Q 1 ⇒ What is an ecosystem? Define its structure.

Sol: An ecosystem consists of an assembly of mutually interacting organisms and their environment in which materials are interchanged in a largely cyclical manner. An ecosystem has physical, chemical, and biological components along with energy sources and pathways of energy and material interchange. The environment in which a particular organism lives is called its habitat. The role of an organism in a habitat is called its niche.

An ecosystem has two components the biotic components consisting of living things, and the abiotic portion consisting of elements that are not alive. The non living ~~consisting~~ of constituents are said to include the following category, habitat, gases, solar radiation, temperature, moisture and inorganic and organic nutrients.

Q 2 ⇒ What is water pollution? Write the difference between water borne and water induced diseases. Plot diagram of C, N & S cycle.

Sol: Water pollution is the contamination of water sources by substances which make the water unusable for drinking, cooking, cleaning, and other activities. Pollutants include chemicals, trash, bacteria and parasites.

Water induced disease: Various disorders can be related to water quality problems. Deterioration in water quality will affect the entire aquarium population, resulting in rapid fish mortalities. Various categories of common toxic conditions will be discussed below in relation to water quality deterioration in the aquarium:

(i) Nitrogen compounds
(ii) Chlorine and chloramines
(iii) Heavy metals
(iv) Pesticides.

Water borne diseases: They are caused by pathogenic microorganisms which

are directly transmitted when contaminated fresh water is consumed. Contaminated fresh water, used in the prepakation of food, can be the source of food borne diseases through consumption of the same microorganisms. Water borne diseases can be caused by protozoa, viruses, or bacteria, many of which are intestinal parasites.

Q3 ⇒ Write a short note on air and noise pollution.

Air Pollution : Air pollution refers to any physical, chemical or biological change in the air. It is the contamination of air by harmful gases, dust and smoke which affects plants, animals and humans drastically.

There is a certain percentage of gases present in the atmosphere. An increase or decrease in the composition of these gases is harmful to survival.

There are two types of air pollutants.

(i) Primary pollutants are the pollutants that directly cause air pollution. Ex → SO_2.

(ii) Secondary pollutants are those which are formed by intermingling and rxn of primary pollutants. Ex → Smog

Noise Pollution: It is unwanted, or excessive sound that can have deleterious effects on human health, wildlife and environmental quality. Noise pollution is commonly generated inside many industrial facilities and some other workplaces, but it also come from railway, highway and airplane traffic and from outdoor construction activities. At certain levels and durations of exposure, it can cause physical damage to eardrum and the sensitive hair cells of the inner ear and result in temporary of permanent hearing loss, known as noise - induced hearing loss.

Q4 ⇒ Write a short note on acid rain and green house gas effect.

Acid rain: Acid rain, also called acid precipitation, or acid deposition, precipitation possessing a pH of about 5.2 or below primarily produced from the emission of sulphur dioxide and nitrogen oxides from human activities, mostly the combustion of fossil fuels. Acid rain contributes to corrosion of surfaces exposed to air pollution and is responsible for the deterioration of limestone and marble buildings & monuments.

Greenhouse effect: Greenhouse effect, a warming of earth's surface and troposphere (the lowest layer of atmosphere) caused by the presence of water vapour, carbon dioxide, methane and certain other gases in the air. Of those gases, known as greenhouse gases, water vapour has the largest effect. Although greenhouse effect is an naturally occuring phenomenon, it is possible that the effects could be intensified by emission of greenhouse gases into atmosphere.