

1) There are three different types of glucose detectors in the market. Differentiate between all of them (include the principle as well).

⇒ **Glucose oxidase-based detectors:** These detectors use an enzyme called glucose oxidase to catalyze the reaction between glucose and oxygen, producing gluconic acid and hydrogen peroxide. The concentration of hydrogen peroxide produced is proportional to the concentration of glucose in the sample. These detectors can be used in blood glucose monitoring devices or food testing.

Glucose dehydrogenase-based detectors: These detectors use an enzyme called glucose dehydrogenase to catalyze the reduction of glucose to gluconolactone. The concentration of gluconolactone produced is proportional to the concentration of glucose in the sample. These detectors are commonly used in blood glucose monitoring devices.

Glucose-sensing electrodes: These detectors use an electrode that is coated with a glucose-sensitive enzyme, such as glucose oxidase or glucose dehydrogenase. The electrode measures the concentration of glucose in the sample by detecting changes in the enzyme's activity. These detectors are commonly used in blood glucose monitoring devices and food testing.



DIFFERENT TYPES OF GLUCOSE METERS

Fig: - Glucose detector