

Founders :
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Motto :
“We are saviour of nation.”



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11) _____ is strongly associated with ribosomal protein where 40% to 50% of it is present:

- A) DNA
B) rRNA
C) mRNA
D) tRNA

A B C D

12) Nicotinamide adenine dinucleotide (NAD) is an example of:

- A) Mononucleotide
B) Dinucleoside
C) Dinucleotide
D) Trinucleotide

A B C D

13) Single ringed nitrogenous bases are:

- A) Adenines
B) Guanines
C) Purines
D) Pyrimidines

A B C D

14) For a protein molecule of 2000 amino acids, mRNA will have the length of:

- A) 2000 nucleotides
B) 3000 nucleotides
C) 6000 nucleotides
D) 8000 nucleotides

A B C D

15) The two strands of the DNA molecules are:

- A) Parallel and complementary
B) Antiparallel and complementary
C) Parallel and non-complementary
D) Antiparallel and non-complementary

A B C D

16) Link of ribose with purine is always at:

- A) N-1
B) N-9
C) N-3
D) N-7

A B C D

17) It comprises about 10 to 20% of the cellular RNA:

- A) mRNA
B) tRNA
C) rRNA
D) snRNA

A B C D

18) Phosphodiester bond is formed between carbon number ____ and ____ in a polynucleotide chain:

- A) 1, 2
B) 2, 3
C) 3, 4
D) 3, 5

A B C D

19) Quantitatively the largest RNA of cell is:

- A) Messenger RNA
B) Transfer RNA
C) Ribosomal RNA
D) Non-coding RNA

A B C D

20) _____ is the first microbe to have the genome

20) _____ is the first microbe to have the genome completely sequenced:

- A) *E. coli* C) *Thermus aquaticus*
 B) *Haemophilus influenzae* D) *Mycobacterium tuberculosis*

- A B C D

21) The nucleoside of RNA excludes:

- A) Thymidine C) Cytidine
 B) Uridine D) Guanosine

- A B C D

22) Pick up the choice showing relative amounts of bases in sheep DNA as studied by Erwin Chargaff:

| | Adenine | Guanine | Thymine | Cytosine |
|----|---------|---------|---------|----------|
| A) | 30.9 | 19.9 | 29.4 | 19.8 |
| B) | 29.3 | 21.4 | 28.3 | 21.0 |
| C) | 27.3 | 22.7 | 27.1 | 22.8 |
| D) | 31.3 | 18.7 | 32.9 | 17.1 |

- A B C D

23) dCTP, present only in DNA is a:

- A) Pyrimidine C) Nucleoside
 B) Purine D) Nucleotide

- A B C D

24) RNA is composed of repeating units of:

- A) Deoxyribonucleosides C) Ribonucleosides
 B) Deoxyribonucleotides D) Ribonucleotides

- A B C D

25) The _____ and _____ are examples of secondary structure of protein:

- A) Myosin, Keratin C) Enzymes, Keratin
 B) Hemoglobin, Myosin D) Antibodies, Myosin

- A B C D

26) One alpha and two beta chains of hemoglobin contain _____ amino acids:

- A) 141 C) 146
 B) 282 D) 433

- A B C D

27) RNA is synthesized by DNA in a process known as:

- A) Replication C) Transcription
 B) Reverse transcription D) Translation

- A B C D

28) X-ray diffraction pattern of DNA was determined by:

- A) James Watson C) F. Crick
 B) Rosalind Franklin D) F. Sanger

- A B C D

- 29) The building block of nucleic acids are:
 A) Purine
 B) Nucleoside
 C) Nucleotides
 D) Pyrimidine
- A B C D

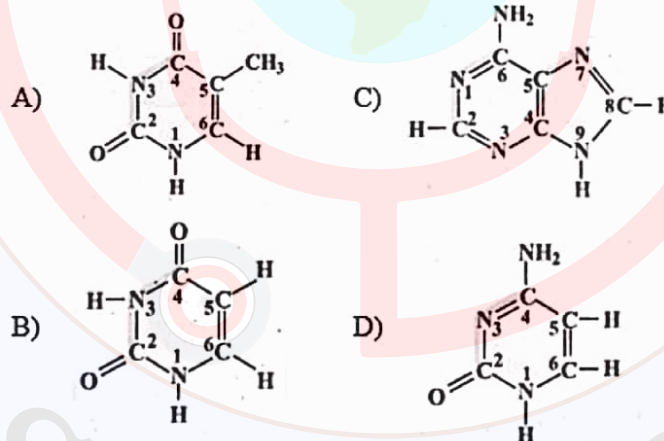
- 30) Insulin is composed of 51 amino acids in:
 A) One chain
 B) Two chains
 C) Three chains
 D) Four chains
- A B C D

