

# DIRU Tolu medical science

UNIVERSITY OF NIGERIA

FACULTY OF BIOLOGICAL SCIENCES

FIRST SEMESTER EXAMINATION

BIO 101- GENETIC FOR MEDICAL STUDENTS

INSTRUCTION: CIRCLE THE CORRECT ANSWERS ONLY

1. Nucleotide are joined by ----- (a) adenine bond. B. Phosphodiester bond. C. Uracil bond. C. double bond
2. Nucleic acid is made up of units called A. sugar. B. purines. C. nucleotides. D. cytosine
3. Which of these is double stranded? A. RNA B. DNA C. RNA D. ERNA
4. Nucleoside is made up of ----- A. sugar only. B. Nitrogenous base only. C. sugar or nitrogenous base. D. sugar and nitrogenous base.
5. ----- are the two codon that initiate protein synthesis. A. GUG and UGA, B. GUG and AUG. C. UGA and UAA. D. AAU and GUG
6. The synthesis of RNA from DNA is known as ----- A. replication. B. duplication. C. transcription. D. translation
7. The RNA is ----- stranded. A. single. B. double. C. half. D. double and single
8. codons that do not code for amino acid and hence terminate protein synthesis are known as ----- A. senseless codon. B. duplication codon. C. nonsense codon. D. transcription-codon. E. co-nonsense codon
9. the sugar in RNA is called ----- A. Hexosugar. B. Ribose sugar C. semiribose sugar. D. single sugar.
10. The RNA that affect the catalysis and synthesis of protein is called ----- A. mRNA. B. tRN. C. rRNA. D. nRNA.
11. A trait expressed in both heterozygote and homozygote is known as ----- A. recessive. B. dominant. C. co-dominant. D. autonomous.
12. ----- is a term used to describe a trait carried on x-chromosome. A. sex-linked. B. sex-dominant. C. male sex linked. D. sex-determinant.
13. A disease condition in which the synthesis of the p-chain of haemoglobin is depressed while the x-chain haemoglobin synthesis continues normally is known as ----- A. anaemia. B. thalasæmia. C. sickle cell. D. diabetes.
14. G-6-PD patients do not show visible adverse effects unless their ----- is challenge by some drugs. A. erythrocyte. B. -----
15. The double stranded structure of DNA was discovered by ----- A. Francis Crick. B. George Francis. C. Francis Hook. D. dolly crick
16. What year was the double stranded of DNA discovered. A. 1961 B. 1954. C. 1952/ d/ 1955

17. The taking of drug to prevent a disease is called ----- A. curing  
preventing. C. prophylaxis. D. presymptomatic
18. The measurement used to plot Karyotype is called ----- A. karyogram  
caryogram. C. skyrogram. D. non of the above
19. Chromosomes are classified based on position of centron as -----  
metacentric, submetacentric, Acrocentric, telocentric. B. metacentric,  
subacrocentric, Telocentric. C. Metacentric, submetacentric, Acrocentric  
Telocentric. D. all of the above.
20. The science of heredity is known as ----- A. heredity. B. genetics. C.  
genetics. D. law of segregation
21. The inheritance of a single gene is known as ----- A. monohybrid  
inheritance. B. hybrid inheritance. C. mono inheritance. D. heterozygous  
inheritance
22. Which of these has thymine ----- a. DNA B. RNA? C. DNA and RNA. D.  
tRNA.
- (23) Pharmacogenetic response is also called ----- a. drug idiosyncrasy. B. drug  
dissyncrasy. C. diosyncrasy of drug. D. all of the above
24. The application of blood group system in legal issues is referred to as ---A.  
human genetics. B. genetic factors.C. Medicolegal. D. legal genetics
25. The gene of sickle cell anemia is ----- in occurrence. A. dominant. B.  
recessive. C. half recessive. D. half dominant
26. The cell responsible for immunity is known as ----- A. T-cell B.  
Hymphocytes. C. plasma cells. D. B-cells
27. Blood group 'O' individuals are regarded as universal donor because of -----  
A. presence of cellular antigen in their red blood cells. B. absence of cellular  
antigen in their white blood cells. C. absence of cellular antigen in their white  
blood cells. D. small quantity of cellular antigen in their red blood cells
28. The kinds of cellular antigens are ----- A. Antigen A and O B. Antigen A and  
Antigen AB. C. Antigen O and Antigen B. D. Antigen A and Antigen B.
29. If Rh-negative person receives an Rh-positive blood, the patient's antigen will-----  
A. Rh woman and Rh+. B.Rh-woman and Rh- C. Rh<sup>+</sup> man and Rh- D.none  
of the above.
30. The existence of a gene in more than one form is known as ----- A. recessive  
gene. B. allele. C. dominant genes. D. antigen
31. Rh-positive cells are produced by genes that are ----- A. recessive. B.  
dominant. Homicozygous. D. heterozygous.
32. A disorder that is determined by a combination of genetic and environmental  
factor is known as----- A. factorial disorder. B. multifactorial disorder. C.  
multifactorial disorder. D. disease disorder

