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***Dptt. BS MLT 2nd***

***Assignment. Microbiology***

***Submitted to. Sir zahir mian.***

***Question no 1***

***What is the name and function of different equipment’s used in microbiology lab.***

***Answer.***

1. ***Microscope. Use to magnify or enlarge micro specimen to study structure, size, shape of cellular particles.***
2. ***Centrifuge. Use to separation of plasma/ serum from blood and blood components. Separation of biological mixture sample i.e. DNA, RNA, protein, RBC, WBC, pus cell.***
3. ***Water wath. It is use to incubate samples in water at a constant temperature 20-60 oC over a long period of time.***
4. ***Incubator. Incubator is a device used to grow and maintain microbiological culture or cell culture. The incubator maintain optimal temperature, humidity.***
5. ***Hot air oven. Hot air oven are electrical device which is use dry heat to sterilize of glassware, cotton swab, culture media. They can be operated from 50 to 300oC.***
6. ***Autoclave. Use to sterilize ( removing or killing of bacteria) i.e. glassware, chemical, culture media.***
7. ***Laminar air flow. Use to sterilize specific working environment while pour culture plate.***
8. ***Spectrophotometer. Spectrophotometer mea sure light intensity as a function of wavelength and or commonly used to measure the concentration of a compound in a aqueous solution.***
9. ***Hot plant with magnetic stirrer. Hot plate used to heat solution. Magnetic stirrer used to mixing a solution on a combined hot plate.***

***Question no 2***

***What are the different chemical and physical method of sterilization.***

***Answer. Physical method of sterilization.***

1. ***Heat***
* ***Dry heat ( direct flaming). Used to sterilize inoculating loops and needles. Required 2 hour at 170 oC for sterilization.***
* ***Moist heat. Ultrahigh-temperature pasteurization, flash pasteurization.***
1. ***Hot air oven***

***Sterilization of glassware like Glass syringe, petri dishes, pipette, and test tube.***

1. ***Boiling.***

***Boiling for 10-30 minutes may kill most of vegetative form but spores with stand boiling.***

1. ***Autoclave.***

***Close chamber with high temperature and pressure.***

1. ***Radiation.***

***Two types of radiation kill microbes. Ultraviolet light and non-ionizing radiation.***

***Chemical method of sterilization.***

* ***Ethylene oxide***
* ***Ozone***
* ***Bleach***
* ***Glutaraldehyde***
* ***Phthalaldehyde***
* ***Hydrogen peroxide***
* ***Peracetic acid***
* ***Silver.***

***The end.***