

Human Biology BIO115 Final Exam Study Guide

1. Explain homeostasis
2. Describe the characteristics of life
3. Understand the evolutionary relationship among the six kingdoms
4. Explain the scientific method
5. Explain the scientific theory
6. Know the levels of biological organization
7. Describe the subatomic structure of an atom
8. Explain isotopes, list one example
9. Compare and contrast the three types of chemical bonds
10. Know the difference between a molecule and an element
11. Understand how water molecules are formed
12. Explain why water is a solvent for biological systems
13. Compare and contrast isotonic, hypotonic and hypertonic
14. Know the structure and function of the four organic molecules
15. Describe the structure of an animal cell
16. Know the function of cellular organelles
17. Explain the structure and function of plasma membrane
18. Understand how molecules move across the plasma membrane
19. Explain the pH scale
20. Describe the chemical reaction of cellular respiration
21. Compare anabolic and catabolic reactions
22. Explain glycolysis
23. Understand fermentation
24. Describe the four types of tissues and its main function
25. Explain why bone is both living and nonliving
26. Explain negative feedback
27. Know blood, blood plasma and blood cells
28. Know the function of the 11 organ systems
29. Describe the direction of blood circulation through the four chambers of the heart
30. Know which blood vessel carries the oxygenated blood, deoxygenated blood
31. Describe the air flow in the upper respiratory system
32. Know the organs in the digestive system
33. Understand what prevents food from entering trachea
34. Describe diaphragm
35. Understand why trachea is flexible
36. Explain tissue
37. Describe the central nervous system
38. Explain hormones
39. Explain bile
40. Explain the function of kidneys and the organs in the urinary system
41. Describe human gametes
42. Know the structure of a sperm cell
43. Know where fertilization takes place
44. Understand the importance of implantation in the initiation of the pregnancy
45. Describe cell cycle and its stages
46. Explain chromatin and chromosome and their correlation with the stages of cell cycle
47. Describe transcription
48. Describe translation
49. Compare and contrast the structure and function of DNA and RNA

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50. Interpret codon
51. Discuss the stages of cell cycle and the events associated with each
52. Compare and contrast mitosis and meiosis
53. Explain why multiple replication bubbles are formed during DNA replication
54. Define alleles, genotype, phenotype, homozygous, heterozygous
55. Use the Punnet Square to solve genetic problems
56. Define dominance, incomplete dominance, codominance, X-linked inheritance patterns
57. Explain nondisjunction
58. Describe a genetic disorder caused by the inheritance of a dominant-lethal allele
59. Interpret plasmid and its application in recombinant DNA
60. Know how to write the complementary stand DNA given a template DNA
61. Explain transgenic plants
62. Explain polymerase chain reaction (PCR)
63. Recognize zona pellucida and corona radiata
64. Know when does meiosis II take place in a secondary oocyte
65. Explain where the first four days of human embryonic development occurs
66. Explain cleavage
67. Know when a zygote forms
68. Explain homologous structure
69. Explain analogous structure
70. Explain vestigial structure
71. Recognize the evidence that support evolution theory
72. Describe the steps in the formation of the first living organism on earth
73. Describe the flow of energy in an ecosystem
74. Classify population, community, ecosystem, biosphere
75. Explain habitat, niche, and environmental resistance
76. Identify the four factors in an ecosystem
77. Describe the greenhouse effect
78. Recognize the inefficient energy transfer between trophic levels in an ecosystem
79. Explain biodiversity