Directions: Match each term with its correct definition (Note: They are grouped into groups of 10 or less terms, look for the lines separating the groups)

\_\_\_\_1. Anneal A. the use of artificial methods to modify the genetic material of living

organisms or cells to produce novel compounds or to perform new functions

\_\_\_\_2. Biomarker B. the production of an exact copy—specifically, an exact genetic copy

of a gene, cell, or organism

\_\_\_\_3. Biotechnology C. the technique used to cure heritable diseases by replacing mutant

genes with good genes

\_\_\_\_4. Cloning D. a technique used to separate molecules on the basis of their ability to

migrate through a semisolid gel in response to an electric current

\_\_\_\_5. Gel Electrophoresis E. alteration of the genetic makeup of an organism using the molecular

methods of biotechnology

\_\_\_\_6. Gene Therapy F. an individual protein that is uniquely produced in a diseased state

\_\_\_\_7. Genetic Engineering G. an organism whose genome has been artificially changed

\_\_\_\_8. Genetic Map H. identifying gene variants in an individual that may lead to a genetic

disease in that individual

\_\_\_\_9. Genetic Testing I. in molecular biology, the process by which two single strands of DNA

hydrogen bond at complementary nucleotides to form a double-stranded molecule

\_\_\_\_10. Genetically Modified J. an outline of genes and their location on a chromosome that is based

Organism (GMO) on recombination frequencies between markers

\_\_\_\_11. Genomics A. a species that is studied and used as a model to understand the

biological processes in other species represented by the model

organism

\_\_\_\_12. Metagenomics B. a technique used to make multiple copies of DNA

\_\_\_\_13. Model Organism C. a combination of DNA fragments generated by molecular cloning that

does not exist in nature

\_\_\_\_14. Pharmacogenomics D. a set of over- or under-expressed proteins characteristic of cells in a

particular diseased tissue

\_\_\_\_15. Physical Map E. study of the function of proteomes

\_\_\_\_16. Plasmid F. the study of entire genomes, including the complete set of genes,

their nucleotide sequence and organization, and their

interactions within a species and with other species

\_\_\_\_17. Polymerase Chain G. a representation of the physical distance between genes or genetic

Reaction (PCR) markers

\_\_\_\_18. Protein Signature H. the study of the collective genomes of multiple species that grow and

interact in an environmental niche

\_\_\_\_19. Proteomics I. the study of drug interactions with the genome or proteome; also

called toxicogenomics

\_\_\_\_20. Recombinant DNA J. a small circular molecule of DNA found in bacteria that replicates

independently of the main bacterial chromosome; plasmids

code for some important traits for bacteria and can be used as

vectors to transport DNA into bacteria in genetic engineering

applications

\_\_\_\_21. Recombinant Protein A. an enzyme that recognizes a specific nucleotide sequence in DNA and

cuts the DNA double strand at that recognition site, often with a

staggered cut leaving short single strands or “sticky” ends

\_\_\_\_22. Reproductive Cloning B. a form of genetic analysis that manipulates DNA to disrupt or affect

the product of a gene to analyze the gene’s function

\_\_\_\_23. Restriction Enzyme C. a protein that is expressed from recombinant DNA molecules

\_\_\_\_24. Reverse Genetics D. describing an organism that receives DNA from a different species

\_\_\_\_25. Transgenic E. a process that determines the nucleotide sequence of an entire

genome

\_\_\_\_26. Whole Genome F. cloning of entire organisms

Sequencing