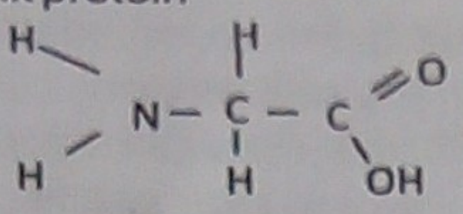
EXAMINATION

2013/2014 BIO 151 QUESTIONS ON PROTEIN SYNTHESIS

Answer all Question

1. ..... are the very essential constituent of all living organisms.
2. Protein contains or is made up of ....., ..., ... also ..... and .....As non compulsory elements.
3. ..... are the building block of protein.
4. ..... are the monomeric unit protein
5. The structure represent ---------



6. ..... is the alpha amino group and ..... is the acid carboxyl group of aminoacid.
7. All amino acids have an alpha (&) amino group (NH2) and acid carboxyl group (-COOU) but they differ in the nature of .....
8. When alpha group of one amino acid reacts with the acid carboxyl group of another amino acid ..... and ..... are formed.
9. Further condensation of peptide with another amino acid will result in the formation of .....
10. Amino acids are linked together by the removal of ..... from between to form peptide bond.
11. Polypeptide bond will gold into a specific three dimensional structure to form .....
12. Circle the peptide bond present in the structure below.

STRUCTURE

13. Protein like starches and fats are degraded by .....
14. The peptide bonds or linkage are opened or break with the insertion or addition of ..... To form shorter chain of amino acids called .....
15. During transcription ..... Is transcribed from the ..... of the ..... in the .....
16. ..... travels to ribosome in the ..... of the ..... to synthesized RNA (protein).
17. Ribosome is generated or synthesized in the ..... of the ..... Which is protein systhesis.
18. Protein synthesis occur in the .....
19. During second stage known as translation, the ..... binds ..... with the and the appropriate .....
20. Protein synthesis begins when the ..... and the codons of MRNA binds to the ribosome.
21. The first codon of the MRNA is the .....
22. Sequence of protein synthesis are ..... is transcribed by ..... the MRNA leaves the ..... and travel to the .....
23. The two codon of MRNA binds to the small ..... of the .....
24. ..... gives signals that protein synthesis is to take place
25. ..... carries their amino acids to the MRNA
26. The sequence of amino acids in a polypeptide chain is called .....
27. ..... is the resulting hydrogen bond interaction b/w amino acid residues which are close to one another.
28. Give examples of secondary structure.....
29. The tendency of a polypeptide chain to undergo extensive coiling or folding to produce a complex or rigid structure is called ..... example is .....
30. Defined quaternary structure?
31. Draw the structure of quaternary structure e.g. haemoglobin
32. Name the biological functions of protein you know .....
33. The enzyme that catalyzes the conversion of glucose -6- phosphate is .....

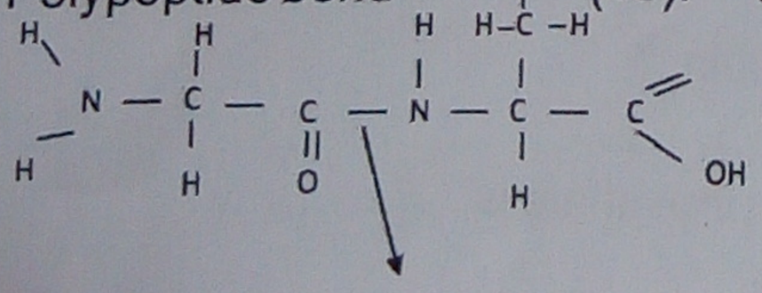
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34. ..... transport oxygen in red blood cell while .....stores ions in the liver
35. The protein that brings about high tensile strength of skins is .....
36. The nerve cell that bring about response to stimuli is .....
37. The protein that or enzymes that utilizes sugar in the body is .....
38. Amino acids are stored in the blood as .....
39. Proteins that combine with other kinds of molecule are called ..... e.g. protein lipid, ...
nucleic acid and protein pigment.
40. In conjugated protein the non protein component is known as .....
41. The protein that has 140,000 molecular weight is .....
42. The protein that has 1 million molecular weight is .....
43. Two types of protein are ..... and .....
44. Differentiate between the types of proteins.....
45. Give example of globular and fibrous proteins.
46. The two individuals of the same species that have the same protein absolutely alike and unique ... them is known as .....
47. ..... Regulates the protein synthesis
48. ..... is found inside the nucleus and ..... Outside the nucleus
49. The RNA that is comparatively short single strand double backed strand which twisted into helix .....
50. ..... carries instruction from DNA regarding the making of certain protein while ..... equipped chemically to re-organized specific amino acid floating in the cytoplasm and latch on with code ..... on the .....
51. ..... is responsible for the transmission of character from parents to off spring that is found along the chromosomes transverse band.
52. ..... are the carriers or thread like particle that are found indeed the nucleus that carries the gene.
53. Two types of chromosomes are ..... and .....
54. Germ cell contains .....chromosomes while sex cell contains .....
55. When the centromere is at or middle is called .....
56. .....in which the centromere is almost towards the other end of the chromosomes.
57. ..... is achieved when the centromere is almost towards the others the other end of the chromosomes.
58. Two types of nucleic acids are ..... and .....
59. DNA and RNA both contain a building block called .....
60. The nucleotide contain 3 molecules such as ....., ... and .....
61. AGTC and U means ..... and .....
62. Adenine and guanine are ..... while thymine, cytocine and uracil are ..... Bases.

