Glossary:

- 1. **Colonies-** A colony is defined as a visible mass of microorganisms all originating from a single mother cell
- 2. **Osmosis-** Osmosis is the diffusion of water across a semipermeable membrane from a less concentrated solution to a more concentrated one, equalizing concentrations
- 3. **Microscope** An optical instrument having a magnifying lens or a combination of lenses for inspecting objects too small to be seen or too small to be seen distinctly and in detail by the unaided eye.
- 4. **Gram-positive** Gram-positive bacteria are bacteria that give a positive result in the Gram stain test. Gram-positive bacteria take up the crystal violet stain used in the test, and then appear to be purple-coloured when seen through a microscope
- 5. **Gram-negative** Gram-negative bacteria are a group of bacteria that do not retain the crystal violet stain used in the Gram staining method of bacterial differentiation
- 6. Liquid medium- When the required nutrients are provided in the form of a liquid, it is called a broth. The liquids are usually placed in a test tube or a flask.
- Solid medium: Liquid media that has been solidified by the addition of agar (usually 1.5 % w/v). Agar is a complex polysaccharide obtained from sea algae. The solid media can be placed in Petri dishes (agar plates) or test tubes with a large surface area (agar slants).
- 8. **Nutrient media-** Are specific chemical formulations that contain all the nutrients and minerals that many microorganisms needs for normal growth.
- 9. **Defined medium-** A defined medium is one whose precise chemical composition is known
- 10. **Undefined medium-** An undefined or complex medium is one whose precise chemical compositions are not known.
- 11. **Selective medium-** A selective medium is one that favors' the growth of a particular organism or group of organisms.
- 12. **Differential medium -**.A differential medium allows colonies of a particular organism to be differentiated from others growing in the same culture.
- 13. **pH** pH is a measure of the hydorgen ion concentration of a solution i.e pH=-log[H+] concentration.

- 14. Aerobes- Microorganism which requires oxygen for growth.
- 15. Anaerobes- They can survive in the absence of oxygen or grow in the absence of oxygen
- 16. **Facultative anaerobes-** They can grow like aerobes in the presence of oxygen, but have the added facility of being able to survive when conditions become anaerobic.
- 17. Aerotolerant anaerobes- They are basically anaerobic, not inhibited by oxygen, which they do not utilize it
- Microaerophiles- They require oxygen, but are only able to tolerate low concentration i.e 2-10%
- 19. **Haloduric-** They are salt –tolerate bacteria able to tolerate concentration ten times as high, but prefer lower concentration.
- 20. **Halophilic-**They are salt-loving; forms are adapted to grow best in the condition of high salinity such as those in the Dead Sea.