NAME: BAI DANIELLA NGUEMO

MATRIC NO: 17/MHS01/078

COURSE CODE: MLS 314

COURSE TITLE: MEDICAL PHYSICS

**NO1.**

Radioactive tracers: is a chemical compound in which one or more atoms have been replaced by a radionuclide so by virtue of its radioactive decay it can be used to explore the mechanism of chemical reactions by tracing the path that the radioisotope follows from reactants to products. Radioactive tracers utilize the positive qualities of radioactivity, the ability to emit a signal, while minimizing the negative effects

**NO2.**

In medicine, tracers are applied in the urea breath test for helicobacter pylori, a type of bacteria that may infect the stomach and is a main cause of ulcers in both the stomach and duodenum (the first part of the small intestine) commonly used a dose of carbon-14 (14C), or radiocarbon which is a radioactive isotope labelled urea to detect h. pylori infection. If the labelled urea was metabolized by h. pylori in the stomach, the patient's breath would contain labelled carbon dioxide. This is because H. pylori produces an enzyme called urease, which breaks urea down into ammonia and carbon dioxide. The test is done by swallowing a tablet containing urea and the amount of exhaled carbon dioxide is measured.