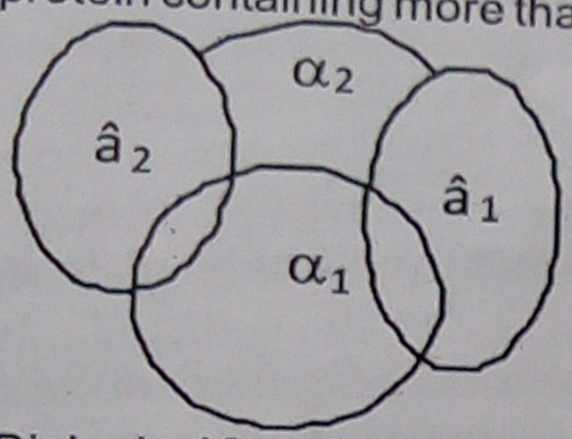
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2013/2014 EXAMINATION ANSWER

1. Proteins are the very essential constituent of all living organism.
2. Protein contains or is made up of carbon, hydrogen, oxygen and nitrogen, also sulphur and phosphorus as non compulsory elements.
3. Amino acids (4). Amino acid (5). Glycine
6. NH_2 is the alpha amino group and COOH is the acid carboxyl group of aminoacid.
7. R group (8). Peptide bond and water molecules are formed respectively.
9. Polypeptide bond (10). Water (11). Protein
12.



13. Hydrolysis
(14). Water and peptide bond respectively
15. During transcription MRNA is transcribed from the DNA template of gene in the nucleus.
16. The MRNA travels to the ribosome in the cytoplasm of the cell to synthesize protein.
17. Protein is generated or synthesized in the Ribosome of the cell
18. Protein synthesis occur in the Ribosome
19. During second stage known as translation, the ribosome binds MRNA with the appropriate +RNA.
20. Initiated +RNA
(21). The first codon of MRNA is the start codon.
22. The sequence of protein synthesis are messenger RNA is transcribed by the gene, the MRNA leaves the nucleus and travels to the Ribosome.
23. The two codon of MRNA bind to the small subunit of the Ribosome
24. The start codon signals that protein synthesis is to take place.
25. Transfer RNA carries their amino acids to the MRNA
26. Primary structure
(27). Secondary structure (28). Alpha helix and beta sheet.
29. Tertiary structure and myoglobin respectively.
30. Quaternary structure defines the structure resulting from interaction between polypeptide units of a protein containing more than one subunit.
31.



32. Biological functions of protein (i) Enzymatic catalysis (ii) Transport and storage (iii)Co-ordinated motion (iv) Mechanical support (v)Immune protection (vi)Generation and transmission of nerve impulse (vii) Food storage
33. Hexokinase
(34). Haemoglobin and ferritin respectively
(35). Collagen
36. Receptor proteins
(37). Insulin
(38). Amino acids are stored in the blood as albumin
39. Conjugated Protein
(40). Prosthetic part
(41). Serumglobulin
42. Glutamate dehydrogenase
(43). Fibrous and globular
44. They are differentiated because of their solubility in water, globular protein form colloidal solution which are soluble in water but fibrous proteins are not soluble in water.
45. Globular protein serumglobulin, enzymes
fibrous protein keratin, collagen, elastin
46. Twins
(47). DNA regulates the protein synthesis
48. DNA is found inside the nucleus and RNA outside the nucleus
49. RNA molecules
50. MRNA carries instruction from DNA regarding the making of certain protein while transfer RNA are equipped chemically to reorganize specific amino acid floating in the cytoplasm and latch on it with the code on messenger RNA.
51. Gene
(52). Chromosomes
(53). Sex chromosomes and somatic chromosomes
54. Germ cell contain 46 chromosones and sex cell contain 23 chromoromes.
55. Metacentric
(56). Submetacentric
(57). Aerocentric
58. RNA and DNA
(59). Nucleotide
60. Pentose sugar, Nitrogenous / organic base, phosphoric acid
61. AGTC and U means Adenine, Guanine, Thymine, Cytosine and uracil
62. Adenine and Guanine are purine bases while thymine, cytosine and uracil are pyrimidine bases.

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