

**Dessie special boarding school Biology mid exam for grade 12**

**I. Choose the answer from the alternatives and write your answer on the answer sheet**

1. During protein synthesis, anticodons on tRNA pairs with
  - A. DNA nucleotide bases.
  - B. rRNA nucleotide bases
  - C. mRNA nucleotide bases
  - D. other tRNA nucleotide bases
2. Sensing strand of a DNA is
  - A. Template for mRNA
  - B. Codes the genetic code
  - C. non template for mRNA
  - D. B and C are answers
3. If the sequences of bases in DNA is TAGC, then the sequence of bases in RNA will be
  - A. ATCG
  - B. TAGC
  - C. AUCG
  - D. CGAT
4. RNA processing in **Eukaryotic cell** is
  - A. Same as transcription
  - B. An event that occurs after RNA is transcribed
  - C. Same as DNA replications
  - D. both B and C
5. A tumor suppressor gene
  - A. Inhibits cell division
  - B. Opposes oncogenes
  - C. prevents cancer
  - D. all of them are correct
6. According to the theory of transformations
  - A. If a man loses his hand, then his children will also be missing a hand.
  - B. Changes in a phenotype are passed on by way of the genotype to the next generations.
  - C. Organisms are able to bring about a change in their phenotypes
  - D. All of these are correct.
7. All the finches on the Galapagos islands are
  - A. Completely unrelated
  - B. Now in competition with each other b/c they all feed on seeds
  - C. Descended from a common ancestor
  - D. Both A & C are correct
8. According to Darwin's natural selection theory, organisms
  - A. Out compete with other members of their species
  - B. Differ in fitness
  - C. show variations
  - D. all of them are correct.
9. DNA nucleotide differences b/n organisms
  - A. Indicate how closely related organisms are
  - B. Explain why there are phenotypic differences
  - C. indicate that evolution occurs
  - D. All of them are correct.
10. If evolution occurs, we would expect d/f biogeographical regions with similar environments
  - A. All contain the same mix of plants & animals.
  - B. Each have its own specific mix of plants & animals
  - C. Have plants and animals that have similar adaptations
  - D. Both B & C are correct

11. The fossil record offers direct evidence for common descent b/c you can
  - A. See that the types of fossil changes over time
  - B. Sometimes find common ancestors
  - C. Trace the ancestry of a particular group
  - D. All of these are correct
12. The offspring of better adapted individuals are expected to make up a larger proportion of the net generation. The most likely explanation is
  - A. Mutation
  - B. Gene flow
  - C. Natural selection
  - D. Genetic drift
13. According to evolutionists, the continued occurrence of sickle cell anemia in parts of Africa with malaria is due to
  - A. Continued mutation
  - B. Gene flow b/n populations
  - C. Fitness of the heterozygote
  - D. disruptive selections
14. Which of the following is/are necessary to natural selections?
  - A. Variations
  - B. Differential reproduction
  - C. inheritance of differences
  - D. All are correct
15. The biological definition of a specie depends on
  - A. Anatomical & biochemical differences b/n two groups of organisms
  - B. The geographical distribution of two groups of organisms
  - C. Differences in the adaptations of two groups of organisms
  - D. Reproductive isolation of two groups of organisms
16. Allopatric but not sympatric speciation requires
  - A. Reproductive isolation
  - B. Geographical isolation
  - C. prior hybridization
  - D. spontaneous differences in males and females.
17. The many species of Galapagos's islands finch were each adapted to eating d/f foods. This is an example of
  - A. Gene flow
  - B. Adaptive radiation
  - C. Sympatric speciation
  - D. all are correct
18. Which of these did Stanley place in his experimental system to show that organic molecules could have arisen from inorganic molecules on the primitive atmosphere?
  - A. Nitrogenous bases
  - B. Purines & pyrimidines
  - C. primitive gases
  - D. all are correct.
19. Which one of the following is a true statement?
  - A. Primitive atmosphere was an oxidizing one and today's is a reducing.
  - B. The percentage composition of O<sub>2</sub> is same in primitive and today's atmosphere.
  - C. The reducing primitive atmosphere contributed to the origin of life and the oxidizing one of today's would hindered it.
  - D. It took so long for prokaryote evolution b/c the primitive atmosphere screened out the ultraviolet radiation from the sun.
20. According to the origin theory of life, the first life form was
  - A. Chemoautotrophic prokaryote
  - C. heterotrophic prokaryote

21. The significance of the discovery of Ardi is
  - A. It proved a line of evolution of human.
  - B. Evolution of human from a common ancestor of chimpanzee and human.
  - C. Proved that the common ancestor of chimpanzee and human does not resembled chimpanzee.
  - D. It proved that bi pedalism preceded by large brain size in human evolution.
22. Lucy is a member of what species?
  - A. *H. erectus*
  - B. *Australopithecus afarensis*
  - C. *H. habilis*
  - D. *Australopithecus robustus*
23. Which one of the following organism is not included in the group Hominoid?
  - A. Ape
  - B. human
  - C. Hominins
  - D. prosimians
24. Which one of the following member of hominin is extinct?
  - A. *Australopithecus boisei*
  - B. *Australopithecus robustus*
  - C. *Australopithecus africanus*
  - D. all are extinct
25. The type of natural selection that brings two species from a common ancestors
  - A. Directional
  - B. Disruptive
  - C. Stabilizing
  - D. Adaptive
26. The gene pool of a given population become more similar as a result of
  - A. Mutation
  - B. Gene flow
  - C. Genetic drift
  - D. Recombination of alleles
27. The appendix of human best explains
  - A. The theory of natural selection of Darwin
  - B. The disuse theory of J.B. Lamarck
  - C. The use theory of J.B. Lamarck
  - D. The theory of neo Darwinism
28. According to Lamarck theory of evolution
  - A. Natural forces change all organisms towards perfections
  - B. Adaptations of organisms to their environment is due to variations
  - C. Evolution is the result of descent with modifications.
  - D. Trait developed during the life time of an organism is not heritable.
29. Both Darwin and Alfred Russell Wallace proposed natural selection as a mechanism for evolution and by bringing adaptations. These mechanism include
  - A. Variations with organisms
  - B. Organism survival and reproductive ability in its environment.
  - C. Organisms struggle for existence
  - D. All of these
30. Organisms share a unit of plan when they are closely related b/c of common descent; this is substantiated by which one of the following evidences of evolution?
  - A. Fossil records
  - B. Embryological development
  - C. comparative anatomy
  - D. both B & C

# Answer sheet

Name \_\_\_\_\_ number \_\_\_\_\_

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| 2. | 8.  | 14. | 20. | 26. |
| 3. | 9.  | 15. | 21. | 27. |
| 4. | 10. | 16. | 22. | 28. |
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| 6. | 12. | 18. | 24. | 30. |