

ASSIGNMENT

WATER DEMAND SUPPLY AND DISTRIBUTION (CE- 562)

INSTRUCTOR NAME: ENGR NADEEM ULLAH

CONSTRUCTION ENGINEERING AND MANAGEMENT

NAVEED AHMAD

REG NO 14805

ANSWER 1

Hydrological cycle is also called water cycle. Hydrological cycle of the earth is the sum of all processes in which water moves from land and ocean surface to the atmosphere and back in the form of precipitation.

Hydrological cycle OR Water cycle includes

- Evaporation
- Condensation
- Precipitation
- Infiltration
- Percolation
- Transpiration
- Runoff and Storage

It is reality that Hydrological Cycle has disturbed from number of Human Activities.

- From damming river for Hydroelectricity.
- Using water for farming.
- Deforestation And
- Burning Of Fossil Fuels.

AS tree and plants are responsible for extracting ground water from the soil and returning it the atmosphere .Deforestation results in the water not being able to be released back into the atmosphere affecting the balance of the water cycle.

If evaporation does not take place OR It is disturbed, precipitation and other natural thing will not take place and the water lost by evaporation from seas and river will not be replenished.

ANSWER 2

Ground water is the water found under ground in cracks and spaces in soils, sand and rocks .It is one of the nation's most important natural recourse. It play a major role in ensuring livelihood security across the world especially in economics that depend on agriculture.

Continuous discharge of industrial effluents, domestic sewage use of fertilizers , waste dump and over exploitation of the resources have badly impact on ground water sustainability. Though over utilization of ground water is the key factor for ground water depletion but there are other factor which have negative impact on ground water sustainability. It is to be mentioned that protection of the water resource from depletion is not possible unless the user agree to cooperate and manage the resource themselves in sustainable manner.

Rain water harvesting is a technique of collection and storage of rainwater into natural reservoirs or tanks, OR the infiltration of surface water into subsurface aquifers (Before it is lost as surface runoff)

Sustainable use of water could maintain a balance between its demand and supply .Rain water harvesting is the most traditional and sustainable method which could be easily used for potable and non-potable purposes both in residential and commercial buildings. This could reduce the pressure on processed supply water which enhances the green living.

ANSWER 3

In designing water supply system for a community the following Quantity Parameters should be considered.

- Water free from pathogenic (Disease causing) organisms
- Clear water (low turbidity and little color)
- Not saline (salty in taste)
- Free from offensive taste or smell
- Free from compounds that may have adverse effects on health or harmful in long term
- Free from chemical that may cause corrosion of water supply system or stain clothes washed using it

Although in small community water quality problems are mainly due to bacteriological contamination.

To ensure safe drinking water detailed quality standards for physical, chemical and microbiological characteristics of water have been proposed by different countries and international organizations.

- Day to Day operational value to ensure that the supplied water does not carry any significant risk to the consumer.
- A basis for planning and designing water supply schemes.
- Assessment of long term trends of the performance of the system.