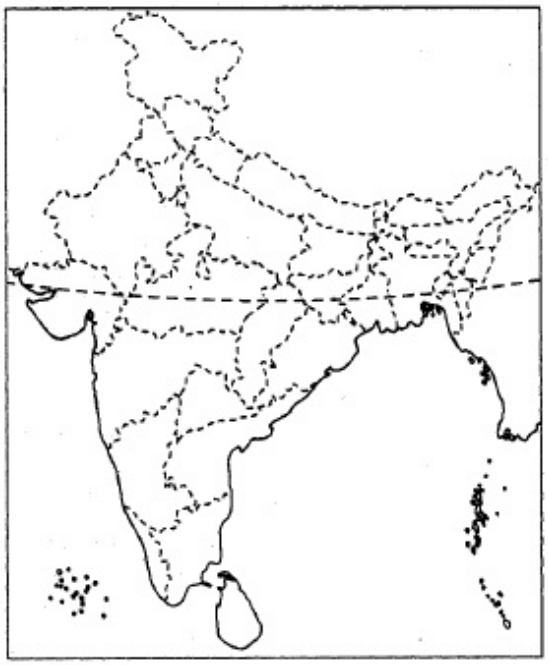
CBSE Test Paper - 01

Chapter - 11 Water Resources

1. Irrigation has also changed the cropping pattern of many regions with farmers shifting to water **(1)**
   a. more consuming
   b. intensive and commercial crops.
   c. less required crops
   d. required crops
2. The _____ andolan took place on the construction of multi-purpose dams. **(1)**
   a. Koyna dam
   b. Krishna dam
   c. kaveri dam
   d. Tehri dam
3. The diversion of more water at _____ by the Maharashtra government for a multipurpose project caused dispute among states. **(1)**
   a. Radhanagari
   b. Mahabaleshwar
   c. Koyna
   d. Panch ganga
4. By which year nearly two billion people will live in absolute water scarcity? **(1)**
   a. 2020
   b. 2030
   c. 2025
   d. 2040
5. Name two States of northern India which has more than 75% net sown area under irrigation. **(1)**
   a. Gujarat & Maharashtra
   b. Tamil Nadu & Andhra
   c. Punjab & Haryana
   d. Karnataka & Kerala
6. Who proclaimed the dams as the ‘temples of modern India’? **(1)**

7. What are the causes of water scarcity? **(1)**
8. Which water is recharged by roof-top rainwater harvesting technique? **(1)**
9. According to Falken Mark, when does water stress occur? **(1)**
10. It is said that multipurpose projects serve a number of purposes but simultaneously lead to lot of problems too. Is it true? **(3)**
11. How were the ‘tankas’ beneficial to the people of Rajasthan? **(3)**
12. Why is groundwater a highly overused resource? **(3)**
13. On the outline map of India given below, mark and label the states where the following rainwater harvesting systems are found **(3)**
    i. Underground tanks or tanks for storing drinking water.
    ii. Bamboo drip crop irrigation system.
    iii. Diversion channels like 'Gills’ or 'Kills' for agriculture.



14. Compare the advantages and disadvantages of multi-purpose river projects. **(5)**
15. Describe any four traditional methods of rain water harvesting adopted in different parts of India. **(5)**

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Answers

1. b. intensive and commercial crops.
   Explanation: Irrigation has also changed the cropping pattern of many regions with farmers shifting to water intensive and commercial crops. This has great ecological consequences like salinization of the soil.
2. d. Tehri dam
   Explanation: Multi-purpose projects and large dams have also been the cause of many new social movements like the 'Narmada Bachao Andolan' and the 'Tehri Dam Andolan' etc.
3. c. Koyna
   Explanation: The Krishna-Godavari dispute is due to the objections raised by Karnataka and Andhra Pradesh governments. It is regarding the diversion of more water at Koyna by the Maharashtra government for a multipurpose project.
4. c. 2025
   Explanation: By 2025, it is predicted that large parts of India will join countries or regions having absolute water scarcity.
5. c. Punjab & Haryana
   Explanation: Punjab and Haryana are the states, which has more than 75% net sown area under irrigation. The perennial Himalayan Rivers, deep alluvial soils and gradual gentle slope have made the construction of canals easier and cheaper.
6. Pandit Jawaharlal Nehru proclaimed the dams as the Temples of Modern India. Temples of modern India was a term coined by India's first Prime Minister Jawahar Lal Nehru while inaugurating Bhakra Nangal Dam.
7. Large and growing population and consequent greater demands for water and unequal access to it are some of the causes of water scarcity.

8. Groundwater is recharged by rooftop rainwater harvesting technique. Harvested rainwater can be stored in sub-surface the groundwater reservoir by adopting artificial recharge techniques to meet the household needs through storage in tanks.

9. According to Falken Mark, a Swedish expert, water stress occurs when the water availability is less than 1000 cubic meters per person per day.

10. i. Regulating and damming of rivers affect their natural flow causing poor sediment flow and excessive sedimentation at the bottom of the reservoir.
    ii. It leads to rockier stream beds and poorer habitats for the rivers' aquatic life.
    iii. Dams also fragment rivers making it difficult for aquati fauna to migrate, especially for spawning.
    iv. The reservoirs that are created on the floodplains also submerge the existing vegetation and soil leading to its decomposition over a period of time.

