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. Alternative RNA A. A five-carbon sugar molecule with a hydrogen atom rather than a

Splicing hydroxyl group in the 2'position; the sugar component of DNA

nucleotides

\_\_\_\_2. Codon B. the enzyme that catalyzes the joining of DNA fragments together

\_\_\_\_3. Deoxyribose C. an enzyme that synthesizes a new strand of DNA complementary to a

template strand

\_\_\_\_4. DNA Ligase D. describing non-genetic regulatory factors, such as changes in

modifications to histone proteins and DNA that control

accessibility to genes in chromosomes

\_\_\_\_5. DNA Polymerase E. processes that control whether a gene is expressed

\_\_\_\_6. Double Helix F. a post-transcriptional gene regulation mechanism in eukaryotes in

which multiple protein products are produced by a single gene

through alternative splicing combinations of the RNA transcript

\_\_\_\_7. Epigenetic G. three consecutive nucleotides in mRNA that specify the addition of a

specific amino acid or the release of a polypeptide chain during

translation

\_\_\_\_8. Exon H. the molecular shape of DNA in which two strands of nucleotides wind

around each other in a spiral shape

\_\_\_\_9. Gene Expression I. a sequence present in protein-coding mRNA after completion of pre-

mRNA splicing

\_\_\_\_10. Genetic Code J. the amino acids that correspond to three-nucleotide codons of mRNA

\_\_\_\_11. Helicase A. a permanent variation in the nucleotide sequence of a genome

\_\_\_\_12. Intron B. non–protein-coding intervening sequences that are spliced from

mRNA during processing

\_\_\_\_13. Lagging Strand C. the strand that is synthesized continuously in the 5' to 3' direction

that is synthesized in the direction of the replication fork

\_\_\_\_14. Leading Strand D. a form of DNA repair in which the DNA molecule is unwound and

separated in the region of the nucleotide damage, the damaged nucleotides are removed and replaced with new nucleotides using the complementary strand, and the DNA strand is resealed and allowed to rejoin its complement

\_\_\_\_15. Mismatch Repair E. messenger rRNA; a form of RNA that carries the nucleotide sequence

code for a protein sequence that is translated into a polypeptide sequence

\_\_\_\_16. mRNA F. a nitrogen-containing molecule that acts as a base; often referring to

one of the purine or pyrimidine components of nucleic acids

\_\_\_\_17. Mutation G. the strand of DNA that is not used to transcribe mRNA; this strand is

identical to the mRNA except that T nucleotides in the DNA are

replaced by U nucleotides in the mRNA

\_\_\_\_18. Nitrogenous Base H. an enzyme that helps to open up the DNA helix during DNA

replication by breaking the hydrogen bonds

\_\_\_\_19. Nontemplate Strand I. during replication of the 3' to 5' strand, the strand that is replicated in

short fragments and away from the replication fork

\_\_\_\_20. Nucleotide Excision J. a form of DNA repair in which non-complementary nucleotides are

Repair recognized, excised, and replaced with correct nucleotides

\_\_\_\_21. Okazaki Fragments A. control of gene expression after the RNA molecule has been created

but before it is translated into protein

\_\_\_\_22. Phosphate Group B. a short stretch of RNA nucleotides that is required to initiate

replication and allow DNA polymerase to bind and begin replication

\_\_\_\_23. Post-transcriptional C. a sequence on DNA to which RNA polymerase and associated factors

bind and initiate transcription

\_\_\_\_24. Post-translational D. an enzyme that synthesizes an RNA strand from a DNA template

strand

\_\_\_\_25. Primer E. ribosomal RNA; molecules of RNA that combine to form part of the

ribosome

\_\_\_\_26. Promoter F. the DNA fragments that are synthesized in short stretches on the

lagging strand

\_\_\_\_27. Replication Fork G. the method used to replicate DNA in which the double-stranded

molecule is separated and each strand acts as a template for a new strand to be synthesized, so the resulting DNA molecules are composed of one new strand of nucleotides and one old strand of nucleotides

\_\_\_\_28. RNA Polymerase H. a molecular group consisting of a central phosphorus atom bound to

four oxygen atoms

\_\_\_\_29. rRNA I. the Y-shaped structure formed during the initiation of replication

\_\_\_\_30. Semiconservative J. control of gene expression after a protein has been created

Replication

\_\_\_\_31. Splicing A. transfer RNA; an RNA molecule that contains a specific three-

nucleotide anticodon sequence to pair with them RNA codon and also binds to a specific amino acid

\_\_\_\_32. Start Codon B. the region of locally unwound DNA that allows for transcription of

mRNA

\_\_\_\_33. Stop Codon C. the DNA at the end of linear chromosomes

\_\_\_\_34. Telomerase D. an enzyme that contains a catalytic part and an inbuilt RNA template;

it functions to maintain telomeres at chromosome ends

\_\_\_\_35. Telomere E. the strand of DNA that specifies the complementary mRNA molecule

\_\_\_\_36. Template Strand F. one of the three mRNA codons that specifies termination of

Translation

\_\_\_\_37. Transcription Bubble G. the process of removing introns and reconnecting exons in a pre-

mRNA

\_\_\_\_38. tRNA H. the AUG (or, rarely GUG) on an mRNA from which translation begins;

always specifies methionine