

Lab Four:.

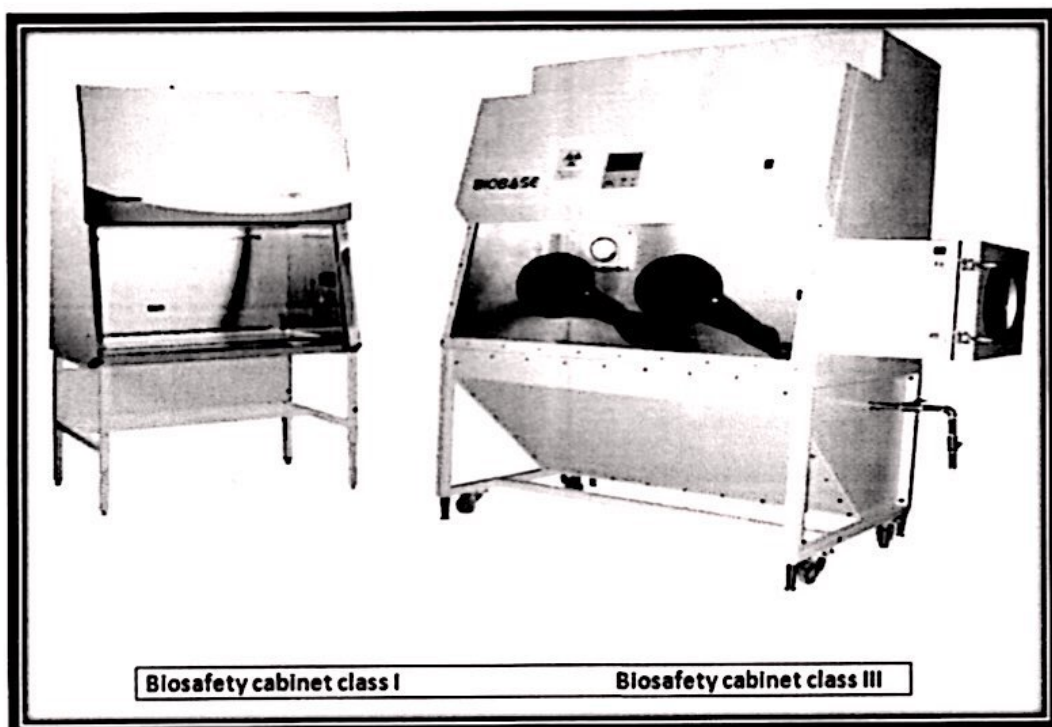
instruments and equipments in molecular lab

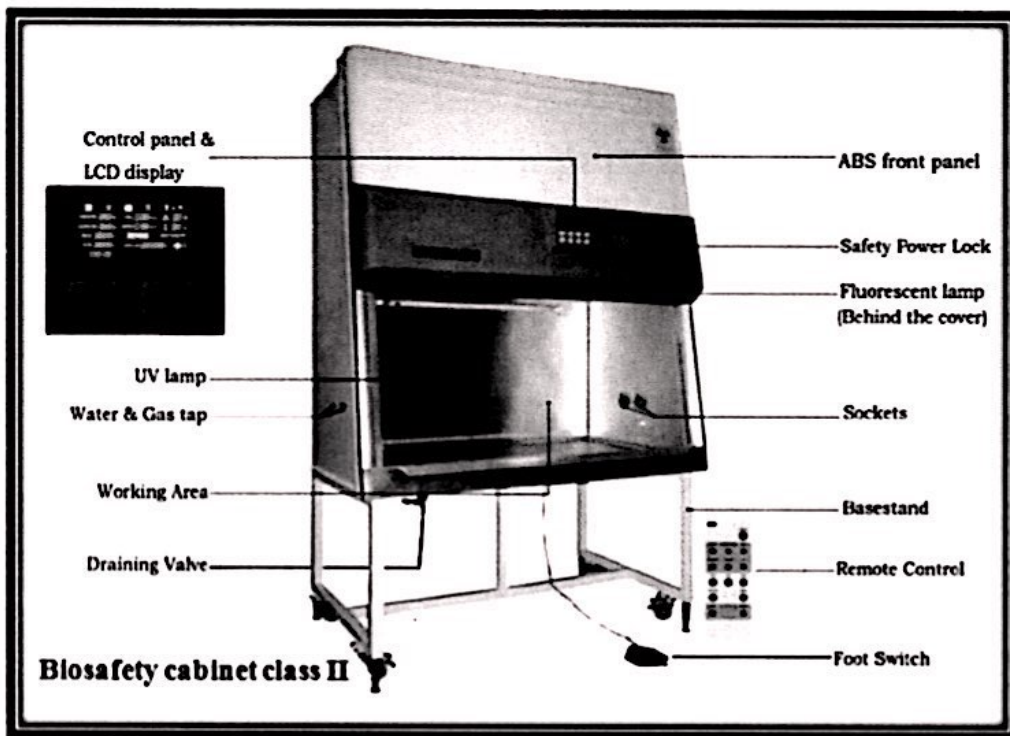
Biosafety cabinet (BSC): is an enclosed, ventilated laboratory workspace for safely working with materials contaminated with (or potentially contaminated with) pathogens requiring a define biosafety level. it found three classes of BSC depending on (providing safety to person, environment and samples)


class I: provide safety to person and environment only.




class II: provide safety to person, environment and samples.