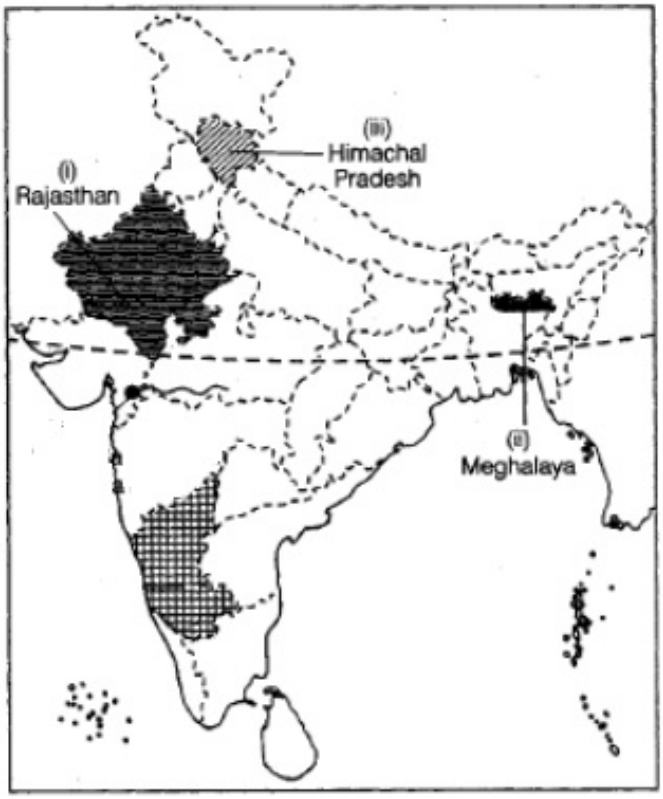
11. The underground tankas were able to provide reliable sources of drinking water during summer when other sources had dried up in the state of Rajasthan. The rainwater or palar pani was considered to be purest form of water. They helped in keeping the room cool in order to manage the hot summer.

12. Groundwater is a highly overused resource because of the following reasons:

    i. Groundwater is a freshwater source and used for drinking purpose and it is actually over-exploited in an urban area for domestic purpose and drinking purpose
    ii. Due to a large and growing population and consequent greater demands for water and unequal access to it.
    iii. To facilitate higher food grain production for a large population, water resources are being overexploited to expand irrigated areas and dry season agriculture.
    iv. In the housing societies or colonies in the cities, there is an arrangement of own groundwater pumping devices to meet water needs.
    v. After the toxication and pollution of rivers and many lakes, groundwater becomes the practically only source of fresh water used directly without treatment.

13. i. Rajasthan (Bikaner, Phalodi and Banner districts)
    ii. Meghalaya

iii. Himachal Pradesh (Kaza village)



14. The advantages of multi-purpose river projects are as follows:

    i. Water can be stored in the form of reservoirs, which can be used for irrigation purposes.
    ii. They control or eliminate floods.
    iii. They help in the generation of electricity which is very much important for the development of the industry.
    iv. They can improve transportation as part of a canal system.
    v. They are excellent for fish breeding and other aquatic species.
    vi. They also help in inland navigation. Such projects can create navigation facility in the country by developing ferrying services for transportation, raise fleet capacity and thereby can reduce the traffic load on rail and road transport.
    vii. The water can be used for domestic and industrial purpose.
    viii. Multi-purpose projects can also facilitate to develop recreation facilities in the form of picnic resorts, holiday resorts etc. which are having much commercial viability nowadays.

    The disadvantages of multi-purpose river projects are as follows:

i. They cause large-scale displacement of local communities and submergence of trees and vegetation.
ii. Regulating and damming of rivers affect their natural flow, causing excessive sedimentation at the bottom of the reservoirs, adding to the problem of land degradation.
iii. Dams fragment rivers, making it difficult for aquatic fauna to migrate.
iv. Dams were constructed to control floods but they have triggered floods, devastating life and property and causing soil erosion.
v. Big dams have been unsuccessful in controlling floods at the time of excessive rainfall.
vi. They have induced earthquakes, caused waterborne diseases and pollution due to excessive use of water.

15. Methods of rainwater harvesting used in India are:

i. **Guls and Kuls:** People built Guls and Kuls in hilly and mountainous regions to divert water. These are simple channels. They are mainly used in the Western Himalayas. It is a traditional irrigation system in Himachal Pradesh, where the water is released when required.
ii. **Rooftop rainwater harvesting:** It is the technique through which rainwater is captured from the roof catchments and stored in reservoirs. Commonly practised to store drinking water in Rajasthan.
iii. **Khadins and Johads:** In arid and semi-arid regions, some agricultural fields were converted into rainfed storage structures. These structures are found in Rajasthan. Johads are small earthen check dams that capture and conserve rainwater, improving percolation and groundwater recharge.
iv. **Tanks:** The tanks were built inside the main house or the courtyard. They were connected to the sloping roofs of the houses through a pipe. Rain falling on the rooftops would travel down the pipe and be stored in these underground 'tanks'. The first spell of rain was usually not collected as this would dean the roofs and the pipes.