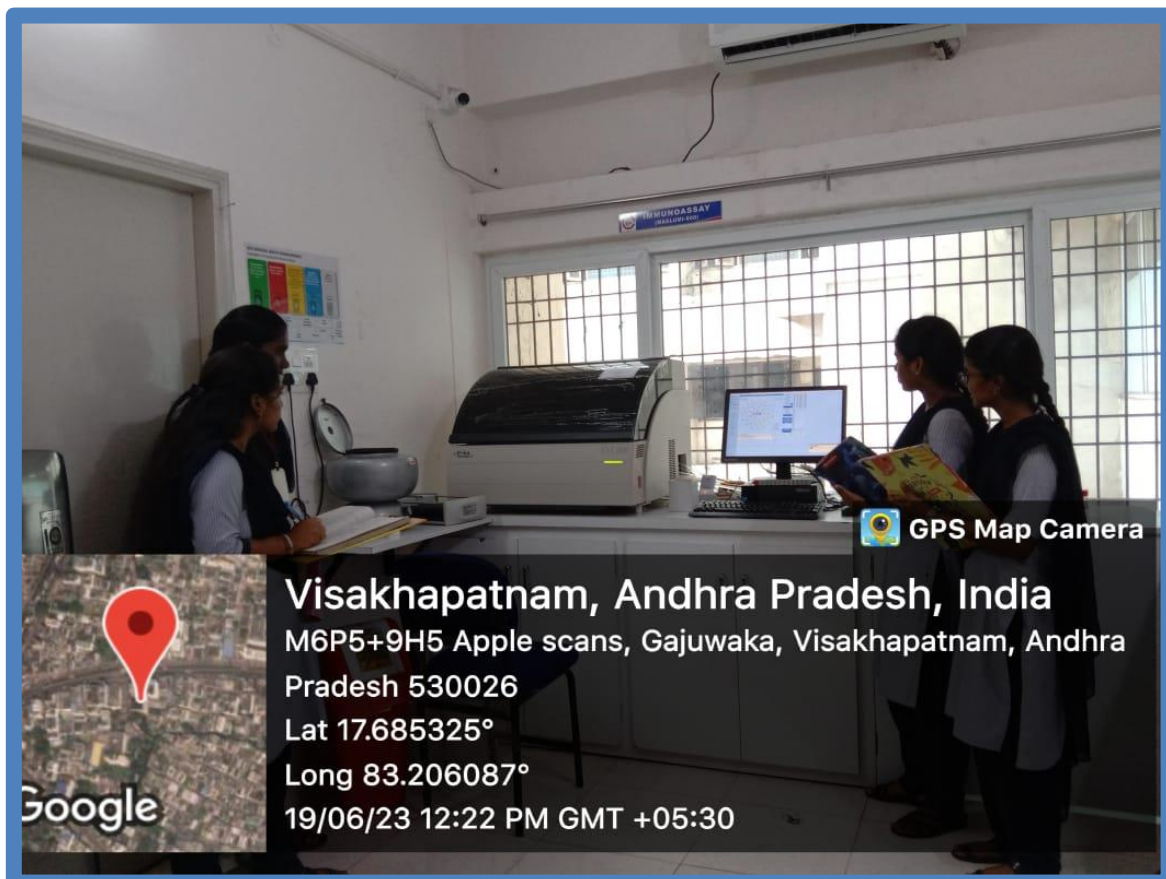# DEPARTMENT OF MICROBIOLOGY

VISIT TO APPLE SCANS AND DIAGNOSTICS

We were visiting to diagnostic lab center at gajuwaka.The students P. Akhila, P. Gangotri, srilekha, Anjali, D.Devisravani from microbiology department went to visit diagnostic center along with our microbiology lecturer Sheeladeepak mam to know about different diagnostic machines and their working process etc .It's a place that accounts for any health issues and provides treatment if needed.A diagnostic center performs various tests to determine the cause of the condition. There are different types of labs within this category, including radiology & MRI centers, imaging centers, pathology labs, etc.The diagnostic center should be familiar with all types of diagnostic testing and procedures required to diagnose various diseasesor conditions.

