

# MT EDUCARE LTD.

ICSE X

SUBJECT : **GEOGRAPHY**

**Water Resources**

**STEP UP ANSWER SHEET**

## A.1.

- (a) Tube wells are extensively used in Punjab and Haryana because the land is soft to bore and availability of electric power.
- (b) Water scarcity occurs because of :
- Seasonal rainfall
  - More demand due to increase in population and polluted water.
- (c) (i) Two states are Punjab and Haryana.  
(ii) Perennial canals are popular there because :
- Rivers here are perennial.
  - Land is soft and fertile.
- (d) (i) Two methods of water harvesting in India are :
- Collecting rain water on the rooftops and directing it to tanks.
  - Watershed is defined as a geographic area through which water flows across the land and drains into common body of water such as stream, river, lake, ocean, etc.
- (ii) Objectives of rain water harvesting :
- To avoid flooding of roads
  - To raise ground water level.

[2013]

## A.2.

- (a) The undulating relief and hard rocks make it difficult to dig canals and wells in South India also natural depressions are easily available on rolling uplands.
- There is little percolation of rain water due to hard rock structure and ground water is not available in large quantity.
  - Most of the rivers of this region are seasonal and dry up in summer season. Therefore they cannot supply water to canals throughout the year.
- (b) Wells are an independent source of irrigation. They may be used as and when the necessity arises.
- Wells are simplest and cheapest source of irrigation, can be dug at any convenient place.
  - Inundation canals are 'flood-water' canals and have water in them only when the river is flooded during the rainy season.

- (c) (i) Indian monsoons are most uncertain. Late arrival or early withdrawal of the monsoon affects crop production severely. Only irrigation can provide security to agriculture from such irregularity.
- (ii) The drip method of irrigation does not involve any loss of water by seepages because water is supplied through pipes. No water is lost by evaporation because water is supplied directly onto the roots of the plants.
- (iii) Excessive flow of water in the fields raises the grounds water level. Capillary action brings alkaline salts to the surface and makes large areas unfit for agriculture.
- (d) Conservation of water resources has become essential because :
- (i) The increase in population with the progress of time results in water scarcity.
- (ii) Our water resources like the rivers, lakes etc., are polluted and their water can hardly be used without adequate treatment.
- (iii) The water demand for industrial use is increasing day by day.

[2014]

### A.3.

- (a) Irrigation is important in India due to the following reasons :
- (i) Monsoon rainfall is uncertain and unevenly distributed in India. Thus irrigation becomes necessary in areas of low and scanty rainfall.
- (ii) Different types of crops are grown in India which have varying water requirement. Crops like rice, wheat, sugarcane and jute need more water than other crops, this makes irrigation necessary.
- (b) Two modern methods of irrigation are drip and sprinkler irrigation methods. In the conventional methods of irrigation a large quantity of water is wasted due to water logging and often results in gradual salinity of the soil. This has made the modern methods of irrigation more popular.
- (c) (i) Well irrigation is a popular method of irrigation due to the following reasons :
- a) Wells can be dug very easily in areas of soft soil.
- b) By the use of pumps and tubewells, water can be lifted even from great depths.
- (ii) The significance of Rain water harvesting is as follows :
- (a) This method helps to raise the ground water table by recharging of ground water reserves.
- (b) It helps to 'reduce surface run off and avoid flooding.
- (d) (i) The world is in danger of facing an acute water crisis due to the following reasons :
- a) The rapid increase in the world population has resulted in over exploitation of underground water in order to meet the increased demand for fresh water supply.

- b) Irrigation utilizes more than 90% of total fresh water supply. Besides, the demand for industrial use will increase in the near future which will add to the water scarcity problem. .
- (ii) The Government should undertake proper water harvesting methods that promote reuse and recycling of water to reduce water scarcity problems.

[2015]

**A.4.**

- (a) The rainfall in India is restricted from June to September except in Tamil Nadu.
- Only 30% of the cultivated area receives rainfall above 100 cm, while about 40% of the cultivated area receives less than 75 cm of annual rainfall. In these areas crops cannot be grown without irrigation.
  - Some crops like rice, sugarcane, jute, cotton etc. need more water. Hence need to be irrigated.
- (b) (i) High underground water level.  
(ii) Cheap supply of electricity.
- (c) (i) Perennial source of water i.e. snow fed rivers, low relief with deep fertile soil are responsible for the development of canal irrigation in northern India.  
(ii) Karnataka, in Deccan India consists of underlying hard rocks which are impervious. It does not allow the water to seep through. The region has large number of natural depressions where tanks can be built. It is also difficult and expensive to built canal or well as a form of irrigation.  
(iii) Sprinkler irrigation does not involve any loss of water by seepage or evaporation as the water is supplied by pipes. It is not exposed to the sun. It is the best method for conserving water.
- (d) (i) The activity of collecting rainwater directly or recharging it into the ground to improve ground water storage in the aquifer is called rainwater harvesting.  
(ii) Two objectives are recharging the ground water and raising its level to meet the demands of water requirement in the dry season. Checking the rainwater from flowing far away so as to prevent soil erosion and flooding of the surrounding area.

[2016]

**Q.5.**

- (a) (i) **Punjab** : South-West monsoon brings rain only during the periods from end of July to middle of September. Otherwise monsoon is sporadic, erratic, uncertain and unevenly distributed. To meet the demand for water in dry season, irrigation is needed.

Some crops like rice, sugarcane needs more water. Punjab receives rainfall of about 50 cm annually. So there is a need for irrigation to grow crops through out the year.

- (ii) **Rajasthan** : Rajasthan receives 25 cm-50 cm of rainfall from South-West monsoon. To meet the growing demand for food, for the growing population, irrigation is required with the right amount of water at the right time e.g., cotton.
- (b) (i) U.P./Bihar/Punjab/Haryana.  
(ii) Andhra Pradesh/Telangana/Tamil Nadu.
- (c) (i) Water management is easier than surface irrigation system. Sprinkler does not interfere with cultivation and results in less wastage of water with higher application efficiency.  
(ii) Since the cost of installation of a tube-well is high the farmer needs to grow HYV seeds all round the year to earn more which is only possible in the fertile production region like North Indian plain.  
(iii) Perennial rivers, soft, flat land, fertile soil have encourage canal irrigation in Northern India topography, undulating relief, rainfed rivers do not encourage the construction of canals.
- (d) (i) Technique of rain water harvesting known as recharging of ground water through hand pumps.  
(ii) ● The recharging the shallow or deep aquifers by hand pumps may increase the level of underground water.  
● Improves the quality of ground water which can be used till the next rainfall.  
● To reduce surface run-off. [Any two]

[2017]

