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Question:- Write notes on Fossil?

Answer:- STRUCTURE AND CLASSIFICATION OF PROTEIN?

Answer:- **Protein classification :-**

Proteins are the macromolecules responsible for the biological processes in the cell. They consist of their most basic level of a chain of amino acids, determined by the sequence of nucleotides in a gene. Depending on the amino acid sequence (different amino acids have different biochemical properties) and interactions with their environment, proteins fold into a three-dimensional structure, which allows them to interact with other proteins

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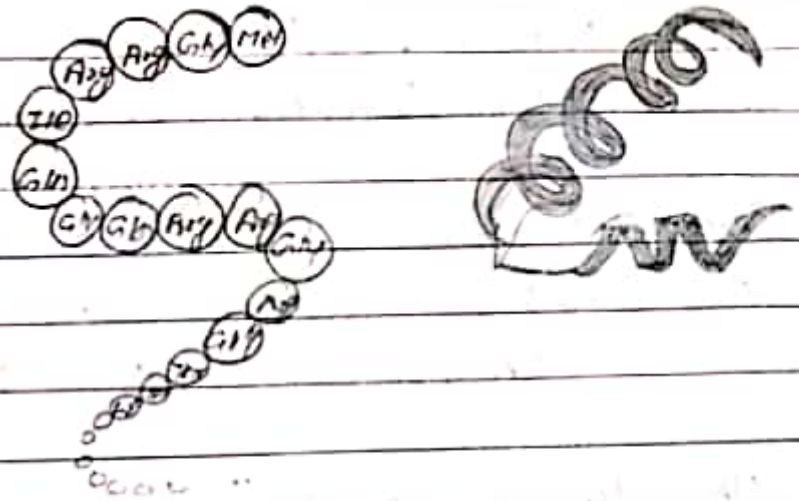
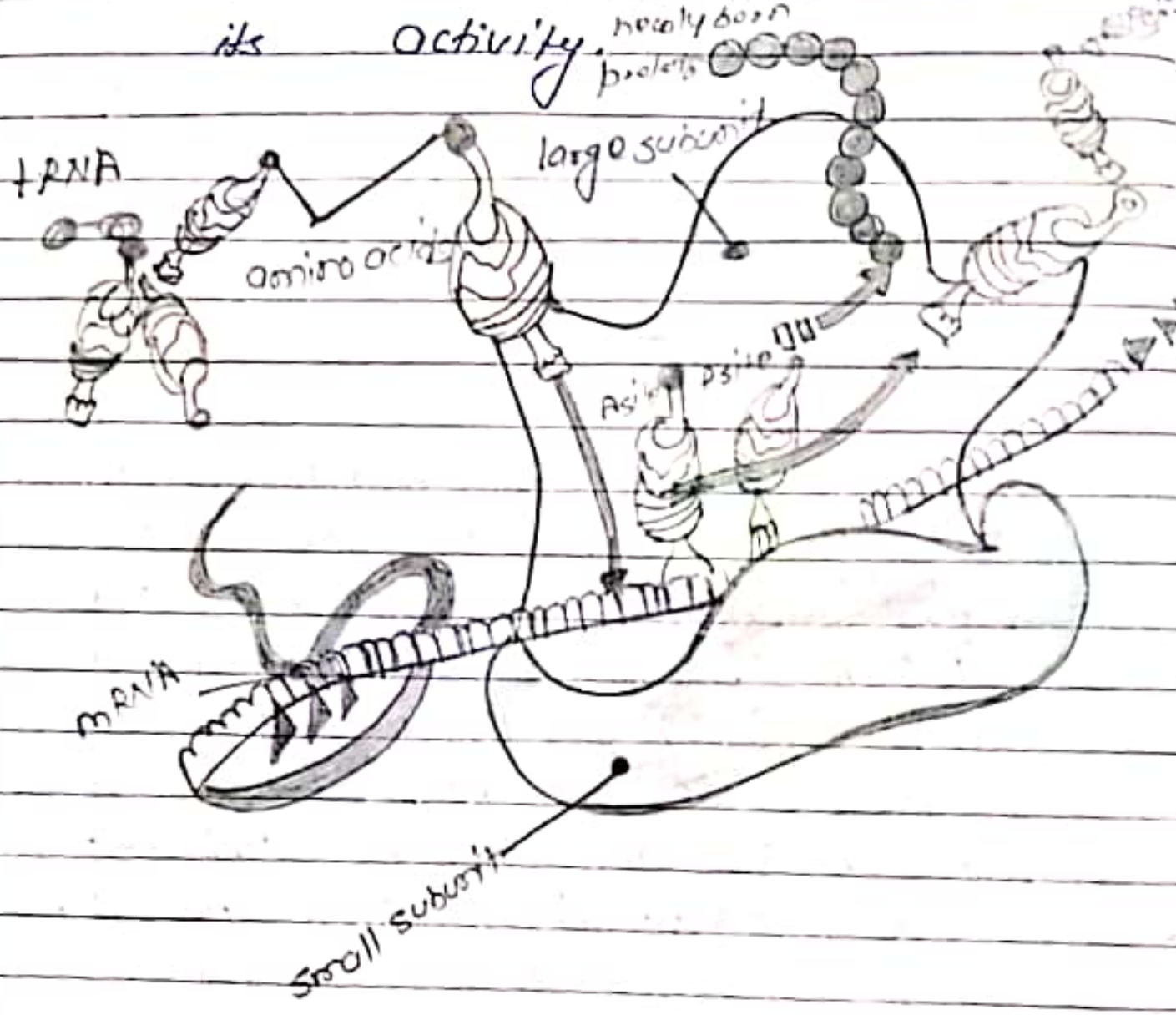
and molecules and perform their function



