

## Section - 3

Q. 5

Abstraction from precipitation :-

Following are the Abstractions -

- 1] Evaporation.
- 2] Transpiration.
- 3] Infiltration.
- 4] Surface
- 5] Retention.
- 6] Storage.

→ All abstractions from precipitation, those due to evaporation, transpiration etc are considered as losses in the production of runoff.

→ Evaporation from water bodies and soil mass together with transpiration from vegetation is termed as evapotranspiration.

→ Evaporation and transpiration are transferred to the atmosphere as water vapour.

→ In engineering hydrology, runoff is the prime subject of study and evaporation and transpiration phase are taken as losses.

→ Before the main fall reaches the outlet of a basin as run off, certain demands of the catchment such as interception, depression storage and infiltration have to be met. If the precipitation is not available for surface run off, it is defined as "loss"

→ Influencing factor :-

where 
$$E_L = C(e_w - e_a)$$

$E_L$  = rate of evaporation (mm/day)

$C$  = a coefficient depend on wind velocity, atmospheric pressure and other factors.

$e_w$  = the saturation vapour pressure

$e_a$  = the actual vapour pressure of air