GLOSSARY

Acid-Fast – Characteristic of certain bacteria, such as mycobacteria, which involves resistance to decolorization by acids when stained by an aniline dye.

Acute – Short-term infection usually characterized by dramatic onset and rapid recovery.

Aerobe – Microorganism that lives and grows freely in air and cannot grow anaerobically.

Aerotolerant – Ability of an anaerobic microorganism to grow in air, usually poorly, especially after anaerobic isolation.

Agar – Solid or semi-solid nutrient medium used to grow bacteria and fungi.

Ameboid Movement – A type of motility whereby an organism moves by cytoplasmic streaming.

Anaerobe – A microorganism that grows only in complete or nearly complete absence of air or molecular oxygen.

Antibiotic – Substance produced by a microorganism which inhibits or kills other microorganisms.

Antimicrobial – Chemical substance, either produced by a microorganism or by synthetic means, that is capable of killing or suppressing the growth of microorganisms.

Antiseptic – Antimicrobial agents that are sufficiently nontoxic to be applied on living tissues.

Aseptic Technique – The method for maintaining sterile culture media and other sterile objects free from microbial contamination during manipulations.

Autoclave – An instrument used to sterilize materials by destroying microorganisms with temperature and steam under pressure.

Bacilli – Rod or cylindrically-shaped bacteria.

Bacteremia – The presence of bacteria in the bloodstream.

Bacteria – Any of a group of prokaryotic unicellular round, spiral, or rod-shaped single-celled microorganisms that are often aggregated into colonies or motile by means of flagella, that live in soil, water, organic matter, or the bodies of plants and animals, and that are important because of their biochemical effects and pathogenicity.

Bacteriocidal – Having the ability to destroy bacteria.

Bacteriostatic – Having the ability to inhibit the growth of bacteria without destroying it.

Capsule – Gelatinous material surrounding a bacterial cell wall, usually of polysaccharide nature.

Carrier – A subclinically infected individual who may spread a disease.

Cell – The fundamental unit of living matter.

Chronic – An infection marked by a long duration, and often slowly progressing seriousness.

Ciliates – A group of protozoan parasites characterized by rapid motility driven by numerous short appendages, called cilia.

Cocci – Bacteria that are spherically-shaped.
**Coliform** – Bacteria normally found in the intestinal tract, particularly the colon.

**Colonization** – Multiplication of a pathogen after it has gained access to host tissues.

**Colony** – Macroscopically visible growth of a microorganism on a solid culture medium.

**Culture Medium** – An aqueous, semi-solid, or solid medium containing various nutrients suitable for the growth of microorganisms.

**Cytoplasm** – The fluid portion of a cell, bounded by the cell membrane but excluding the nucleus, if present.

**Cytoplasmic Membrane** – The permeability barrier of the cell, separating the cytoplasm from the environment.

**Death Phase** – Phase in which the rate of death of microorganisms exceeds the rate of reproduction, causing the actual number of bacteria to decline.

**Differential Media** – A media that has an indicator of some type added in order to differentiate various types of bacteria.

**Disinfectant** – An agent that frees from infection by destroying harmful microorganisms.

**Disk Diffusion** – A method of antimicrobial susceptibility whereby antibiotic-impregnated disks are dropped on a lawn of bacteria to determine the organism’s susceptibility or resistance to the antibiotic tests.

**Emerging Infections** – Infectious diseases whose incidence has increased in the past 20 years or threatens to increase in the near future.

**Endemic** – A disease that is constantly present, usually in low numbers.

**Endospore** – An asexual cell developed within a bacterial cell.

**Endotoxin** – A poisonous substance that originates internally in a bacterium, usually in the cell wall.

**Enrichment Media** – A media produced in such a way as to add nutrients that will enrich the growth of a particular microorganism, while not enhancing the growth of others.

**Enteric Bacteria** – Bacteria normally found in the intestinal tract.

**Enterotoxin** – Toxin affecting the cells of the intestinal mucosa.

**Epidemic** – The occurrence of a disease in unusually high numbers in a localized region.

**Eukaryote** – An organism composed of one or more cells containing visibly evident nuclei and organelles.

**Exotoxin** – A soluble poisonous substance produced during growth of a microorganism and released into the surrounding medium.

**Exponential Growth** – Growth of a microorganism where the cell number doubles within a fixed time period.

**Facultative Anaerobe** – Microorganism that grows under either aerobic or anaerobic conditions.

**Fermentation** – Anaerobic decomposition of carbohydrates.
Flagellates – A group of protozoa characterized by motility driven by the whiplike action of one or more long, thin appendages called flagella.

Flagellum – A long tapering process that projects singly or in groups from a cell and is the primary organ of motion of many microorganisms.

Fomites – Inanimate objects that may be contaminated with infectious organisms and serve in their transmission.

Fungi – Any major group of spore-producing organisms that lack chlorophyll and are usually classified as plants.

Generation Time – The time required for a population of microbial cells to double.

Genus – A category of biological classification ranking between the family and the species, comprising structurally or phylogenetically related species or an isolated species exhibiting unusual differentiation.

Germ Theory – Theory of medicine that states that infections, contagious diseases, and various other results from the action of microorganisms.

