Morphometric charactrestics of watershed :-

Morphometric charactrestics cover the quantitative analysis or study of basin morphology (شکل) , relif (بەرزی و نزمی) , and network (تۆڕ) .

First :- خوێندنی پەیوەندی نێوان ڕووبەری گەورە کاراستەکانی هەوز

Basin Morphdogy :-

The study of the relationship between basin area (ڕووبەر) and its dimensions (کاراستەکانی) و

Importance of Morphometric charactrestics Study ?

گرنگی خوێندنی سێبەر، خەسڵەتی چیە ؟

1- For determine runoff volume in intermittant (بڕ بڕ) and permanent (هەمیشەیی) streams.

Stream
- Intermittant
- perinnial
- Ephimeral

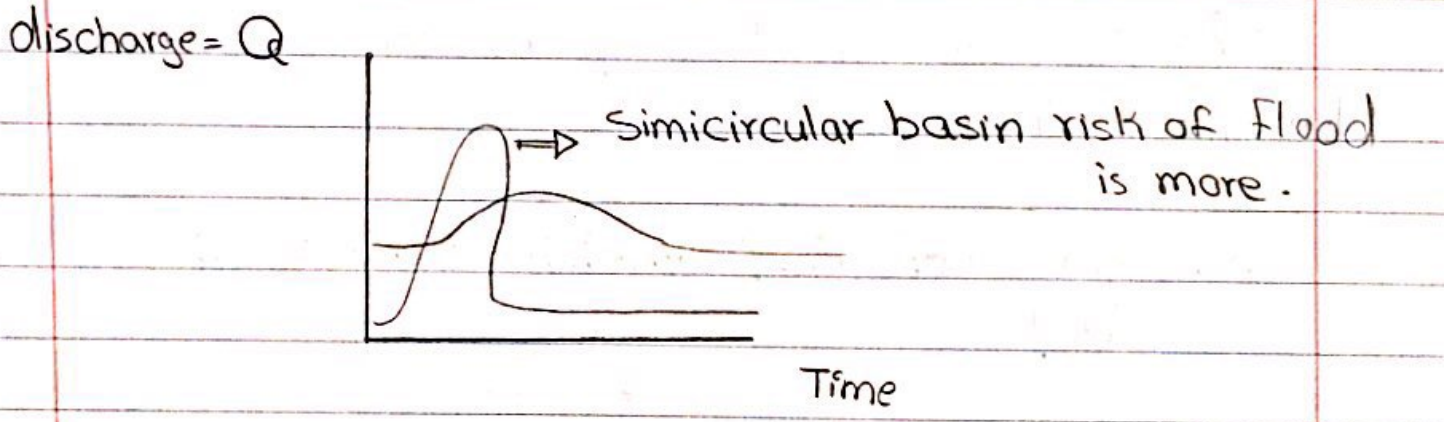
2- For developing programs.

3- For designing irregation projects.

Basin morphology :-

There is a close relationship between basin shape and runoff pattern.

Semicircular basin yield runoff hydrographs with high peaks and narrow bases the revires may be true for an elongated one, i.e. elongated basins produce hydrographs with small peaks and brood (wide) bases



Basin Morpology parameters :-

$$Re = \frac{D}{L}$$

Re = elongation ratio

D = diameter of Circule having the same area as the basin (m, Km) unit.

L = the longest dimension of the basin.

Re ≃ 1.0 semicircular

re ≫≪ 1.0 elongated.

Re	discreption
0.3 – 0.5	high
0.5 – 0.7	medium
0.7 – 0.9	not rectangular
> 0.9	not rectangular at all

example :-

Calculate the elongation ratio (Re) for a basin which has an area of (112 Km²) and maximum Length of (35 Km) also Comment on the result.

Answer\

$A = 112\ Km^2$

$A = \frac{\pi}{4} D^2 \Rightarrow 112 = \frac{\pi}{4} D^2$

$D^2 = \frac{4 \times 112}{\pi} = \sqrt{\frac{7(4) \times 112}{22}}$

$D = \sqrt{\frac{28 \times 112}{22}} = \sqrt{142.54} = 11.93\ Km$

$Re = \frac{D}{L}$

$Re = \frac{11.93}{35} = 0.34$

its high elongated its rectangular to high degree.

Second:-
pirmeter $\Rightarrow P = \pi D$

$$R_c = \frac{A}{A_c}$$

A = area of basin
A_c = area of circular having the same parameter as the basin.

Re	discreption
> 0.6	high
0.4 - 0.6	medium
0.2 - 0.4	not circular at all

$$P = \pi D$$
$$A_c = \frac{\pi}{4} D^2$$
$$R_c = \frac{A}{A_c}$$