



Al-Mustaqbal University
College of Sciences
Intelligent Medical Systems Department



جامعة المستقبل
AL MUSTAQBAL UNIVERSITY

كلية العلوم قسم علوم الأنظمة الطبية الذكية

LECTURE: (1)

Subject: Biology




Level: First

Lecturer: MSc. Sura Mohammed jasim






Laboratory Equipment's


Instruments or apparatus

Image	Scientific name	purpose
	Centrifuge	Used to separate heavy material from light material by the help of the centrifugal force
	Balance	Determining weight
	Sensitive balance	Determining weight (small mass)

	<p>Autoclave</p>	<p>An autoclave is a pressure chamber used to sterilize equipment and media by subjecting them to high pressure saturated steam at 121 °C for around 15–20 minutes.</p>
	<p>pH meter</p>	<p>is an electronic device used for measuring the pH (acidity or alkalinity) of a liquid</p>
	<p>Magnetic stirrer and magnetic bar</p>	<p>To uniformly mix the reaction material and balance temperature distribution, in order to speed up reaction, then shorten reaction time by the help of a magnetic bar.</p>

	<p>Vortex mixer</p>	<p>Used for mixing the solutions</p>
	<p>Incubator</p>	<p>It's a device used to grow and maintain microbiological cultures or cell cultures. The incubator maintains optimal temperature, humidity and other conditions such as the carbon dioxide (CO₂) and oxygen content of the atmosphere inside.</p>
	<p>Shaking incubator</p>	<p>In order to provide optimal conditions for cell growth, some type of agitation or shaking is necessary to incorporate oxygen and evenly distribute nutrients throughout the culture media. The incubator shaker can be used for growth of just about any kind of cell including bacterial cultures, tissue cultures, and yeast.</p>

	<p>Hood</p>	<p>Used to provide sterile conditions for culturing the microbes</p>
	<p>Spectrophotometer</p>	<p>is the quantitative measurement of the reflection or transmission properties of a material as a function of wavelength</p>
	<p>Refrigerator</p>	<p>Used for storing samples, solutions, media and bacterial strains.</p>

	<p>Water bath</p>	<p>Used to incubate samples in water at a constant temperature over a long period of time.</p>
	<p>Microscope</p>	<p>Used to see objects that are too small for the naked eye.</p>
	<p>Thermal cycler (PCR)</p>	<p>This device is used for the amplification of a specific region of any DNA sample with polymerase chain reaction in a test tube. It is also used for detection and constitution of genetically modified organism, as well as other genetic analysis.</p>