Gram Negative – A bacterium whose cell wall readily allows it to lose the crystal violet-iodine staining complex when washed with alcohol.

Gram Positive – A bacterium whose cell wall retains the crystal violet-iodine staining complex upon washing with alcohol, and thereby shows a visible purple color.

Gram Stain – The most common of all bacteriological stains, devised by Christian Gram in 1884, which is used to help identify bacteria. Components of the stain are Crystal Violet (primary stain), Gram’s Iodine (mordant), Ethyl Alcohol (decolorizing agent), and Safranin (counterstain).

Growth – An increase in cell number.

Host – An organism that harbors a parasite.

Infection – Invasion by and multiplication of microorganisms in body tissue resulting in disease.

Infusion Media – A nutrient broth media made by boiling ground beef with water and filtering off the solid material to yield a clear liquid, which then has peptone and salt added to it, and used primarily for growing stocks of microorganisms.

Inhibition – The reduction of microbial growth because of a decrease in the number of organisms present or alterations in the microbial environment.

Koch’s Postulates – Certain rules established by German physician Robert Koch that must be followed to establish a cause-and-effect relationship between a microorganism and a disease.

Lag Phase – A period of adaptation to the environment for microorganisms when they are metabolically active, but not yet multiplying, and occurs just after inoculation of the culture medium.

Leukocytes – White blood cells

Log Phase – Period of maximal growth rate of a microorganism in a culture medium.

Microaerophile – An aerobic organism that can grow only when oxygen tensions are reduced from that in the air.

Microbiology – The study of living organisms that are individually too small to be seen with the naked eye.
Microorganism – A microscopic organism consisting of a single cell and cell cluster, including the viruses.

Minimal Inhibitory Concentration – The smallest concentration of an antibiotic that regularly inhibits the growth of bacteria in vitro.

Molds – Multicellular fungi, which form both sexual and asexual spores for growth.

Mutation – A genetic change manifested by changes in cellular DNA.

Mycoses – Infections caused by fungi.

Normal Flora – Microorganisms that are normally expected to be found in a particular body site.

Nosocomial Infection – An infection that is acquired in a hospital or some type of nursing care facility.

Obligate – In terms of a microorganism, what that organism absolutely requires for growth, i.e., an obligate aerobe must have air to grow.

Outbreak – The occurrence of a large number of cases of a disease in a short period of time.

Pandemic – A worldwide epidemic.

Parasite – An organism that lives on or within and at the expense of another organism.

Pasteurization – A process which involves heating to destroy disease-producing organisms.

Pathogen – An organism that lives off of a host, and does harm to that host.

Pathogenicity – The ability of an organism to inflict damage on a host.

Petri Dish – A small, shallow dish of thin glass or plastic with a loose cover used especially for bacteriological cultures.

Phagocytosis – The engulfing and usual destruction of particulate matter by cells that serves as an important defense mechanism against infection by microorganisms.

Prokaryote – A cell that lacks a membrane-enclosed nucleus and that usually has a single circular DNA molecule as its chromosome.

Protozoa – Any of a phylum or subkingdom of chiefly motile unicellular eukaryotic organisms that may be pathogenic parasites of humans and domestic animals.

Pure Culture – A culture composed of only one kind of bacterium.

Resistance – The inherent ability of an organism to resist a harmful influence, such as an antibiotic.

Rickettsia – A genus of rod-shaped, coccoid, or diplococcus-shaped, often pleomorphic bacteria that live intracellularly in biting arthropods and when transmitted to humans by the bite of an arthropod host cause a number of serious diseases.

Selective Media – Media with additives which will only allow certain types of organisms to grow.

Septicemia – An infection of the bloodstream.

Slime Layer – Large polymers secreted by many bacteria that adhere to their external cell walls, creating a barrier around the bacterial cell.
Species – In microbiology, a collection of strains of microorganisms that all share the same major properties but differ in one or more significant properties from other collections of strains.

Spiral Forms – Bacterial cells that are cylindrical and convoluted in varying degrees rather than straight like bacilli.

Spirochete – Spiral bacteria that possess flexible cell walls and axial filaments used for motility.

Spontaneous Generation – The hypothesis that living organisms can originate from nonliving matter.

Spores – Reproductive cells of bacteria, fungi, or protozoa.

Stationary Phase – The period immediately following the log phase, where the rate of reproduction equals the rate of death, making the overall number of organisms constant.

Sterile – Free of living microorganisms.

Sterilization – The killing or removal of all living organisms and their viruses from a growth medium.

Susceptible – Having little or no resistance to a particular antibiotic.

Vector – A living agent that transfers a pathogen.

Viable – Capable of reproducing.

Virion – The complete virus particle.

Virulence – The degree of pathogenicity or disease-producing ability of a microorganism.

Virus – The smallest organisms known to man which require living host cells for growth, and are classified according to shape, presence or absence of a membrane, the type of nucleic acid they contain, and the form of the viral nucleic acid.

Yeast – Microscopic one-celled fungi which reproduce by forming buds on the mother cell, which pinch off to become new cells. They may also produce sexual spores following fusion of two separate yeast cells.

Zoonosis – A disease of lower animals transmissible to humans.