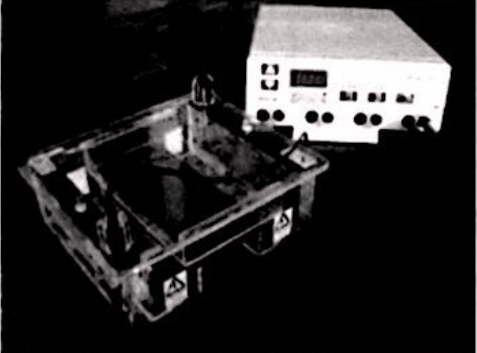
class III: provide safety to person, environment and samples, generally only installed in maximum containment laboratories, is specifically designed for work with more dangerous pathogen like viruses .



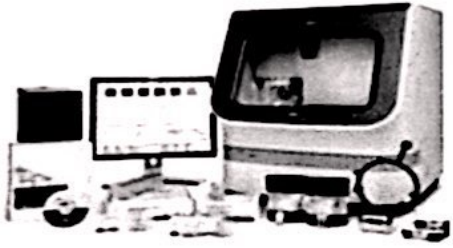
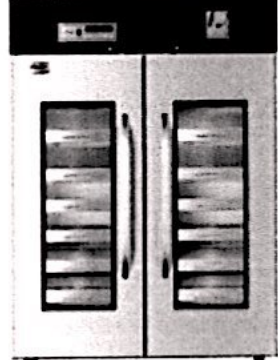




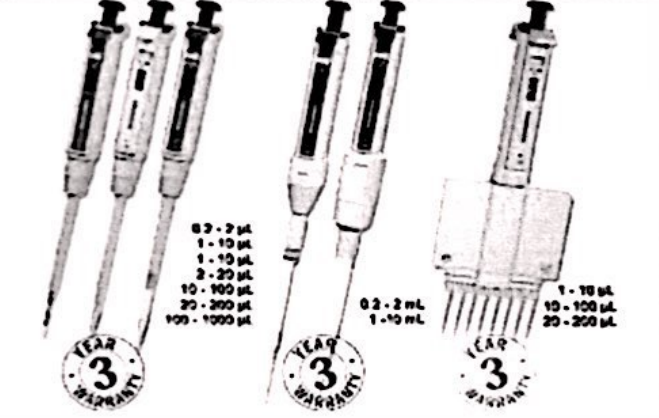

Instrument	description	Picture
PCR work station	enclosed, sterilized space work.	

Vortex shaker	To mix the reaction continent	
Cool centrifuge	To participate cell continent	
Conventional PCR	To amplified DNA molecules (quality identification)	

<p>Real-time PCR</p>	<p>To amplified DNA molecules and measuring gene expression(quality and quantity identification)</p>	
<p>Nanodrop</p>	<p>To measuring nucleic acid concentration and purity</p>	
<p>Gel electrophoresis</p>	<p>To separate nucleic acid and protein with molecular weigh less than 10000 bp</p>	

<p>Pulse gel electrophoresis</p>	<p>To separate nucleic acid and protein with molecular weigh more than 10000 bp</p>	
<p>UV-Transilluminator</p>	<p>To detect nucleic acid and protein were separated in gel electrophoresis run</p>	
<p>DNA sequencer</p>	<p>To determine sequence of nucleotide in DNA strand</p>	
<p>Deep freeze</p>	<p>To keep biological material in low temperature</p>	

یکتا سر /
 مکتبه تخصصی
 طباعة - استنساخ
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<p>Micropipettes in different size</p>	<p>To transfer the appropriate amount of volumes</p>	 <p>The image shows three types of micropipettes. The first is a single-channel pipette with a volume range of 0.2-2 µL, 1-10 µL, 1-10 µL, 2-20 µL, 10-100 µL, 20-200 µL, and 100-1000 µL. The second is a single-channel pipette with a volume range of 0.2-2 mL and 1-10 mL. The third is a multi-channel pipette with a volume range of 1-10 µL, 10-100 µL, and 20-200 µL. Each pipette has a '3 YEAR WARRANTY' logo.</p>
<p>Different size of eppendorf tubes</p>	<p>To keep and holder samples in experiment</p>	 <p>The image shows three Eppendorf tubes of different sizes, arranged from smallest to largest.</p>