1. What is Gross Command Area

Gross Command Area is the total area that can be economically irrigated from an irrigation scheme without considering water limitations.

It is denoted by GCA.

It includes cultivating land as well as uncultivating lands such as roads, wastelands, forests, barren lands, etc.

GCA = CCA + Uncultivable area

2. Culturable Command Area

Culturable Command Area is the area in which a crop is grown at a particular time or crop season.

A.It is denoted by CCA.

B. Uncultivable areas are excluded from GCA to obtain CCA. The uncultivable area includes barren lands, forests, etc.

C. Although CCA excludes uncultivable lands, it includes canal networks & supply ditches as they are used for conveying water to the irrigation field.

CCA=GCA – Uncultivable area

The culturable Command Area can be of two types. They are:

a) Culturable Cultivable Area:

It is the area within the culturable command area where cultivation is actually done at present.

b) Culturable Uncultivable Area:

It is the area within the culturable command area where the cultivation is possible but not done at present.

3. What is Net Command Area?

It is the Culturable Command Area obtained after the deduction of canal networks, supply ditches, etc., constructed in the field.

It is denoted by NCA.

NCA=CCA – the area occupied by canals, canals network, and ditches.

Cannel Irrigation

1. What is Cannel?

Canel is a artificial channel which carry water from one part to another part.

2. Classification of Cannel Irrigaton.

A. According to alignment-

- **Watershed Canels**

a. The line connecting the highest point is called Ridge line. The canel which is constructed by the following the ridge line.

b. The Comment area will be large as become the irrigation can be done in both side of the canel.

c. No cross drainage will be required.

d. It is very difficult to constructe.

- **Contour Canel**

a. The line which is connecting same RL point is called contour line.

b. It can irrigate only one side of the canel [lower side], so the comment area is less with respect to another shade.

c. It’s require cross drange water.

d. It is easy to constructe. It is used in hilly area.

- **Side slope Canel**

a. It’s construct at 90° degree with the contour line.

b. The velocity of water is high in this type of canel.

c. No cross drainage work will be required as it is parral to the direction of river / channel / drainage system.

B. According to work

- **Feeder Cannel**
  a. It carry water from one canel to another canel.
  b. It has no capacity to irrigate field .
  c. It has no branch.
- **KPRIR Canel**
  a. It can irrigate the field.
  b. It has branch canel.
- **Excape Canel**
  It drainout surplus water from the canel.
- **Navigate Canel**
  a. This cannel have low velocity water.
  b. The depth of water should be high.
  c. It's use for shipping pourpose.
- **Hydran Canel**
  It's use for hidro electricity

C. According to Supply

1. Perinial canal [whole year water river]
2. Inuntration canal [rainy season]

D. According to discharge

a. Main canal.
b. Branch canal.
c. Major distribution.
d. Minor distribution.
e. Water couse.

E. According to financial aspect

a. Productive Canal. [Which generate revenue].
b. Protective canal [It's supply water to the rigion where capacity of rainfall is occure].

3. Losess in irrigation canal

1. Absorption loss.

It is occure become of absorption of water by the soil suface at the canel water patimete. When the water table is act considerable depth below the canal depth infiltrating the soil below the canal bed is unable to ridge the ground water riserver below the water table. If forms a bulk of saturation layer below the canal and this chaturated bulk is not fully saturated for this reason the water from the canal made may be loss.

2. Eveporation loss.
3. Transpiration loss.