1. Anthropology can be thought of as ____________ because it ____________.
   a. being holistic; recognizes the complex interactions of everything that made us what we are as a species
   b. interdisciplinary; draws knowledge from many areas of study
   c. biocultural; looks at the interactive relationships of human biology and culture
   d. both A and B
   e. All of the above

2. Physical anthropologists are not generally known for their interest in:
   a. Skeletal material, both contemporary and fossil
   b. Genetic studies of population affinity
   c. Studying primates to learn about the past behavior of human ancestors
   d. Evolution of social systems
   e. None of the above interest physical anthropologists

3. Two subfields of physical anthropology include ____________, which includes people who specialize in ____________ and ____________ whose members study ____________.
   a. Ethnography, describing cultures; ethnology, cross-cultural differences
   b. CRM, legal archaeology; medical anthropology, how cultures deal with disease
   c. Primatology, non-human primate behavior; osteology, skeletal biology
   d. Applied, real-life applications; ethnoastronomy, how people perceive the stars
   e. Forensic, identifying skeletal remains for law enforcement; linguistic anthropology, the evolution of language and its implications to culture

4. As defined in class, all anthropologists can be described as seeking to investigate humanity’s ___, ____, and ____.
   a. adaptive significance, heritage, direction
   b. variation, evolution, adaptation
   c. economy, culture, psyche
   d. life, history, biology
   e. society, psychology, sociology

5. To practice good scientific method, a careful researcher will (in sequential order) seek to:
   a. develop a theory about observations, test that theory, and then develop a hypothesis to explain the results
   b. notice something of interest in the world, develop a hypothesis, state a law
   c. analyze data, draw conclusions, win a Nobel prize
   d. be creative, employ skepticism, develop a hypothesis
   e. develop a hypothesis about observations, test that hypothesis, develop a theory out of the results obtained if the hypothesis is not disproven

6. Two early ideas about the organization of life in the world were ________ which was the idea that all life was organized into some hierarchical structure with humans at the top, and ____________ which stated that all organisms were forever unchanging after their time of creation.
   a. Teleology, Fixity of species
   b. The Great Chain of Being, Fixity of Species
   c. Taxonomy, Great Chain of Being
   d. Fixity of Species, Teleology
   e. None of the above

7. Which of the following is NOT a requirement for Natural Selection to create new species?
   a. Variation
   b. Competition for scarce resources
   c. Heritability of traits
   d. Migration
   e. Long spans of time
8. Which of the following people was NOT an influence on Darwin?
   a. Malthus
   b. Lyell
   c. Mendel
   d. A and B
   e. B and C

9. In a cross between parents who are both carriers of a recessive trait, what percentage of offspring will be carriers?
   a. 0%
   b. 25%
   c. 50%
   d. 75%
   e. 100%

10. Nuclear DNA is found in __________.
    a. The nucleus of the cell
    b. In chromosomes
    c. Ribosomes
    d. A and B
    e. B and C

11. How many amino acids are coded for in the “language” of DNA in all living things:
    a. 3
    b. 4
    c. 10
    d. 20
    e. Infinite Number

12. In DNA, the base Adenine will always pair with its complementary base, called ____________.
    a. Adenine
    b. Guanine
    c. Cytosine
    d. Thymine
    e. Uracil

13. What is the genotype for a normal human male?
    a. XX
    b. XY
    c. XXY
    d. XYY
    e. YY

14. Recombination is an important factor for creating additional genetic diversity. It occurs in:
    a. Meiosis
    b. Mitosis
    c. Protein Synthesis
    d. A and B
    e. All of the above

15. One nucleotide of DNA consists of ____________, ____________, and ____________.
    a. Ribose, Protein, Sodium Pentathol
    b. Deoxyribose, a phosphate, one of four amino acids
    c. Ribose, a phosphate, one of four nucleotide bases
    d. Deoxyribose, a sugar, one of three triplet codons
    e. Deoxyribose, a phosphate, one of four nucleotide bases
16. DNA is a special molecule because it can ____________ and it ______________.
   a. Self-replicate, contains the coding for all proteins in the body
   b. Leave the nucleus, creates amino acids at the Golgi apparatus
   c. Destroy invading microbes, contains the coding for mitosis
   d. Metastasize, alleviates stress holistically
   e. None of the above. DNA can do none of these things.

17. In cellular divisions, ____________ is responsible for the creation of new ________.
   a. Meiosis, gametes
   b. Mitosis, somatic cells
   c. Meiosis, eggs and sperm
   d. Mitosis, non-reproductive body cells
   e. All of the above are true

18. In cellular division, the final “daughter cells” produced through meiosis will have ______ chromosomes within them, which is ______ the number as the “parent cell”.
   a. 23; half
   b. 92; double
   c. 23; double
   d. 46; the same
   e. 46; double

19. A sequence of three bases in the DNA chain is called a __________.
   a. Replicant
   b. Codon
   c. Protein
   d. Segregation
   e. Ribosome

20. A functional sequence of amino acids connected through peptide bonds is called a:
   a. Replicant
   b. Codon
   c. Protein
   d. Segregation
   e. Ribosome

