

PNS SCHOOL OF ENGINEERING & TECHNOLOGY

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Internal assessment Examination-2022 {5th semester }

Questions with answer

SUBJECT-Th -4 – water supply &waste water engineering

Branch- civil engineering

(1) what is water Supply ?

- ⇒ Water Supply is the provision of water Public utilities, commercial organizations, community endeavor or by individual, usually via a system of pumps and pipes
- ⇒ It is the process of supplying water public uses usually including reservoirs tunnels and pipelines, its available water provided to fulfill a particular need like domestic, industrial, or agricultural etc.

(2) Why water treatment is necessary ?

- ⇒ Water treatment is increasingly necessary due to drinking water shortages and the growing needs of the global Population.
- ⇒ Water treatment removes contaminate and undesirable components or reduces their concentration so that the water becomes fit for its desired end use.

(3) How many types of water Impurities ?

- ⇒ There are three types of water impurities.
 - (i) suspended Impurities.
 - (ii) Colloidal impurities
 - (iii) Dissolved impurities.

(4) what is demand ?

⇒ It is the annual average amount of daily water required by one person and includes the domestic use, industrial and commercial use, Public use, Wastes, thefts etc.

(5) What is Per capita Demand?

⇒ In community water is used for various purpose as described above for the Purpose of estimation of total requirements of wader the demand is calculated on an average basic, which is expressed so many liters/ capita / day

⇒ It is the total quantity of water required by a town per year in liters and the population of the town is P, liters/day.

6.What is surface sources ?

Sources of water that are available at the ground surface is called surface source.

Surface water source: Surface water is water located on top of the Earth's surface such as rivers, lakes, ponds, creeks, wetlands etc. Sub-surface source: Water beneath the land surface occurs in two principal zones, the unsaturated zone and the saturated zone.

7,what is intake ?

Intakes are the structures used for admitting water from the surface sources (i.e., river, reservoir or lake) and conveying it further to the treatment plant.

Generally, an intake is a masonry or concrete structure with an aim of providing relatively clean water, free from pollution, sand and objectionable floating material.

8.What is pump ?

A pump is a mechanical device that lifts liquids from a lower level or low-pressure area to a higher level or high-pressure area.

It is a heavy-duty equipment with low suction and high discharge pressure. This makes it easier to pump a fluid from a certain depth and push the fluid to the desired height.

9. What is pipe ?

These are circular conduits in which water flow under pressure.

Now a days pressure pipes are mostly used at every place and they have eliminated the use of channels, aqueducts and tunnels to a large extent.

10. write 2 point for designing of intake ?

- All the forces which are expected to work on intake should be carefully analysed and intake should be designed to withstand all these forces.
- The foundation of the intake should be taken sufficiently deep to avoid overturning.

LONG QUESTIONS

1. Express importance and necessity of water supply.

- For any living being water, air, food, shelter, etc. are the primary needs, for which water has the greatest importance.
- Everywhere water is required for the various purposes,
 - (1) for drinking and
 - cooking (2) for
 - bathing and washing
 - (3) for watering of lawns and gardens
 - (4) for heating and air-conditioning system

- (5) for growing of crops
- (6) for street washing
- (7) for fire fighting
- (8) for recreation in swimming pools, fountains and cascades,
- (9) for steam power and various industrial processes etc.

Without food human can survive for a number of days, but water is such an essential element that without it he cannot.

In the ancient times human required water for drinking, bathing, cooking etc.

But with the advancement of civilization the utility of water uses increased, and now such a stage has come that without well-organized public water supply scheme,

2. Explain ,duties of water works engineers.

- He must be well conversant with the planning, designing, construction, maintenance and operation of water works.
- He must be capable to design the water works scheme in the best possible way with maximum economy and efficiency to remove the impurities and bacteria.
- He must be capable to operate the water works without fail and should supply the safe water to the public in the required pressure at various points.
- He should protect as well as treated water from contamination.
- He should be able to do the laboratory tests of the samples of water, to check its quality and presence of any diseased bacteria, though the testing of works is done by the chemist or biologist.