- 31) Pick up the most diverse molecules in the cell:
 A) Carbohydrates
 B) Lipids
 C) Proteins
 D) Nucleic acids
- A B C D

- 32) Phosphodiester bond is actually a _____ bond:
 A) C-O-P-O-C
 B) C-O-P
 C) P-O-C
 D) P-O-C-P
- A B C D

- 33) Which one of the following is the most abundant protein in the animal world?
 A) Insulin
 B) Hemoglobin
 C) Myoglobin
 D) Collagen
- A B C D

- 34) Pick up thymine:



- A B C D

- 35) A polypeptide chain starting with _____ group will end up with carboxyl group:
 A) Hydroxyl
 B) R
 C) Amino
 D) Methyl
- A B C D

- 36) Secondary structure of a protein describes:
 A) The order of amino acids
 B) The ways of bending and folding of polypeptide chains
 C) It is formed by folding back of the polypeptide chains
 D) The ways of aggregation of polypeptide chains
- A B C D

37) Pick up the base pair which enable us to identify RNA:

- A) C≡G
B) A=T
C) A=U
D) G≡C

A B C D

38) The RNA with codon is:

- A) tRNA
B) mRNA
C) rRNA
D) SnRNA

A B C D

39) Guanosine, present only in RNA is a:

- A) Pyrimidine
B) Nucleotide
C) Pentose
D) Nucleoside

A B C D

40) Pick up the amount of DNA/nucleus in the liver cells of chicken:

- A) 1.3 pg
B) 2.4 pg
C) 3.3 pg
D) 1.6 pg

A B C D

41) Amino acids are arranged in proper sequence during protein synthesis according to the instructions transcribed on:

- A) DNA
B) tRNA
C) mRNA
D) rRNA

A B C D

42) The nitrogen containing bases in nucleotide are of two types; purines and pyrimidines; the purines bases are:

- A) Guanine and Cytosine
B) Adenine, Guanine and Cytosine
C) Adenine and Guanine
D) Adenine and Thymine

A B C D

43) Which one is an example of a nucleotide?

- A) Adenosine
B) ATP
C) Guanine
D) NAD

A B C D

44) The rRNA synthesis mostly occurs in:

- A) Mitochondrion
B) Nucleolus
C) Ribosome
D) Smooth endoplasmic reticulum

A B C D

45) Myosin is a _____ type of protein:

- A) Complex
B) Simple
C) Globular
D) Fibrous

A B C D

- 45) Myosin is a _____ type of protein:**
A) Complex
B) Simple
C) Globular
D) Fibrous
- A B C D
- 46) The type of bonding in α -helix is:**
A) 1,2-glycosidic linkage
B) Ionic bond
C) Disulfide bond
D) Hydrogen bond
- A B C D
- 47) Linear strands of DNA or RNA no matter how long, will almost always have a free _____ at one end and a free _____ at the other end:**
A) 5' phosphate group, 3' phosphate group
B) 5' phosphate group, 3'hydroxyl group
C) 5' hydroxyl group, 3' phosphate group
D) 3' phosphate group, 3'hydroxyl group
- A B C D
- 48) DNA has a special affinity for:**
A) Acidic amino acids
B) Basic amino acids
C) Essential amino acids
D) Aromatic amino acids
- A B C D
- 49) Most proteins are made up of _____ types of amino acids:**
A) 25
B) 170
C) 20
D) 280
- A B C D
- 50) d-cytidine, present only in:**
A) mRNA
B) tRNA
C) rRNA
D) DNA
- A B C D

51) Each beta chain of hemoglobin contains _____ amino acids:
 A) 21
 B) 30
 C) 141
 D) 146

- A B C D

52) Diversity of amino acids is primarily based on _____ group:
 A) NH₂
 B) COOH
 C) R
 D) OH

- A B C D

53) Peptide bond is _____ link:
 A) C - H
 B) C - N
 C) C - O
 D) C - P

- A B C D

54) Primary structure of a protein is formed by:
 A) Hydrogen bonds
 B) Disulphide bonds
 C) Peptide bonds
 D) Ionic bonds

- A B C D

55) Which of the following does not show tertiary structure?
 A) Keratin
 B) Hormone
 C) Antibody
 D) Enzyme

- A B C D

56) The proteins that control the metabolic processes are:
 A) Enzymes
 B) Hemoglobin
 C) Hormones
 D) Albumin

- A B C D

57) Total number of amino acids which have been found to occur in cells and tissues is:
 A) 20
 B) 25
 C) 3000
 D) 170

- A B C D

58) Number and sequence of amino acids determine the _____ structure of proteins:
 A) Quaternary
 B) Tertiary
 C) Secondary
 D) Primary

- A B C D

59) The numbers of proteins present in human body are:
 A) Over 3000
 B) Over 170
 C) Over 100000
 D) Over 10000

- A B C D

60) By dipeptide we mean:
 A) One peptide bond
 B) Two peptide bonds
 C) Two amino acids
 D) Three amino acids

- A B C D

61) Which one of the following nucleotide is used as energy currency?

