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14th May, 2020

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Notes for B.Sc Part 1st, Paper 2(A).

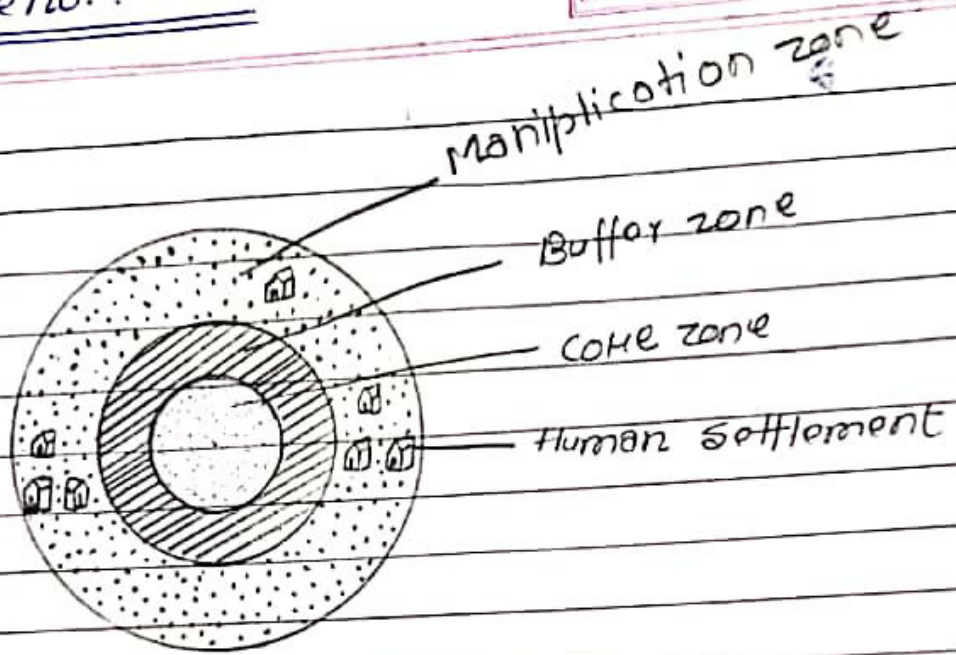
Question 62 :- Biosphere ko classify karke hue sachit
vannon kame?

The biosphere (from Greek
Bios bios "Life" and σφαῖρα sphaiera "sphere")
also known as the ecosphere (from
Greek οἶκος oikos "environment" and σφαῖρα),
is the worldwide sum of all ecosystems.
It can also be termed the zone of
life on Earth, a closed system (apart
from solar and cosmic radiation and
heat from the interior of the Earth),
and largely self-regulating. By the
most general biophysiological definition,
the biosphere is the global ecological
system integrating all living beings
and their relationships, including
their interaction with the elements
of the lithosphere, geosphere, hydrosphere
and atmosphere. The biosphere is
postulated to have evolved, beginning
with a process of biopoiesis (life
created naturally from non-living matter,
such as simple organic compounds)
or biogenesis (life created from
living matter), at least some
3.5 billion years ago.