An immunoassay analyzer is used in hospital and clinical laboratories to run automated biochemical tests to detect the presence and concentration of substances in the samples. There are many types of tests that immunoassay analyzers can perform, including testing for cancer markers, diagnosing infectious diseases, cardiac analysis, therapeutic drug monitoring, and allergy testing. Random sampling and continuous access sampling are two ways that an immunoassay analyzer can process a sample. The samples can undergo several kinds of immunoassays tests for microparticle enzyme, ion capture, fluorescence polarization, and chemiluminescence. When choosing an immunoassay analyzer, it is important to consider the types of tests and reagents needed, if automatic repeat anddilution are required, and the speed in which the tests can be completed

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The microscope is important to medical laboratory technology for many reasons. The microscope is used in Hematology to observe different types of blood cells, so that they can be counted and categorized, and checked for abnormalities. The microscope is used in Urine Analysis to check for the presence of various types of crystals, and white blood cells, which could indicate a bladder infection. The microscope is used in Microbiology and Parasitology to identify different types of bacteria and parasites

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Hematology instruments are machines that analyze blood. Used in medical labs, hematology instruments can do blood counts, detect proteins or enzymes, and help to diagnose illnesses or genetic defects.The instruments include analyzers, flow cytometers, coagulation analyzers, and slide stainers. Hematologyanalyzers help to diagnose anemias, infections, viruses, genetic problems, diabetes, cancers, and determine plasma drug levels, for both therapeutic and illicit drugs. Flow cytometers count blood cells and detect biomarkers which indicate certain cancers or organ failures.

HbA1c is an important indicator of long-term glycemic control with the ability to reflect the cumulative glycemic history of the preceding two to three months. HbA1c not only provides a reliable measure of chronic hyperglycemia but also correlates well with the risk of long-term diabetes complications.The valuable information provided by a single HbA1c test has rendered it as a reliable biomarker for the diagnosis and prognosis of diabetes. This review highlights the role of HbA1c in diagnosis and prognosis of diabetes patient.

Biochemistry Analyzer is a medical laboratory equipment used extensively in clinical laboratories. It is designed to conduct tests to measure chemicals at various stages of the biological processes on a wide range of test samples from blood, plasma, serum, and cerebrospinal fluid to urine. In other words, it helps to study, analyze, and evaluate the characteristics of different body samples and tackle a broad spectrum of medical industry challenges.

