

Name of the student: *Date:*/...../.....

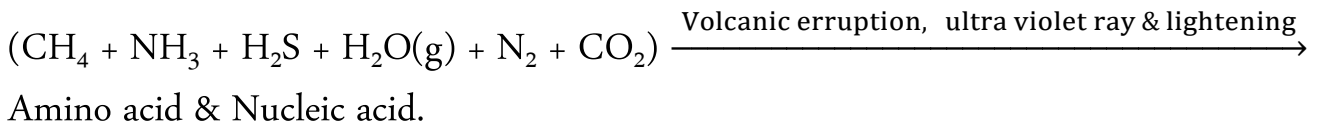
❖ Origin of life:

- Life has been originated from sea water.
- Different mineral salts present in most living cells, blood and other liquid of the body are similar to that of minerals found in sea water.
- Simple and unicellular organisms are still found in

Q. What are logic in originating life from sea water?

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- 260 crores years ago,



- Amino acid + Nucleic acid → Nucleoprotein

- Nucleoprotein $\xrightarrow{\text{Self replication}}$ A life

- Nucleoprotein → Protovirus → Bacteria → Protozoa

Q. Explain how life is originated in the earth.

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❖ Evolution:

- In 500 BC a scientist named Xenophanes, first discovered fossils and he proved that the living organisms are not unchangeable.
- Evolution is the basis of the origin of life.
- Evolution is change in the heritable characteristics of biological populations over successive generations. These characteristics are the expressions of genes that are passed on from parent to offspring during reproduction.
- The change of the **gene allele frequency** from generation to generation within the species more or less similar in nature is called **evolution.**
 - ✓ One specific gene can remain in more than one form. Then each and every form of that gene is called its allele.
 - ✓ The **allele frequency** represents the incidence of a gene variant in a population.
 - ✓ The **allele frequency** measures the rate at which an **allele** is present within a population.

❖ Darwinism:

Darwinism is a theory of biological evolution developed by the English naturalist Charles Darwin and others, stating that all species of organisms arise and develop through the natural selection of small, inherited variations that increase the individual's ability to compete, survive, and reproduce.

- **Charles Darwin** was a British naturalist who proposed the theory of biological evolution by natural selection.
- **Darwin** defined **evolution** as "descent with modification," the idea that species change over time, give rise to new species, and share a common ancestor.
- The mechanism that **Darwin** proposed for evolution is **natural selection.**
- Natural selection causes populations to become **adapted**, or increasingly well-suited, to their environments over time.
- **Darwin** proposed that species can change over time, that new species come from pre-existing species, and that all species share a common ancestor.

Q. Why did dinosaurs become extinct? Explain in the light of natural selection.

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➤ According to Darwin, general facts about natural events:

- (a) Increase of generation in excessive rate
- (b) Limited food and shelter
- (c) Struggle for survival
 - i) Interspecific struggle
 - ii) Intraspecific struggle
 - iii) Struggle with environment
- (d) Variation
- (e) Natural selection
- (f) Origin of new species. New varieties can be produced in three different ways—
 - i) Being isolated from basic species
 - ii) Hybridization
 - iii) Accidental increase of chromosomes in hybridized species

Q. Explain the significance of evolution in surviving of species.

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