

13. Blocks of DNA with genes in the same order that are conserved between species are known as
- A. synteny
 - B. the finished sequence
 - C. the draft sequence
 - D. contigs
 - E. proteomes
14. Mitochondria and chloroplasts are bacterial relatives living within eukaryotes as a result of
- A. synteny
 - B. exosymbiosis
 - C. endosymbiosis
 - D. draft sequencing of the proteomes of the mitochondria and chloroplasts by the nucleosome
 - E. contiguous base pairing
15. Draft sequences have
- A. many gaps in regions of highly repetitive DNA
 - B. less than 1 error in 10,000 nucleotides
 - C. been found in various proteomes across the eukaryote life forms
 - D. been produced by alternative splicing
 - E. several problems, the main one being their contiguous DNA fragments
16. All of the RNA present in a cell or tissue at a specific time is called the
- A. proteome
 - B. spliceosome
 - C. nucleosome
 - D. RNA motif
 - E. Transcriptome
17. A transgene is
- A. hard to destroy once inserted into a genome
 - B. hard to study because of its transposons
 - C. created by several of the DNA motifs
 - D. an inserted foreign gene
 - E. a result of endosymbiosis
18. Chloroplasts can be independently replicated in a plant cell because
- A. of synteny
 - B. it has its own genome
 - C. of its repetitive DNA sequences

- D.of its ability to use restriction enzymes
E.it has several contigs
19. A genome sequence with minimal gaps, with the sequences in the correct order, and having no more than 1% error in 10,000 nucleotides is known as
- A.PCR sequence
 - B.draft sequence
 - C.finished sequence
 - D.shotgun sequence
 - E.clone by clone sequence
20. Long interspersed elements (LINES) are a type of
- A.pseudogene
 - B.proteone
 - C.exon
 - D.intron
 - E.transpon
21. To be classed as a polymorphism, a SNP must be present in
- A.every draft sequence of the species being investigated
 - B.every finished sequence of the species being investigated
 - C.at least genome of the species being investigated
 - D.at least 1% of the population of the species being investigated
22. Non-coding DNA regions within a gene are referred to as
- A.introns
 - B.exons
 - C.templates
 - D.transposons
 - E.pseudogenes
23. Inactive genes that have lost their function due to mutations are called
- A.introns
 - B.exons
 - C.templates
 - D.transposons
 - E.pseudogenes
24. The majority (45%) of the human genome is composed of
- A.introns
 - B.exons
 - C.templates

D.transposons
E.pseudogenes

25. Some regions of chromosomes remain highly condensed, tightly coiled, and untranscribed throughout the cell cycle. These regions are referred called
- A.transposable elements
 - B.single sequence repeats
 - C.non-coding DNA
 - D.short interspersed elements
 - E.constitutive heterchromatin
26. Linkage disequilibrium is
- A.the tendency of genes to be totally randomized during meiosis
 - B.the tendency of genes not to be randomized during meiosis
 - C.the tendency of genes of single nucleotides polymorphisms to be rearranged during meiosis because of crossing over
 - D.the tendency of genes to link together within certain blocks along the chromosome
 - E.the tendency of contigs being so randomized that mapping becomes an issue for gene sequencing
27. Microarrays are created by
- A.robotically placing DNA on to a microscope slide and probing with RNA from the tissue of interest
 - B.robotically placing DNA on to a microscope slide and probing with another DNA from the tissue of interest
 - C.robotically placing DNA on to a microscope slide and probing with SNPs from the tissue of interest
 - D.robotically placing DNA on to a microscope slide and probing with STSs from the tissue of interest
 - E.colone by clone sequencing
28. A transgene is
- A.an inserted exon
 - B.an inserted intron
 - C.an inserted nucleosome
 - D.an inserted foreign gene
 - E.an inserted transcriptome
29. Calcium ion functioning is mediated by
- A.cAMP
 - B.CAP
 - C.Calmodulin
 - D.the Na ion – K ion pump
 - E.proteomes that have calcium motifs

30. A private company has been hired by the parliament of _____ to create a data base from pooled medical, genetic, and genealogical information.
- A. Nova Scotia
 - B. Iceland
 - C. Gibraltar
 - D. Portugal
 - E. Monaco
31. Homologous regions of DNA can vary slightly in base-pair composition among individuals in a population. When a homologous stretch of DNA is cut with restriction enzymes in different individuals, fragments of different lengths are produced. These fragments are called
- A. landmarks of DNA sequencing
 - B. contig fragments
 - C. single length polymorphisms
 - D. restriction fragments length polymorphisms
 - E. sequence-tagged site fragments
32. PCR products are separated on a DNA gel based on
- A. ionic charge of the product (i.e., if it positively or negatively charged)
 - B. methylated side chains on the products
 - C. the number of contigs available
 - D. amount of electrical voltage in the current applied to the gel
 - E. size of the products
33. To avoid confusing and to allow ease if data interruption, researchers working on cloned DNA from the same species use
- A. restriction fragment length polymorphisms
 - B. shotgun sequencing
 - C. sequenced-tagged sites
 - D. clone by clone sequencing
 - E. consensus sequencing
34. The sequencing method that cuts DNA segments into fragments, arranges those fragments based on overlapping nucleotide sequences, and then clones these fragments is called
- A. the shotgun method of sequencing
 - B. the clone by clone sequencing method
 - C. RFLP sequencing
 - D. consensus sequencing

35. The sequencing method that cuts the DNA of an entire chromosome into small fragments and then clones these fragments is called
- A. the shotgun method of sequencing
 - B. the clone by clone sequencing method
 - C. RFLP sequencing
 - D. consensus sequencing
36. Which of the following statements is true?
- A. In general eukaryotic genomes are larger than prokaryotic genomes.
 - B. In general eukaryotic genomes are smaller than prokaryotic genomes.
 - C. The size of the organism determines the size of the genome.
37. The majority of DNA in a human is
- A. composed of short interspersed elements
 - B. non-coding
 - C. simple sequence repeats
 - D. segmental duplications
 - E. structural
38. Rice and its grain relatives, maize, barley and wheat, diverged from a common ancestor 50 million years ago, However the chromosomes of these plants demonstrate extensively conserved arrangements of segments. This phenomenon is called
- A. a linkage disequilibrium
 - B. a single nucleotide polymorphisms
 - C. a contig
 - D. synteny
 - E. expressed sequence equilibrium
39. Groups of related but distinctly different genes that appear to have arisen from a single ancestral gene are referred to as
- A. segmental duplications
 - B. pseudogenes
 - C. tandem clusters
 - D. multigene families
 - E. expressed sequences
40. Identical copies of genes that can be transcribed simultaneously are called
- A. segmental duplications
 - B. pseudogenes
 - C. tandem clusters
 - D. multigene families

E. expressed sequences

Answer Key

1	Genome
2	Genetic
3	Physical
4	Centimorgans
5	Genomics
6	Pseudogenes
7	Transcription
8	Exons
9	Simple sequence repeats
10	Telomeres
11	B
12	E
13	A
14	C
15	A
16	E
17	D
18	B
19	C
20	E
21	D
22	A
23	E
24	D
25	E
26	B
27	A
28	D
29	C
30	B
31	D
32	E
33	C
34	B
35	A

36	A
37	B
38	D
39	D
40	C