141. Write any two differences between biodegradable and non-biodegradable substances by giving one example of each from our daily life.

2014/2015 [2 Marks]

Biodegradable substances	Non-biodegradable substances
(a) These are broken down into simple and harmless substances by the action of micro-organisms. (b) They do not cause environmental pollution. (c) *Example:* Paper, cotton clothes, peel of vegetables, etc.	(a) There is no effect of micro-organisms on these substances and hence they cannot be broken down into simpler substances. (b) They cause environmental pollution. (c) *Example:* Tin, glass, DDT, etc.

142. Distinguish between food chain and food web.

2013/2015 [2 Marks]

Food chain	Food web
(i) It shows the list of organisms showing 'who eats whom'. (ii) All food chains begin with the green plant or grass (producers).	(i) It is a network of a large number of food chains existing in an ecosystem. (ii)It has many intercrosses and linkages among the various producers and consumers.

143.What will happen if all the deers are removed in the given food chain?

Plants →Deers→ Tigers

2014/2015 [2 Marks]

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If deers are removed in the given food chain then:

⇒ Tigers will not survive.

⇒ Plants will increase in number.

144."Energy flow in a food chain is unidirectional." Justify this statement. Explain how the pesticides enter a food chain and subsequently get into our body.

2014/2015 [3 Marks]

"Energy flow in a food chain is unidirectional."

Food chain depicts flow of energy from one component of the ecosystem to another in an irreversible manner.

For example: The energy which is captured by autotrophs does not revert back to the solar input and the energy which passes to the herbivores does not come back to autotrophs. As it moves progressively through various levels, it is no longer available in the previous level.

Pesticides play a significant role in a food chain. These are used to protect crops from diseases and pests. These chemicals are either washed down into the soil or into the water bodies. From the soil, these are absorbed by the plants; and from water bodies, these are taken by aquatic plants and animals which are eaten up by organisms on land *i.e.,* animals and human beings.

145. Explain the formation of ozone in the higher levels of atmosphere, giving relevant chemical equations.

2014/2015 [2 Marks]

Ozone layer at the higher levels of atmosphere is a product of UV radiation acting on oxygen (O_2) molecule. The higher energy UV radiations split apart some molecular oxygen (O_2) into free oxygen (O) atoms. These atoms then combine with the molecular oxygen to form ozone as shown:

$$O_2 \xrightarrow{UV} O + O$$

$$O + O_2 \rightarrow O_3$$