33. The genes controlling quantitative traits is known as ----- A. monogenes.  
B. polygenes. C. polo-monogene. D. heterogenes.
34. A disorder determined solely by genetic factors where the environment has little or no effect is called ----- A. factorial disorder. B. multifactorial disorder.  
C. unifactorial disorder. D. poly disorders
35. A trait under the control of one or fews with little or no environmental factor is called ----- A. qualitative trait. B. quantitative trait. C. genetic traits. D. phenotypic trait.
36. The inheritance of disorder in question 34 above is termed as ----- A. multifactorial inheritance. B. Unifactorial inheritance. C. qualitative inheritance. D. quantitative inheritance.
37. Which of these is not correct ----- A. qualitative trait is controlled by numerous genes. B. the environment has much effect on the gene of qualitative trait. C. the environment contributes more to phenotypic variability and genetic factor on qualitative trait. D. the environment has little or no effect on the genes of qualitative trait.
38. Genes on Y- chromosome are called ----- A. hemizygous. B. halandri genes. C. heterogametic gene. D. all of the above.
39. A trait whose phenotype appearance is determined by the presence or absence of one of the sex hormones is called ----- A. sex influence traits. B. sex linked traits. C. sex limited traits. D. male linked inheritance
40. Offspring with more than five digits are said to be ----- A. polydactyl. B. polydacty. C. polydact. D. none of the above
41. Which of these is example of sex influenced trait. A. baldness. B. development of beard in human beings. C. development of hair at the chest
42. Traits whose dominance are influences by the sex of the bearer is known as --- A. sex influenced trait. B. sex limited traits. C. sex linked traits. D. sex-linked traits.
43. Beard development in human beings is an example of ----- A. sex- linked traits. B. sex influenced trait. C. sex-linked traits. D. sex-linked traits.
44. Change in DNA is known as ----- A. chromosome mutation. B. somatic mutation. C. gene mutation. D. duplication of gene.
45. Individual with chromosome number  $2n-1$  is said to be ----- A. monosomic. B. monosotric. C. trisomic. D. polysomic.
46. Individual with the chromosome number  $2n+1$  is said to be ----- A. trisomonic. B. trisomic. C. monosomic. D. polysomic
47. Change in the genetic material of an organism is called --- A. mutation. B. transition. C. transversion. D. duplication.

