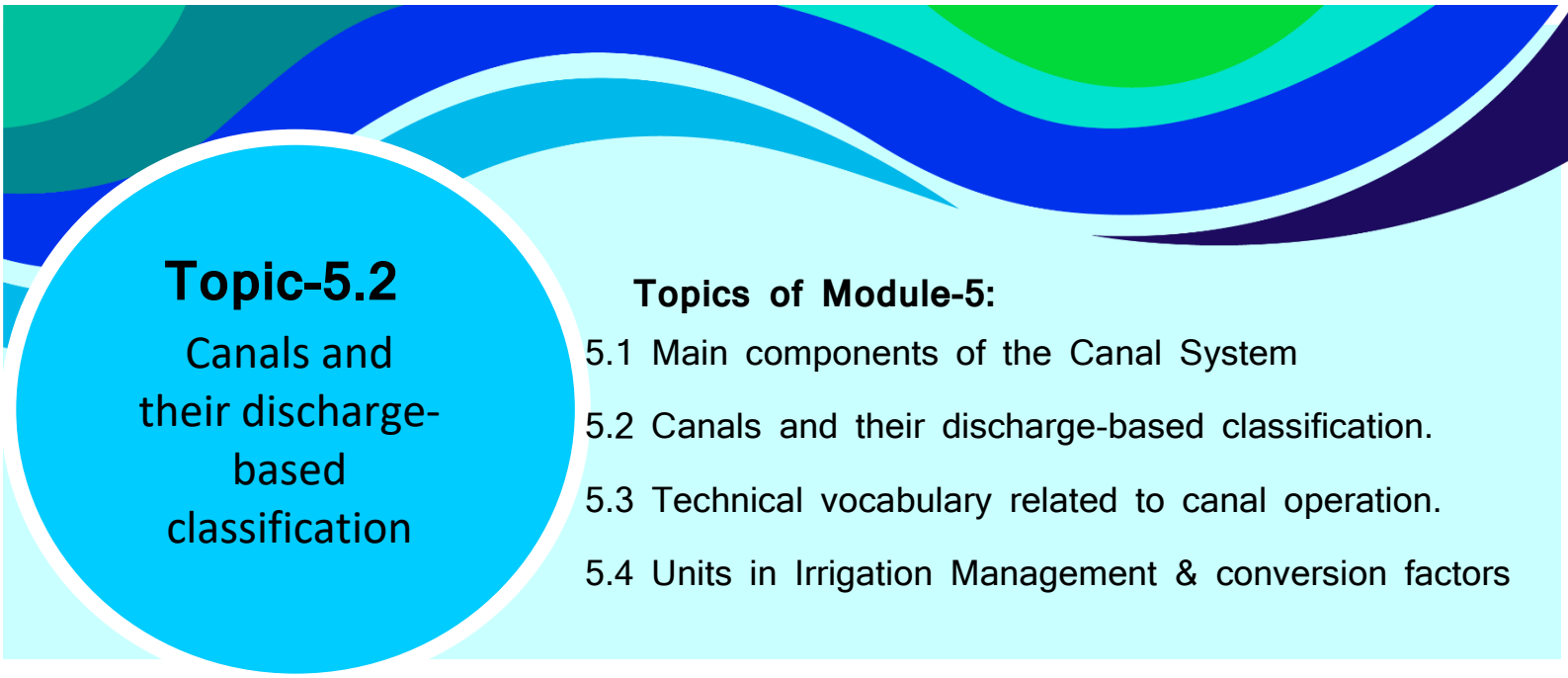
Certificate on PIM Training Course

Module 5- Introduction to Canal System, Definitions and Units

Topic 5.2: Canals and their discharge-based classification



Canals off taking from source are larger in size than off taking canals from it.

Canals are classified according to their size and carrying capacity which are called

1. Main Canal,
2. Branch Canal,
3. distributary Canal,
4. Minor and

5. Outlet canal or Gool

Figure 1 Main Canal

Main Canal: Canals off taking from reservoir or diverted direct from river is called main canal. It may have discharge from 1 cusec (one cubic foot per second) to one lac cusec or may be more.

1. A main canal carries discharge directly from river.

2. It carries large amount of water and generally cannot be used for direct irrigation.

3. Main canal supplies water to the branch canals and distributaries. Minors rarely took off from main canals.

Figure 2 Branch canal

Branch canal: - When main canal carries water more than 500-1000 cusec, canals are taken off from it to spread water to far distant fields. Canals carrying discharge more than 500 cusecs are termed as branch canals.

1.These are the branches of main canal in either direction at regular intervals.

2.Branch canals are not used for direct irrigation, but sometimes direct outlets are provided.

3.Branch canals are actually the feeders for major and minor distributaries.

Distributary canals: - The canals off-taking from main or branch canals and carry discharges between 20 to 500 cusec are known as Distributary Canals or Distributary. In states like Bihar & Jharkhand, sub- distributary level canals also exist between distributary and minor levels. Field gools or water courses draw water from distributaries also through outlets which carry water to fields. Thus, these distributaries provide direct water to fields in addition to minors.

Figure 3: Distributary canal

Minor Canals- Canals off taking from Main canals, Branch canals & Distributary canals and carry discharge from one cusec to 20 cusecs are known as Minor Canals . Water distribution in fields is generally starts below these canals. The minor canals provide water to field channels which carry water to field for irrigation. Therefore, it is the important component in irrigation system

Figure - 4: Outlet Gool

Outlet or Field canals: - Outlets are generally taken off from distributary or minor canals to carry irrigation water to fields. With the view of efficient water management outlets are avoided being taken off from main and branch canals. Outlets generally carry discharge from 0.4 to 1 cusec. Outlet canals generally carry irrigation water up to turnout inlet of a chak between 5-50 hectares.