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X-rays are a form of electromagnetic radiation, similar to visible light. Unlike light, however, x-rays have higher energy and can pass through most objects, including the body. Medical x-rays are used to generate images of tissues and structures inside the body. If x-rays traveling through the body also pass through an
 x-ray detector on the other side of the patient, an image will be formed that represents the "shadows" formed by the objectinside of the body.
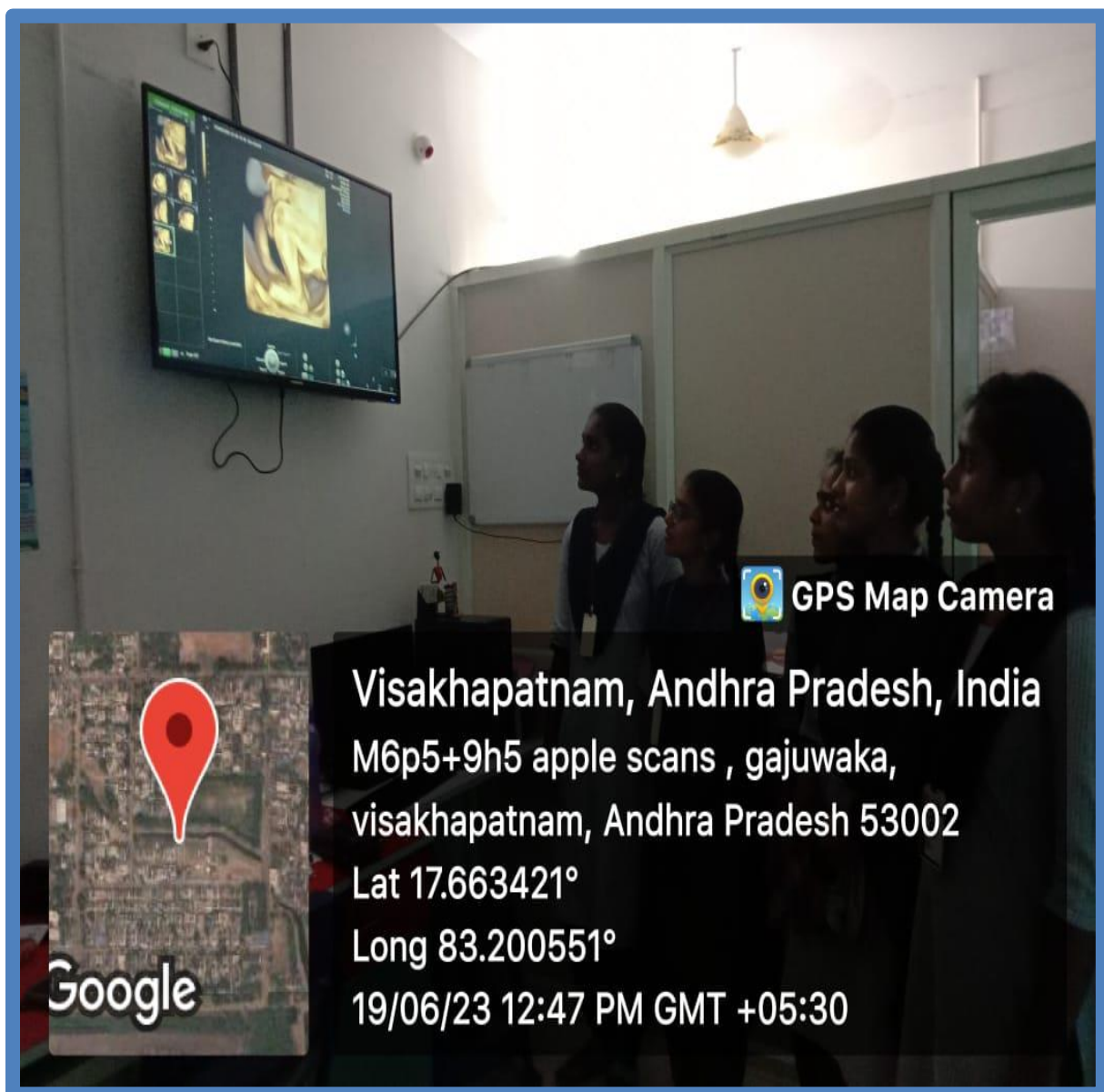
Computed tomography (CT), sometimes called "computerized tomography" or "computed axial tomography" (CAT), is a noninvasive medical examination or procedure that uses specialized X-ray equipment to produce cross-sectional images of the body. Each cross-sectional image represents a "slice" of the person being imaged, like the slices in a loaf of bread. These cross-sectional images are used for a variety of diagnostic and therapeutic purposes.CT scans can be performed on every region of the body for a variety of reasons (e.g., diagnostic, treatment planning, interventional, or screening). Most CT scans are performed as outpatient procedures

GPS Map Camera

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An ultrasound scan is used to examine internal body structures.

Ultrasound imaging sends out (emits) high-frequency sound waves, directed at the tissue being examined, and recording the reflected sound or echoes to create an image.

An ultrasound scan is generally non-invasiveCommon reasons for ultrasound scanning include investigations of a person's abdominal and pelvic organs, musculoskeletal and vascular systems, and to check fetal development during pregnancy.

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Magnetic resonance imaging (MRI) is a medical imaging technique that uses a magnetic field and computer-generated radio waves to create detailed images of the organs and tissues in your body.

Most MRI machines are large, tube-shaped magnets. When you lie inside an MRI machine, the magnetic field temporarily realigns water molecules in your body. Radio waves cause these aligned atoms to produce faint signals, which are used to create cross-sectional MRI images — like slices in a loaf of bread.

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CONCLUSION:

we had a visit to diagnostic centre near to our college under the giddiness of our microbiology lecturer.

There we had witnessed different types of diagnostic machines like magnetic resonance imaging, computed tomography, biochemistry analyzer, immunoassay analyzer etc..

By our overall observation we had gained a lot of knowledge regarding diagnostic machines which are helpful for analysing different tests regarding health issues of patient.