48. Mutation as a result of change in number and structure of chromosomes known as ----- A. gene mutation. B. spontaneous mutation. C. duplication mutation. Chromosome mutation.
49. Substances that cause mutation are called ----- A. mutants. B. muters. C. mutagens. D. mutegens
50. Deletion or addition of a base is known as ----- A. frame shift point mutation. B. frame non-shift point mutation. C. point mutation. B. frame non-shift point mutation. C. point mutation; D. none of the above
51. An organism that has AAAA is said to be ----- A. Euploid. B. autotetraploid. C. autotriploid. D. diploid.
52. A condition where the chromosome number differ by one or few extra chromosome is called---- A. Aneuploid. B. Autopolyploidy. C. Allopolyploidy. D. polyploidy.
53. Mutation that affects the body cell is called ----- A. germinal mutation. B. somatic mutation. C. somatic mutation. D. body mutation.
54. Breaking of chromosomes in two places so that the middle piece turns around and region changing sequence of genes is known as ----- A. transversion. B. duplication. C. translocation. D. inversion
55. Down's syndrome arises as a result of ----- A. inversion between chromosome 21 and 15. B. Translocation between chromosome 21 and 15. C. Translocation between chromosome 21 and 16. d. translocation between chromosome 15 and 21.
56. Down's syndrome was discovered by ----- A. John Langdon Down. B. Jonhn Longdon Down. C. John Laug Down. D. John Longon down
57. Down's syndrome was discovered in the year. A. 1867. b. 1866. c. 1966. d. 1667.
58. Mutation that affects the sex cell is called ----- A. somatic mutation. B. germinal mutation. C. gene mutation. D. sex stimulated mutation.
59. Cri du chat syndrome is caused by ----- A. deletion at the long arm of chromosome. B. replication at the short arm of chromosome. C. translocation at the long arm of chromosome. D. deletion at the short arm of chromosome
60. A child with Angel-man syndrome inherited it from ----- A. the monster. B. the father. C. father and mother. D. none of the above.
61. During replication, the enzyme responsible for splitting of helical structure of DNA is ----- A. helicase. B. ligases. C. polymerase. D. All of the above
62. The sugar in DNA is known as ----- A. deoxyribose sugar. B. deoxyfructose. C. deoxylactose. D. deoxygalatose
63. The mixing of sugar, base and phosphate to form nucleotide is known as ----- A. combination reaction. D. chemical combination. C. condensation reaction. D. mixing reaction.

64. The biosynthesis of DNA using DNA as template is called ----- A. replication. B. translocation. C. duplication. D. transversion.
65. The interval between each cell division is called ----- A. Gap. B. Telophase. C. prophase. D. interphase.
66. The inheritance of two pair of contrasted character is called ----- A. monohybrid inheritance. B. dihybrid inheritance. C. dominant inheritance. D. double inheritance.
67. A. diploid condition with the two allele on a given locus being different is known as ----- A. homozygous. B. heterozygous. C. hybrid. D. all of the above.
68. The division where the new cells formed retain some of hereditary factor before and after division is called ----- A. mitosis. B. meiosis. C. Meiosis. D. none of the above
69. The type of division where the number of chromosome in an oorganism is reduced to half ( $1/2$ ) is called ----- A. meiosis 11. b. meiosi. C. mitosis. D. meiosis 111
70. The arrangement of chromosomes according to height either in ascending or descending order is known as ----- A. karyogram. B. caryotype. C. karyotype. D. diokinesis
71. The double strands of DNA are joined by ----- A. hydrogen bonds. B. covalent bond. C. Co ordinate bonds. D. electrotritic bond.
72. Nucleic acid is made up of units called ----- A. nucleotides. B. nucleus. C. nucleoside. D. none of the above.
73. The position of an allele within a DNA molecule is called ----- A. nucleus. B. whole. C. role. D. locus
74. The longest phase of meiosis is known as ----- A. reduction phase. B. equational phase. C. rational phase. D. prophase 1
75. The division of nucleus is called ----- A. pedigree. B. karyokines. C. telephase. D. differentiation.
76. The division of cytoplasm is called ----- A. differentiation. B. karyokinesis. C. cytokinesis. D. karyogram
77. The Enzyme that is alternately oxidized by methaemoglobin and reduced by NADP is called ----- A. reductase. B. NADPH reductase. C. NADP methaemoglobin. D. All of the above
78. Genetic principles and its application to legal problems was made possible due to the discovery of ----- in high frequency among population. A. ABO group genetic factor. AB group genetic factor. C. AO group genetic factor. D. None of the above.
79. The two types of white blood cells are ----- and ----- A. T- cell and A-cells. B. T-cell and T-cells. C. T-cells and B-cells. D. T-cells and D-cells