Proteins consists of one or more polypeptides. A polypeptide is a chain of amino acids. The polypeptide chains fold into their final three dimensional structure to constitute a functional protein. The amino acid sequence and structure in this example corresponds to ribosomal protein L2.

Proteins that have diverged from a common ancestral gene are known as homologous. Proteins with

3D structure that determines its activity.



A ribosome produces a protein using mRNA as template

Proteins are assembled from amino acids using information encoded in genes. Each protein has its own unique amino

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acid sequence that is specified by the nucleotide sequence of the gene encoding this protein. The genetic code is a set of three-nucleotide sets called codons and each three-nucleotide combination designates an amino acid, for example AUG (adenine-uracil-guanine) is the code for methionine. Because DNA contains four nucleotides, the total number of possible codons is 64; hence, there is some redundancy in the genetic code, with some amino acids specified by more than one codon. Genes encoded in DNA are first transcribed into pre-messenger RNA (mRNA) by proteins such as RNA polymerase. Most organisms then process the pre-mRNA (also known as a primary transcript) using various forms of post-transcriptional modification to form of the mature mRNA,

which is then used as a template for protein.

Structure :-

Most proteins fold into unique 3D structures. The shape into which a protein naturally folds is known as its native conformation. Although many proteins can fold unassisted, simply through the chemical properties of their amino acids, others require the aid of molecular champerones to fold into their native states. Biochemists often refer to four distinct aspects of a protein's structure.

- Primary structure: the amino acid sequence. A protein is a polymide.

- secondary structure: regularly repeating local structures stablized by hydrogen bonds.

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The most common examples are the α-helix, β-sheet and turns. Because secondary structures are local, many regions of different secondary structure can be present in the same protein molecule.

- Quaternary structure: the structure formed by several protein molecules (polypeptide chains), usually called protein subunits in this context, which function as a single protein complex.

See also :-

- Deproteination
- DNA-binding protein
- Macromolecule
- Intein
- List of proteins
- proteopathy
- proteopedia
- proteolysis
- Protein sequence space
- Protein superfamily

similar sequences are assumed to be homologous and usually (within certain limits) have similar structures and functions.

Protein :-

Protein are large biomolecules, or macromolecules, consisting of one or more long chains of amino acid residues. Proteins perform a vast array of functions within organisms, including catalysing metabolic reactions, DNA replication, responding to stimuli, providing structure to cells, and organisms, and transporting molecules from one location to another. Proteins differ from one another primarily in their sequence of amino acids, which is dictated by the nucleotide sequence of their genes, and which usually results in protein folding into a specific