- A) GTP C) UTP
B) ATP D) TTP

A B C D

62) The sequence of _____ in a protein is determined by the sequence of _____ in DNA:

- A) Amino acids, Nucleotides
B) Nucleotides, Amino acids
C) Amino acids, Nucleosides
D) Peptide bonds, Nucleotides

A B C D

63) The mRNA of _____ nucleotides will encode the genetic message of a protein of _____ amino acids:

- A) 175, 525 C) 525, 185
B) 185, 525 D) 525, 175

A B C D

64) Which one of the following words better represents the role of rRNA in protein synthesis?

- A) Laborer or carrier
B) Map or architectural design
C) Machinery or mason
D) Architect or designer

A B C D

65) A DNA sample having 20% adenine, will have _____ cytosine plus thymine?

- A) 20% C) 50%
B) 40% D) 60%

A B C D

66) *E. coli* genome codes for at least _____ proteins:

- A) 4288 C) 4488
B) 8842 D) 8844

A B C D

67) The type of RNA which consists of a single strand of variable length:

- A) mRNA C) tRNA
B) rRNA D) snRNA

A B C D

68) On the surface of ribosome, the _____ interact to translate the information from genes into a specific protein:

- A) DNA and RNA C) mRNA and tRNA
B) DNA and mRNA D) mRNA and rRNA

A B C D

69) Which one of the following nitrogenous bases is exclusively found in RNA?

- A) Adenine C) Thymine
B) Cytosine D) Uracil

A B C D

70) There is one specific _____ for each amino acid:

- A) mRNA
B) tRNA
C) rRNA
D) DNA

A B C D

71) The backbone of a polynucleotide chain is provided by:

- A) Nitrogenous bases
B) Pentose sugars
C) Phosphoric acids
D) Pentose sugars and phosphoric acids

A B C D

72) Amount of _____ is fixed in each diploid cell of a species:

- A) DNA
B) RNA
C) Proteins
D) Carbohydrates

A B C D

73) In a typical nucleotide the phosphoric acid is attached to carbon at position:

- A) 1 of pentose sugar
B) 3 of pentose sugar
C) 4 of pentose sugar
D) 5 of pentose sugar

A B C D

74) It is the major form of RNA in the cell:

- A) rRNA
B) tRNA
C) mRNA
D) snRNA

A B C D

75) In a DNA duplex both polynucleotide chains are held together by:

- A) Phosphodiester bonds
B) Hydrogen bonds
C) Disulphide bond
D) Hydrophobic interactions

A B C D

76) They built the scale model of DNA:

- A) Maurice Wilkins and Rosalind Franklin
B) P.A Leven and T.H. Morgan
C) James D. Watson and Francis Crick
D) Erwin Chargaff and Fredrick Miescher

A B C D

77) Each turn of DNA contains _____ base pairs:

- A) 10
B) 20
C) 30
D) 40

A B C D

78) The two helices of DNA are held together by _____ bonds:

- A) Phosphodiester
B) Hydrogen
C) Ionic
D) Covalent

A B C D

79) Both polynucleotide chains of a DNA duplex resemble with respect to the following things, EXCEPT:

- A) Nature of bonds C) Types of nucleosides
 B) Direction of chains D) Types of nucleotides
- A B C D

80) Human cells contain about _____ different kinds of tRNAs:

- A) 20 C) 25
 B) 45 D) 40
- A B C D

81) Uridine, present in RNA is a:

- A) Pyrimidine C) Nucleoside
 B) Purine D) Nucleotide
- A B C D

82) The basic unit of nucleic acid is:

- A) Nucleoside C) Nucleoid
 B) Pentose sugar D) Nucleotide
- A B C D

83) Which one of the following is soluble in aqueous media?

- A) Keratin C) Myosin
 B) Fibrin D) Hemoglobin
- A B C D

84) Fibrin exhibit _____ structure of proteins:

- A) Primary C) Tertiary
 B) Secondary D) Quaternary
- A B C D

85) The RNA with anticodon is:

- A) Messenger RNA C) Coding RNA
 B) Transfer RNA D) rRNA
- A B C D

86) Guanine is a:

- A) Nucleoside C) Purine
 B) Pyrimidine D) Nucleotide
- A B C D

87) Pick up blood clotting protein?

- A) Keratin C) Myosin
 B) Antibody D) Fibrin
- A B C D

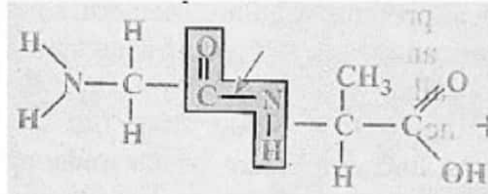
88) Which one of the following is non-crystalline and elastic in nature?

