Department of Civil Engineering
NIT Jamshedpur

Course Code: **EC801** Course Title: **Basic Environmental Engineering**
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Home Assignment-2

1. Explain the water demand per capita per day and formula of fire demand
Also write different steps of water quality assessment.

2.(a) How will you estimate the quantity of water required by a town while arranging a water supply scheme for the same?

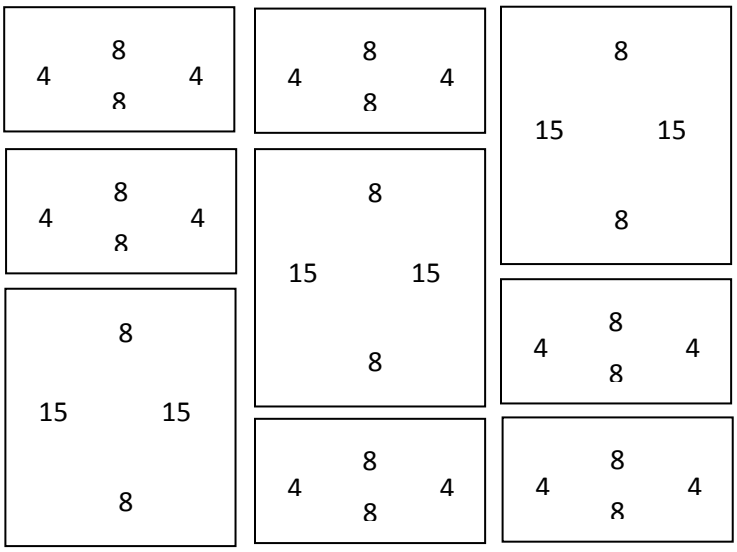
b) How would you define water quality? Why is the maintenance of water quality so important in water management?

3(a). Write short note on Environmental Impact assessment (EIA). Mention EIA procedure, advantages and disadvantages.

(b) Explain the formation of ozone layer depletion and also explain its impacts and steps to protect the ozone.

4. Define annual rainwater harvesting potential for a catchment. For a catchment having total area 500 m^2. Find the total quantity of water at the storage site for the given data: Average rainfall per annum is 400 mm, Area (A_1) is 200 m^2, A_2 is 150 m^2 and A_3 is150 m^2, corresponding values of coefficient of discharge are:9,0.6, and 0.7 respectively.

5. Layout the collection routes for the residential area shown in the Figure below. Assume the following data are applicable: Occupants per resident = 3; solid-waste generation rate = 1.8 kg/person. d; collection frequency =1; collection crew size =1 person; collection vehicle capacity = 15 $m^{3;}$ compacted density of solid-wastes in collection vehicle = 250 kg/m^3; Assume collection from each side of street with stand-up-right-hand drive collection vehicle. Determine the following: a) Total number of residences from which wastes are to be collected, b) compacted volume of solid waste to be collected per week, c) Number of trips per week



4,8,15 = number of residences along each block