Atlas Secondary and Preparatory School

0929 90 31 94 0929 90 31 95 0113 48 15 08

✉ 27848 atlasschool1994@yahoo.com, atlasschool94@gmail.com

Part one:- <u>Multiple choice questions</u>

_____ 1. Insertion or deletion of a single base in DNA segment is called

A. base substitution C. wobble changes

B. frame shift mutation D. disjunction

_____ 2. The shifting of tRNA from A site to P site is called

A. translocation C. transformation

B. transcription D. translation

_____ 3. Three base sequences present on tRNA that are complementary to the triplet code of mRNA is named as

A. codon C. anticodon

B. a strand of DNA D. a primer

_____ 4. The function of DNA polymerase is to

A. hydrolyse the DNA molecule

B. form DNA by joining nucleotides

C. convert the DNA molecule to RNA D. combine two RNA molecules to form DNA

_____ 5. The type of chromosomal mutation that causes human genetic defect called trisomy 16 is

A. Deletion C. Duplication

B. Chromosomal invasion D. Translocation

_____ 6. Bacteria swaps antibiotic resistant genes through the following processes except

A. conjugation B. transcription C. transduction D. transformation

_____ 7. If the sequence of the base on the strand of DNA is CATGATTAGCCA, what would be the sequence of the base in mRNA molecule that is to be formed?

A. GATCTAATCGGT C. GUACUAAUCGGU

B. GATCTAATCGGU D. GUACTAUUCGGU

_____ 8. Which one is not true of Down's syndromes' manifestations?

A. mental retardation C. stunted growth

B. heart defects D. miscarrage

_____ 9. If an organism possesses a gene which does not belong to it, but obtained it form somewhere else such organism is said to be

A. a mutant B. a hybrid C. a clonal D. transgenic

_____ 10. The number of nucleotides needed to form codons for a protein that is 200 amino acids is

A. 400 nucleotides C. 800 nucleotides

B. 600 nucleotides D. 1200 nucleotides

_____ 11. If allowed to self – pollinate, which one of the following pea genotype would produce progeny with 9:3:3:1phynotypic ratio?

A. RRYY B. RyYY C. RrYy D. RRYy

_____ 12. From the statement: "THE CAT EAT THE RAT BUT NOT THE BAT", if the letter E is removed from the word EAT, this would be expressed in genetic terms as

A. frame – shift mutation C. addition mutation

B. substitution mutation D. chromosomal mutation

_____ 13. If a segment of chromosome is transferred to another non – homologous chromosomes, it is termed as

A. translocation B. deletion C. inversion D. substitution

_____ 14. If a clone is produced by transferring a nucleous of animal 'A' to an enucleated egg of animal 'B' and the egg is then implanted in the uterus of animal 'C', which animal would the clone resemble most?

A. Animal C B. Animal A C. Animal B D. Other animals

_____ 15. If a human chromosome 21 occurs as three instead of two as in diploid individuals, the defect that results would be

A. Pradar – willi syndrome C. Myelogenic Leukemia

B. Down's syndrome D. Miscarriage

Given the following statement as:

1. ***complementary to sequence on DNA***
2. ***free RNA nucleotide used***
3. ***DNA stands in region of gene separate (unzip)***
4. ***assembled into a strand***

_____ 16. The correct sequence of process of transcription to synthesize protein in eukaryotic cells is

A. 3 – 4 – 2 – 1 B. 2 – 4 – 3 – 1 C. 3 – 2 – 4 – 1 D. 2 – 3 – 4 – 1

_____ 17. Mutations responsible for sickle cell anemia from the following is

A. deletion of base pairs C. addition of base pairs

B. substitution of base pairs D. a shift in the reading frame

_____ 18. The only source of new genetic material to act as a raw material for evolution is:

A. segregation B. recombination C. synapsis D. mutation

_____ 19. Polyploidy is common in

A. Animals B. Bacteria C. Plants D. Fungi

_____ 20. In bacteria most of the antibiotic resistant genes are found in

A. on the peptidoglycan C. in the plasmids

B. in the cytoplasm D. in the ribosomes

_____ 21. The two strands of DNA are

A. Similar and complementary C. Basically different in nature

B. Antiparallel and complementary D. Antiparallel and non – complementary

_____ 22. A molecule of DNA was found to contain 120adenine and 120thyamine bases only. How many nucleotides comprised this molecule of DNA?

A. 480 B. 60 C. 240 D. 120

_____ 23. Of the 64 possible codons how many code for amino acids?

A. 20 B. 61 C. 59 D. 60

Given are steps under which a genetic finger printing is made. This include

1. Add a radioactive DNA probe
2. Eventually a pattern of fragments called a DNA finger printing is made
3. Carryout southern blotting to transfer the fragments to a membrane
4. Incubate DNA with a restriction enzyme to cut it into fragments
5. Separate the fragment by genetic finger printing

_____ 24. The correct steps under which genetic finger printing is made

A. 4 – 5 – 1 – 3 – 6 – 2 C. 5 – 4 – 1 – 3 – 6 - 2

B. 3 – 4 – 2 – 1 – 5 – 6 D. 4 – 5 – 3 - 1 – 6 – 2

_____ 25. Gene silencing is the function of one of the following molecules, which one?

A. siRNA B. mRNA C. dsRNA D. tRNA

Part Two:- <u>Short answer questions</u>.

1. What is the ploidy level of a certain cell with 92 chromosomes?
2. What percent is your coding DNA?
3. Is deletion of a base pair from DNA a mutation?
4. List three difference between protein synthesis in prokaryotic and eukaryotic cells
5. List the main causes of point mutation