

THEORIES OF ORIGIN OF LIFE

Theories of origin of life on earth :- The various theories put forward to explain origin of life are as follows:

- Theory of eternity.
- Theory of special creation.
- Theory of spontaneous generation or abiogenesis.
- Theory of biogenesis.
- Cosmozoic theory.
- Theory of organic evolution.
- Theory of biochemical origin of life.
or
modern concept of origin of life.

• Theory of Eternity :- Hutton proposed that there is neither a beginning nor an end to the world its living beings. The organisms have existed in past and will remain to exist in the same form till eternity. However this concept of unchangeability of universe is unacceptable presently because the gradual complexity of in the living forms appeared during the course of evolution.

• Theory of special creation :- According to this view all the plants and animals existing today were created by some supernatural power or God. These were designed according to their surroundings and from that time till today, they exist unchanged. The theory is purely

religious and has mythologic approach.

• Theory of spontaneous generation (Abiogenesis) :-

Before the end of seventeenth century, it was believed that living things could arise spontaneously, from inanimate substances. For examples, insects were believed to arise from ~~deers~~ deers, frogs and toads from muddy bottom of ponds, butter flies from cheese and fly maggots from flesh. The idea of spontaneous generation was appreciated by Empedocles (485-425 B.C.), Plato (427-347 B.C) and Aristotle (384-322 B.C).

• Theory of Biogenesis (Disproof of spontaneous generation theory) :- According to this theory, life arises from pre-existing life. But following experiments were conducted to discredit theory of abiogenesis:

1. Redi's experiment :- Francesco Redi demonstrated that maggots could not be created from meat but the small to meat attracted flies which laid eggs on the flesh. The maggots appeared when eggs hatched. He concluded that maggots come only from pre-existing flies and were not spontaneously developed from decaying meat.

2. Spallanzani's experiment :- After the discovery of the microbes by ~~Leeuwenhoek~~ Leeuwenhoek, Needham proposed that if not the complex organisms, the primitive unicellular organisms could have arisen from non-living