21. Which of the following is an example of a Mendelian trait in humans?
   a. Sickle-cell anemia
   b. ABO blood type
   c. Rh blood type
   d. Achromatopsia (genetic dwarfism)
   e. All of the above

22. Mendelian traits are those which ______________ such as ____________.
   a. Are controlled by multiple alleles at multiple loci; height and weight
   b. Are controlled by alleles at a single locus; height and weight
   c. Only have a single allele; the presence of five fingers on the hand
   d. Are controlled by two or more alleles at a single locus, the ABO blood system
   e. None of the above.
23. Traits which are non-discrete (they have a continuous distribution of phenotypes), and are controlled by alleles at more than one locus are called:
   a. Mendelian
   b. Evolutionary
   c. Polygenic
   d. Monozygotic
   e. Dizygotic

24. Which of the following is not true of Mitochondrial DNA (mtDNA)?
   a. Does not undergo recombination
   b. Is passed only through the maternal lineage
   c. Can be used to suggest population relationships
   d. Is of little use to anthropologists
   e. Is found outside the nucleus of the cell

25. Some factors which alter allele frequencies in a population include: __________.
   a. Mutation
   b. Natural Selection
   c. Genetic Drift
   d. Gene Flow
   e. All of the above affect allele frequencies

26. Which of the following would be the best population for studying genetic drift?
   a. A large hippie commune with rapidly changing membership
   b. A farmer’s large herd of cattle with equally large numbers of males and females
   c. The population of Chernobyl after the meltdown of its nuclear plant
   d. European immigrants flooding in during the early part of this century
   e. The seven castaways from Gilligan’s Island (assuming they interbred)

27. Sickle Cell Anemia is an example of a:
   a. balanced polymorphism
   b. trait in which heterozygotes have advantages over homozygotes
   c. trait with no anthropological or evolutionary significance
   d. A and B
   e. All of the above

28. You are blood type O; you can accept a transfusion from type(s):
   a. A
   b. B
   c. AB
   d. O
   e. All of the above

29. A man is questioning that a particular child is his. If the child is type O and the mother is type A, then which of the blood types below would the man need to be in order to exclude himself from the list of potential fathers with 100% certainty?
   a. A
   b. B
   c. AB
   d. O
   e. The man is unable to exclude himself as the father with a simple blood test.
30. A rule requiring people to mate within a group is called:
   a. Ieletion
   b. Substitution
   c. Crossing over
   d. Endogamy
   e. Exogamy

31. What is the disease shown to be found in association with the sickle cell trait throughout the world’s tropics?
   a. Achondroplastic dwarfism
   b. Malaria
   c. Albinism
   d. Phenylketonuria
   e. None of the above

32. Which of the following is NOT one of the possible offspring from this mating: AaBbCCDd X aaBBCcDd
   a. aaBBCCDD
   b. AaBbCCdd
   c. AABBCcDD
   d. Both a and b
   e. All of the above are impossible offspring

Matching Concepts (2 pts each)
Match the following terms with the most appropriate associated idea or definition. There is only one correct response for each term. Take extra care here!!!!!

33. Gene Flow
   A. Long strand of DNA macromolecules
34. Genetic Drift
   B. Position of a gene on a chromosome
35. Chromosome
   C. Sequence of three nucleotides
36. Locus
   D. Migration or exchange of genes between populations
37. Codon
   E. Affects only small populations through random fluctuations in allele frequency

Matching People (2 pts each)
Match the following individuals with their related theories and/or ideas. Each has only one correct response.

38. Georges Cuvier
   A. Offspring inherit traits acquired by their parents during their lives.
39. Jean Baptiste Lamarck
   B. Developed the idea of evolution by means of natural selection, at the same time as Darwin.
40. Alfred Russell Wallace
   C. Developed first taxonomy, classifying animals using the binomial nomenclature.
41. Carolus Linnaeus
   D. Species become extinct by disasters and are replaced by new ones from outside the area.
42. Chares Lyell
   E. The same geologic processes are operating now that have operated in the past.
43. PKU, the trait represented in the pedigree, is inherited as a(n):
   a. Polygenic
   b. Autosomal Dominant
   c. Autosomal Recessive
   d. Sex-linked Recessive
   e. Sex-linked Dominant

44. The genotype of individual “A” is:
   a. AA
   b. Aa
   c. aa
   d. AA or Aa
   e. The trait is sex linked

45. The genotype of individual “B” is:
   a. AA
   b. Aa
   c. aa
   d. AA or Aa
   e. AA or aa

True False. Mark A for true and B for false (2 pts each)

46. To test whether or not a population’s allele frequencies are changing noticeably from one generation to the next, we must compare their observed genotype frequencies with those expected under conditions of no evolution. If no evolution is occurring, then they should be the same (at least statistically).

47. If a population is shown to be in the Hardy Weinberg Equilibrium, no evolution is taking place.

48. Polymorphisms are traits with more than one allele occurring at a rate unexplainable through mutation alone.

49. The two most important factors in understanding evolution as we know it are variation and natural selection, as is stated in the theory of the Modern Synthesis.

50. I am ready for spring break like you wouldn’t believe.