Preparation of Saturated Paste and saturation extract

1. Preparation of saturation paste

Apparatus

1. Physical balance

2. Moisture Box or Plastic Beaker - 250 ml capacity

3. Spatula

4. Burette

Reagents

1. Distilled water

Procedure

1. Weight 100 g air dried and processed soil sample in a moisture box.

2. Fill the burette with distilled water

3. Add known volume of distilled water to the soil while stirring with spatula.

4. Consolidate the soil water mixture time to time by tapping the moisture box on the working table.

5. At saturation, soil paste glistens as it reflects light and fall freely when the spatula with saturated soil is tapped.

6. At this stage mix the sample again and keep for one hour

7. After one hour, if glistening disappear then again add more distilled water and prepare saturated paste

8. Note the final burette reading

Observation

1. Weight of soil:_____g

2. Volume of distilled water used for preparation of saturated paste:_____ml

3. Saturation percent of soil:_____%

$$SP = \frac{\text{Total weight of water}}{\text{Weight of the oven dry soil}} \times 100$$

2. Preparation of saturation extract

Apparatus

1. Richards or Buechner funnel
2. Filter flask
3. Filter paper
4. Vacuum pump
5. Volumetric flask

Procedure

1. Place the filter paper on the Buechner funnel
2. Keep the Buechner funnel on the filter flask and connect it with vacuum pump.
3. Transfer the saturation paste into the Buechner Funnel.
4. Start the vacuum extraction of paste by starting the vacuum pump.
5. Collect the saturation extract in the filter flask.
6. Stop vacuum extraction if air begins to pass through filter paper.
7. Transfer the saturation extract in the volumetric flask after knowing its volume.

Q. At saturation, soil paste glistens as it reflects light and fall freely when the spatula with saturated soil is tapped.

Q. . Saturation percent of soil =

$$SP = \frac{\text{Total weight of water}}{\text{Weight of the oven dry soil}} \times 100$$