- A) Keratin C) Albumin
 B) Globulin D) Haemoglobin
- A B C D

89)

The diagram shows a molecular structure of a dipeptide molecule

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What is the structure enclosed by a box?

- A) An amino acid C) A peptide bond
B) A glycosidic bond D) A phosphodiester bond

A B C D

90)

Which one of the following types of bond is principally concerned in maintaining the β -pleated sheet of secondary structure of protein?

- A) Disulphide bond C) Peptide bond
B) Phosphodiester bond D) Hydrogen bond

A B C D

91)

Which one of the following biomolecules does have a phosphodiester bond?

- A) Fatty acids in triglyceride
B) Nucleic acids in nucleotide
C) Monosaccharides in a polysaccharide
D) Amino acids in a polypeptide

A B C D

92)

The sugar present in DNA is:

- A) Ribose C) Hexose
B) Deoxyribose D) Triose

A B C D

93)

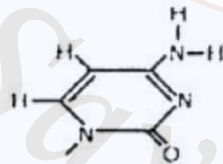
dTDP, present only in DNA is a:

- A) Purine C) Nucleotide
B) Pyrimidine D) Nucleoside

A B C D

94)

Following is the structure of:



- A) Uracil C) Guanine
B) Thymine D) Cytosine

A B C D

95)

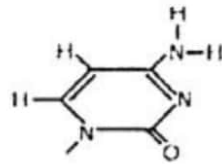
Ervin Chargaff provided data about the ratios suggested that:

- A) Adenine and thymine are equal
B) Guanine and cytosine are equal
C) Guanine and adenine are equal
D) Adenine and thymine are equal and guanine and cytosine are equal

A B C D

94)

Following is the structure of:



- A) Uracil
 B) Thymine
 C) Guanine
 D) Cytosine

A B C D

95)

Ervin Chargaff provided data about the ratios suggested that:

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 D) Adenine and thymine are equal and guanine and cytosine are equal

A B C D

96)

The *E. coli* genome consists of _____ base pairs:

- A) 4,639,221
 B) 4288
 C) 3.5 billion
 D) 49

A B C D

97)

In glycine R is:

- A) Fatty acid
 B) Ethane
 C) Hydrogen
 D) Methane

A B C D

98)

The form of RNA responsible for transporting individual amino acid to sites of protein elongation ribosome – mRNA complex:

- A) Messenger RNA
 B) Transfer RNA
 C) Ribosomal RNA
 D) Small nuclear RNA

A B C D

99)

Compared to globular proteins, fibrous proteins are:

- A) Insoluble in aqueous media
 B) Inelastic in nature
 C) More readily soluble
 D) Crystalline in nature

A B C D

100)

The sequence of amino acids is major factor in which type of protein classification:

- A) Primary proteins
 B) Secondary proteins
 C) Tertiary proteins
 D) Quaternary proteins

A B C D

Medicos Hub Bio Test #2 Key

Key

| | | | | | | | | | | | | | |
|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|------|---|
| 1. | C | 17. | B | 33. | D | 49. | C | 65. | C | 81. | C | 97. | C |
| 2. | C | 18. | D | 34. | A | 50. | D | 66. | A | 82. | D | 98. | B |
| 3. | B | 19. | C | 35. | C | 51. | D | 67. | A | 83. | D | 99. | A |
| 4. | B | 20. | B | 36. | B | 52. | C | 68. | C | 84. | B | 100. | A |
| 5. | A | 21. | A | 37. | C | 53. | B | 69. | D | 85. | B | 101. | |
| 6. | B | 22. | B | 38. | B | 54. | C | 70. | B | 86. | C | 102. | |
| 7. | B | 23. | D | 39. | D | 55. | A | 71. | D | 87. | D | 103. | |
| 8. | B | 24. | D | 40. | B | 56. | A | 72. | A | 88. | A | 104. | |
| 9. | A | 25. | A | 41. | C | 57. | D | 73. | D | 89. | C | 105. | |
| 10. | C | 26. | D | 42. | C | 58. | D | 74. | A | 90. | D | 106. | |
| 11. | B | 27. | C | 43. | B | 59. | D | 75. | B | 91. | B | 107. | |
| 12. | C | 28. | B | 44. | B | 60. | C | 76. | C | 92. | B | 108. | |
| 13. | D | 29. | C | 45. | D | 61. | B | 77. | A | 93. | C | 109. | |
| 14. | C | 30. | B | 46. | D | 62. | A | 78. | B | 94. | D | 110. | |
| 15. | B | 31. | C | 47. | B | 63. | D | 79. | B | 95. | D | 111. | |
| 16. | B | 32. | A | 48. | B | 64. | C | 80. | B | 96. | A | 112. | |