80. The major histo-compatibility complex is determined by ----- A. blood cells. B. red blood cells. C. T-cells. D. D-Cells
81. Transfusion of mismatched blood caused mainly ----- A. Haemophy of red blood. B. Haemolysis of red cell agglutination. C. Agglutination only none of the above
82. The Rh-vaccine is injected into an endangered mother within-----hours delivery. A. sixty two hours. B. seventeen hours. C. forty two hours. D. seven two hours.
83. The Rh vaccine contains ----- A. Rh-. B. Rh<sup>+</sup>. D. none of the above.
84. Three or more allele's occupying a single locus is called ----- A. sing alleles. B. double allele. C. factorial allele. D. multiple allele.
85. A phenomenon whereby blood of a person of genotype hh gives no reaction with anti-A, Anti- B. OR anti-H is called ----- A. bay phenotype. B. bor phenotype. C. double phenotype. D. mombay phenotype.
86. A trait controlled by numerous genes where each gene contributes small amount of phenotype is called ----- A. quantitative inheritance. B. quantitative trait. C. qualitative trait. D. all of the above.
87. Males are ----- they produce two types of sex cell. A. heterogametic. B. homogametic. C. semi homogametic. D. semi-heterogametic.
88. Females are ----- as they produce only one type of sex cell. A. heterogametic. B. homogametic. C. semi- homogametic. D. all of the above.
89. Another name for unidentical twins is ----- A. monozygotic twins. B. fraternal twins. C. concordance twins. D. factorial twins.
90. Another name for identical twins is ----- A. dizygotic. B. monozygotic. C. fraternal. D. factorial.
91. Mutation occurring naturally is called ----- A. induced mutation. B. artificial mutation. C. spontaneous mutation. D. none of the above.
92. Lung and breast cancer are associated with ----- A. deletion at chromosome 17. B. deletion at chromosome 7.1. C. deletion at chromosome 16. D. deletion at chromosome 15.
93. A condition where a portion of chromosome is present in excess is called ----- A. deletion. B. duplication. C. tranversion. D. replication.
94. Mutagens that resemble the bases in structure are called ----- A. base analogue. B. nitrous acid. C. actridine. D. all of the above.
95. A DNA made by joining two DNA molecules from two different organisms is called ----- A. combinant. B. recombinant. C. co-combinant. D. recombinant
96. The testing a newborn baby for genetic defect is called ----- A. post neonatal diagnosis. B. neonatal diagnosis. C. pre-neonatal diagnosis. D. post neonatal diagnosis.

97. Testing before disease symptoms begin is called ----- A. presymptomatic test. B. post symptomatic test. C. Neonatal. D. none of the above.
98. Diagnosis at the gene level is called ----- A. postnatal diagnosis. B. carrier screening. C. molecular diagnosis. D. neonatal diagnosis.
99. An organism that has AA is said to be ----- A. Autotriploidy. B. diploid. C. Allopolyploidy. D. Euploidy.
100. The substitution of purine pyrimidine pair by another purine pyrimidine pair as ----- A. transversion. B. transversion. C. transition. D. duplication.

#### ANSWERS TO THE OBJECTIVE QUESTIONS

1. B	9. C	17. C
2. C	10. B	18. A
3. B	11. C	19. A
4. D	12. A	20. C
5. B	13. B	21. A
6. C	14. A	22. A
7. A	15. A	
8. C	16. D	
23. A	34. C	
24. C	35. A	45. A
25. B	36. B	46. B
26. A	37. D	47. A
27. C	38. B	48. D
28. A	39. A	49. D
29. A	40. B	50. A
30. B	41. A	51. B
31. B	42. A	52. A
32. B	43. A	53. C
33. B	44. C	
54. D		
55. C		