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B.Sc HONS Part - III Paper - VII

Topic:- Write short notes on the following:

1. Continental Islands
2. Variation
3. Fossils

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Ans. 1. Continental islands: Continental islands lie generally in shallow water close to the mainland or continent in which they were once joined but become separated in the recent geological part the fauna of a continental island can be expected to resemble the fauna of the main land, thus the island has nearly all the genera and species of animals of the mainland, the fauna being the animals which were found at the time of separation. But the island fauna differs in so far as the variations which occurred after separation, these differences seen in some species can be explained only by the operation of evolution. Continental

island have small mammals, reptiles and amphibians which must have been resident at the time of separation, since these animals cannot cross the intervening salt water. There is evidence that the island continent of Australia was out of from Ass before the eutherian mammals had become the dominant animal and it is significant that almost all the mammals of Australia are there monotremes or marsupials. The few eutherian mammals species were introduced by man. Those species of animals, which are peculiar to this island must have evolved from the origila are fauna after separation from the main land.

2. Variation : The differences from the parents or from the members of the species are called variation.

Three sets of contrasting variations are recognised :

(a) Meristic and Substantive Variations : Meristic variations are changed in the number or repeated parts of an animal, e.g man may have six digits instead of normal five. Substantive variations are changed in the size, shape or colour of an animal. e.g. One family member may be very tall.

(b) Continuous and Discontinuous Variation : Continuous or fluctuating variations are small changes on either side of an average condition, they may be inherited by the progeny. Discontinuous, variation or mutations are new and conspicuous characters which appear suddenly e.g. hornless cattle from horned parents they are heritable.

(c) Somatogenic and Blastogenic Variation : Somatogenic variations or acquired characters are changed acquired in the life. Life of an individual due to environment. Blastogenic variations are changed due to modification in germ cells, they may be obvious from birth, e.g. colour of eyes.

3. Fossils : The remains of plants and animals found in the various strata of the earth's crust are called fossils, they include body parts, eggs, food, prints, or impressions in rocks.

There are different kinds of fossils :

(i) Hard parts of animals are preserved unaltered in their original state such as bones, teeth and shells.

(ii) The less permanent parts are preserved by replacement of the original with minerals, this is called petrification in which the original substance is replaced molecule with some mineral substance. Thus the original is lost through disintegration and the resultant fossil retains not only the external features but also all minute detail.

(iii) Natural modulus of animals are formed in minerals by complete decay of the animal while the surrounding mineral forms a cavity which shows the exact external features.