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**Question:**

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**Answer:**

Non dispersive infra red gas analyzer ( NDIR) : The working principle of infra red gas exhaust gas analyzer is as shown in figure . It works on the principle of hetero atomic gases absorbs infra red energy at distinct and separated wavelength. The absorbed energy raises the temperature and pressure of confined gas. This enables to measure contents of hydro carbon and carbon monoxide. This is a faster method of gas analysis. The standard sample is filled in reference cell R . the sample of gas under testing is filled in cell S . The detector cell D is filled with specific gas to be measured, say CO<sub>2</sub> . the detector cell is divided into two compartments by diaphragm. It is very sensitive. Initially infra red energy in both compartment is same and indicator reading is zero. The sample is connected to exhaust gas. This lowers pressure on sample side. It will absorb energy in proportion to concentration of CO<sub>2</sub> in sample and detector gives percentage of CO<sub>2</sub> present in the sample.

