier is there in Karakoram range. The glacier feeds the Nubra river, which further drains into river Shyok.

Pair 5 is incorrect. Zemu glacier is at the base of Kanchenjunga peak in Sikkim. It feeds the Teesta River.

Thus, Pairs 1, 2 and 4 are correctly matched.

26. (d) Among the given rivers, Chenab joins into Jhelum; thereafter Ravi joins into Jhelum and then Jhelum joins into Sutlej.

27. (b) Statement 1 is incorrect: Brahmani originates from Chota Nagpur Plateau in the Santhal Parganas in Jharkhand.

Statement 2 is correct: Nagavali River rises in the eastern slopes of the Eastern Ghats near Lakhbahal in the Kalahandi district of Orissa at an elevation of about 1,300 meters.

Statement 3 is incorrect: Subarnarekha River originate from the Chhotanagpur Plateau near Nagri village in the Ranchi District of Jharkhand.

Statement 4 is correct. Vamsadhara river rises from the Eastern Ghats in the Odisha State.

28. (c) Pair 1 is not correctly matched: Raja Lakhamagouda dam, also known as Hidkal dam, is a dam constructed across the Ghataprabha River in the Krishna River basin. It is situated in Belagavi district in North Karnataka.

Pair 2 is correctly matched: Gandhisagar Dam is located in the Mandsaur district of the state of Madhya Pradesh. The Dam is constructed on the Chambal River.

Pair 3 is not correctly matched: The Indira Sagar Dam is located on the Narmada River in the Khandwa district of Madhya Pradesh in India.

Pair 4 is not correctly matched: Maithon is located on the bank of river Barakar. The Maithon Dam is located in Jharkhand.

Thus, three pairs are not correctly matched.

29.(b) Statement 1 is correct: Wular Lake is the 2nd largest fresh-water lake of Asia. It is sited in the Bandipora district in Jammu and Kashmir, India. Main source of water for Wular Lake is River Jhelum. This lake also has a small island in its centre called the 'Zaina Lank'. This island was constructed by King Zainul-Abi-Din.

Statement 2 is incorrect: The Krishna River does not directly feed the Kolleru Lake. The Kolleru Lake is fed by two seasonal rivers, Budameru and Tammileru, which are tributaries of the Krishna River. Therefore, the Krishna River indirectly feeds the Kolleru Lake through its tributaries.

Statement 3 is correct.

31.(a) Row 1 is incorrectly matched: Dhuandhar Falls on the Narmada River is not associated with the Malwa region.

Row 2 is correctly matched: Hundru Falls on the Subarnarekha River is correctly matched with the Chota Nagpur Plateau.



Row 3 is incorrectly matched: Gersoppa Falls, also known as Jog Falls, is actually on the Sharavathi River, not the Netravati, and is located in the Western Ghats.