

**Q45. Define moisture and explain a method to measure it.**

**April/May-17, Set-4, Q7(a)**

**OR**

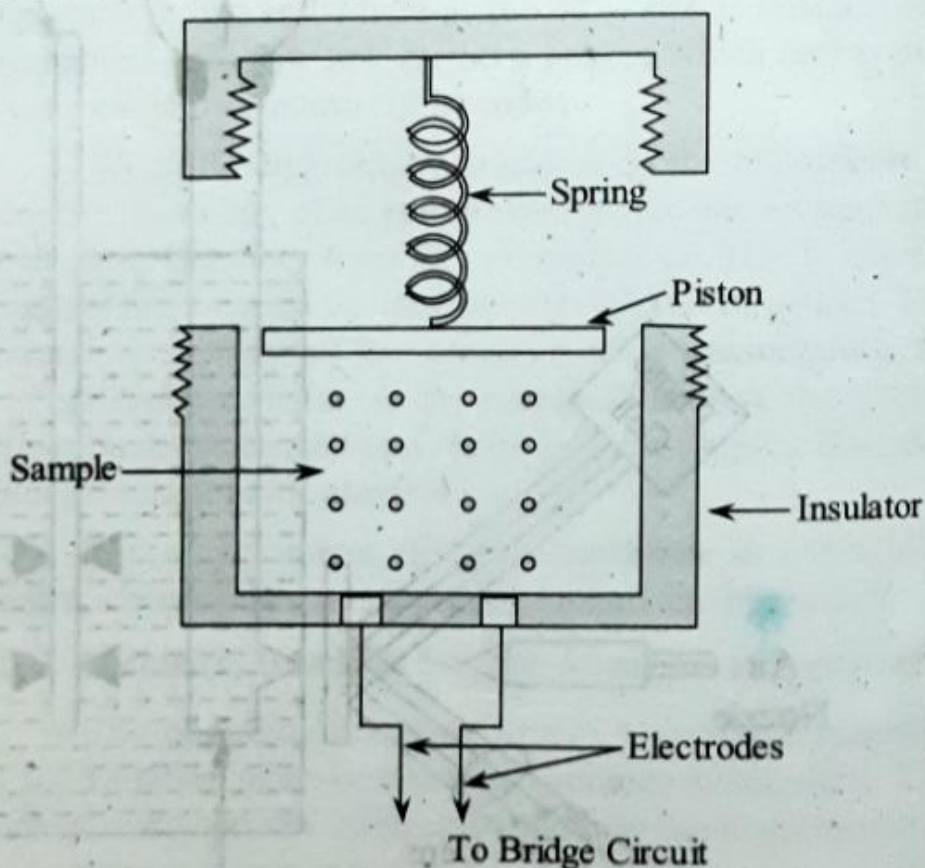
**Explain how moisture content in granular materials is measured.**

**Ans:**

Some of the electrical parameters such as capacitance, resistance, conductivity varies with provided the instrument is properly calibrated. This principle of measurement is widely used in industries to measure moisture and moisture present in

the surroundings. Determination of these electrical parameters give the measure of moisture content in certain materials such as pulp, paper, grain, flour, wood, tobacco, coffee, salt, soap, some food products and organic samples. In this method to measure the capacitance or conductance a pair of electrodes should be placed in physical contact with the sample whose moisture content is being measured.

Depending on the type of material whose moisture is to be measured different structures of electrodes are used. To measure moisture present in granular material a cup shaped electrode arrangement (as illustrated in figure) is used. In this technique the granular material is poured into the cup to which electrode leads are connected. A piston provided by spring arrangement is used to close the cup in order to maintain maximum pressure in the material, and actual moisture is measured by weighting it after it becomes completely dried. For each material and its electrode arrangement, resistance - moisture content characteristics are established provided the device is calibrated properly.



**Figure: Moisture Measurement Cell for Granular Materials**