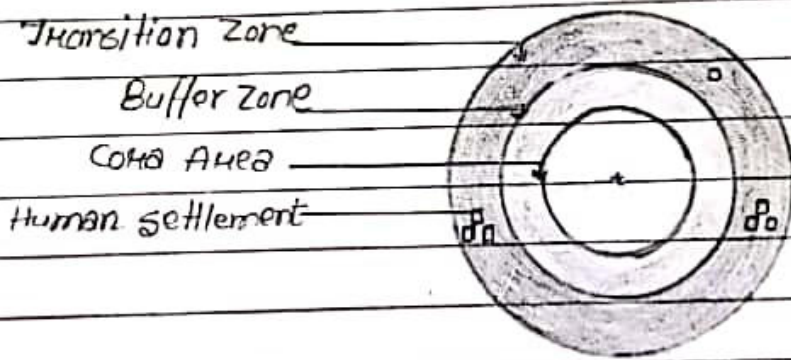
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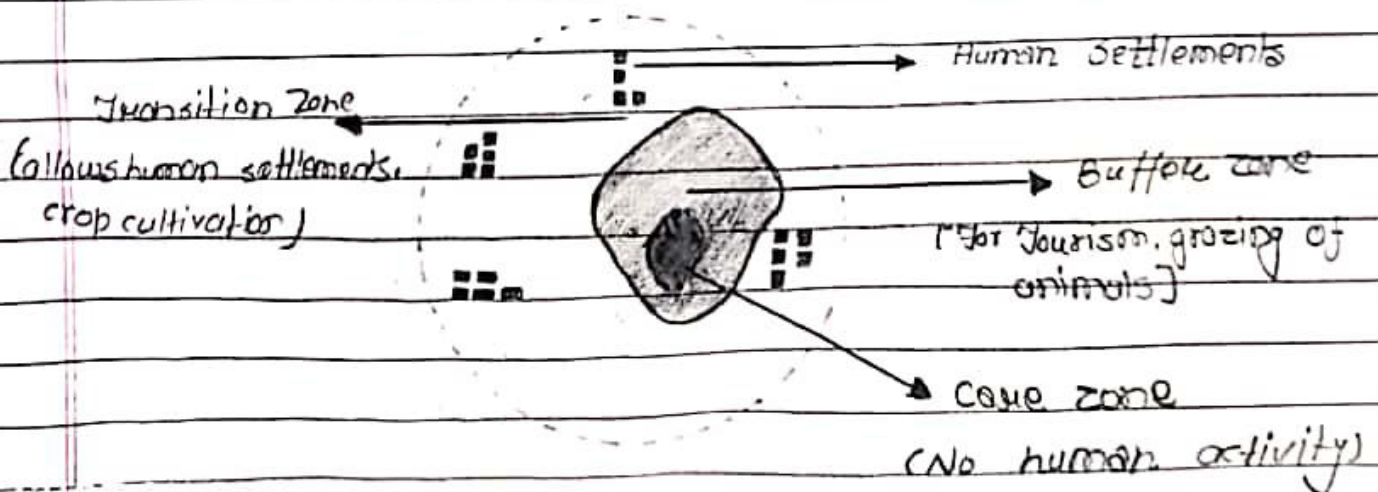
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Biosphere Reserve: Importance of Biosphere Reserve

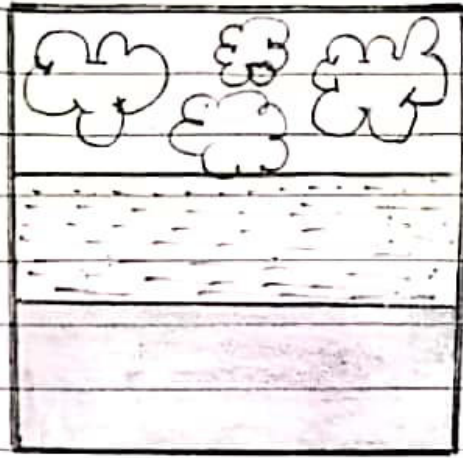


In a biosphere reserve, the area



Biosphere Reserve

⇒ Origin and use of the term



The beach scene on Earth simultaneously showing the Lithosphere (ground), hydrosphere (ocean) and atmosphere (air)

→ The term "Biosphere" was coined by geologist Eduard Suess in 1875, which he defined as the place on Earth's surface where life dwells.

Narrow Definition :-

Geochemists define the biosphere as being the total sum of living organisms (the "biomass" or "biota" as referred to by biologists and ecologists). In this sense, the biosphere is but one of four separate components of the geochemical model, the other three being geosphere, hydrosphere and atmosphere. When these four component spheres are combined into one system, it is known as the ecosphere.

⇒ Earth's Biosphere :-

The earliest evidence for pro life on Earth includes biogenic graphite found in 3.7 Billion-year-old metasedimentary rocks from western Greenland and microbial mat fossils found in 3.48 billion-year-old sandstone from western Australia. More recently, in 2015, "remains of biotic life" were found in 4.1 billion-year-old rocks in western Australia. In 2017 putative fossilized microorganisms (or microfossils) were announced to have been discovered in hydrothermal vent precipitates in the Nuvvugittug Belt of Quebec, Canada that were as old as 4.28 billion years, the oldest record of life on earth, suggesting "an almost instantaneous emergence of life" after ocean formation 4.4 billion years ago, and not long after the formation of the earth, 4.54 billion years ago.

