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| Subject : Geography |  CHPT.3. WATER RESOURCES  | Date of Notes : 14-08-2018 |
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|  |  **Important  points to remember:**1. Three-fourth of the Earth’s surface is covered with water.2. 97.5 per cent of the total volume of world’s water exists as oceans.3. Only 2.5 per cent is fresh water.4. Nearly 69 per cent of this freshwater occurs as ice sheets and glaciers in Antarctica, Greenland and the mountainous regions of the world,5. 30 per cent is stored as groundwater and less than 1 per cent is in lakes and rivers.6. Freshwater is mainly obtained from surface run off and ground water.7. Water is continually being renewed and recharged through the hydrological cycle thus water is a renewable resource.8. India receives nearly 4 per cent of the global precipitation and ranks 133 in the world in terms of water availability per person per annum.**Multi-Purpose River Projects and Integrated Water Resources****Management****Important points to remember:**1. In the first century B.C., Sringaverapura near Allahabad had sophisticated water harvesting system channelling the flood water of the river Ganga.2. During the time of Chandragupta Maurya, dams, lakes and irrigation systems were extensively built.3. Evidences of sophisticated irrigation works have also been found in Kalinga,(Orissa), Nagarjunakonda (Andhra Pradesh), Bennur (Karnataka),Kolhapur (Maharashtra), etc.4. In the 11th Century, Bhopal Lake, one of the largest artificial lakes of its time was built.5. In the 14th Century, the tank in Hauz Khas, Delhi was constructed by Iltutmish for supplying water to Siri Fort area.6. Dam is a barrier across flowing water that obstructs, directs or retards the flow, creating a reservoir or lake.7. The Bhakra – Nangal project on Sutluj-Beas River is used both for hydel power production and irrigation.8. Similarly, the Hirakud project in the Mahanadi basin integrates conservation of water with flood control.9. The troubles faced by people owing to the flooding of Damodar River have given this river a name as the river of sorrow.10.Jawaharlal Nehru proclaimed the dams as the ‘temples of modernIndia’.11.He called dams as temples because he thought they will integrate theagriculture and village economy with industrialization and urban economy. |  |
| 1. | Name a village in India which has earned the rare distinction of being rich in rainwater harvesting.Gendathur, a remote back-ward village in Mysore, Karnataka. | 1 |
| 2. | Why is the practice of roof top rainwater harvesting on the decline in many parts of Rajasthan.The practice of rainwater harvesting is on the decline in many parts of Rajasthan, as plenty of water is available due to the perennial Rajasthan canal. | 1 |
| 3. | Why the conservation and management of our water resources is needed?The conservation and management of our water resources is necessary 1. To safe guard ourselves from health hazards
2. To ensure food security
3. For the continuation of our livelihood and productive activities
4. To prevent degradation of our natural ecosystems.
5. Over exploitation and mismanagement of water resources will deplete water resources and cause ecological crisis and affect future generations.
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| 4. | Why did Jawaharlal Nehru dams describe as ‘temples of modern India’?1. Dams would integrate development of each sector of the economy.
2. Dams were thought as vehicles that would lead the nation to development and progress.
3. They would develop agriculture and the village economy
4. They would develop industries.
5. They would help in the growth of the urban ad well as rural economy.
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| 5. | Why the multi-purpose projects and large dams have come under great scrutiny in recent years?The reasons are Dams affect the natural flow of running water :1. It causes excessive sedimentation at the bottom of the reservoir.
2. It results in rockier stream beds
3. They also fragment rivers making it difficult for aquatic fauna to migrate, especially for breeding.

Affects natural vegetation and soil :1. The reservoirs created, submerge the existing vegetation and soil leading to its decomposition.
2. The flood plains are deprived of silt, a natural fertilizer, further adding on to the problem of land degradation.

Create Conflicts :1. The dams create conflict between people wanting different uses and benefits from the same water resources.
2. Inter-State water disputes are also becoming common with regard to sharing the costs and benefits of the multi- purpose projects.

Cause of many Social movements :1. They have been a cause of many new social movements like the ‘Narmada Bachao Andolan’ and the ‘Tehri Dam Andolan’.

Displacement of people :1. They result in the large-scale displacement of local communities.
2. Local people had to give up their land, and livelihood
3. This leads to widening the social gap
4. The poor people are not benefitting from such projects, but they are harmed most.

Failure to control floods:1. The dams that were constructed to control floods have triggered floods due to sedimentation of the reservoir and letting out water during heavy rains.
2. It was also observed that multi-purpose projects induced earthquakes, caused water borne diseases and brought pests and pollution.

Change in cropping pattern :1. Irrigation, brought about a change in cropping pattern and created excessive use of water.
2. Farmers shifted to water intensive, and commercial crops
3. This caused great ecological consequences like salinization of the soil.
4. It has increased the social and economic gap between the rich and the poor.
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| 6. | Although three-fourth of the earth’s surface is covered with water and water is also a renewable resource, even then some regions of the world suffer from water scarcity. Explain any five reasons for this.1. About 97% of the total volume of world’s water exists as oceans. This water is saline and not suitable for direct consumption.
2. Fresh water availability is very limited. Of the 3% of the fresh water available,70% of it is stored in glaciers and icesheets of the polar and mountainous regions
3. About 30% of fresh water stored in ground water is getting depleted due to excessive use.
4. Availability of water varies over time and space due to variations in seasonal and annual precipitation
5. Water scarcity is  an outcome of large and growing population and consequent greater demands for water
6. Water scarcity in most cases is caused by over- exploitation, excessive use, and increased demand for agriculture.
7. Water scarcity is also caused due to water polluted by the dumping of industrial, domestic waste,chemical fertilizers,pesticides etc.

 (Write any five points) |  |