

## KPK Class 10 Biology Short Questions – Chapter 16

### Man and His Environment

#### 1. Define the terms: species, biosphere, and ecosystem.

- **Species:** A group of organisms that look similar, can interbreed, and produce fertile offspring. 🐶
- **Biosphere:** The part of Earth where life exists, including all living things and their environments. 🌍
- **Ecosystem:** A community of living organisms and their non-living environment, interacting with each other. 🌲

#### 2. Differentiate between population and community.

- **Population:** A group of organisms of the same species living in the same area. ☐
- **Community:** All the different populations of organisms living in the same area. 🐘

#### 3. Differentiate between food chain and food web.

- **Food chain:** The flow of energy from one organism to another in a linear sequence. 🌿  
→ 🐰 → ☐
- **Food web:** A complex network of interconnected food chains, showing how different organisms eat and are eaten. 🏠

#### 4. How does deforestation affect the environment?

- Deforestation is the cutting down of trees. ☐
- It has many harmful effects on the environment, including:
  - **Loss of habitat:** Deforestation destroys the homes of many animals and plants. 🏠
  - **Soil erosion:** Deforestation can cause soil to be washed away by rain, leading to flooding and landslides. ☔
  - **Climate change:** Deforestation releases carbon dioxide into the atmosphere, contributing to global warming. 🔥
  - **Loss of biodiversity:** Deforestation reduces the variety of species on Earth. 🌍

Here are the answers to your questions, explained in an easy way with emojis for better understanding:

### 5. Distinguish between herbivore, carnivore, and omnivore.

- **Herbivore:** An animal that eats only plants. 🌿🐇
- **Carnivore:** An animal that eats only other animals. 🐱☐
- **Omnivore:** An animal that eats both plants and animals. 🐼🐼

### 6. Outline the role of bacteria in the nitrogen cycle.

- Bacteria are tiny organisms that play an important role in the nitrogen cycle, which is the process of how nitrogen moves between the atmosphere, soil, and living things. ☐🔄
- **Nitrogen fixation:** Some bacteria can convert nitrogen gas from the atmosphere into a form that plants can use. 🌱
- **Nitrification:** Other bacteria convert ammonia into nitrates, which plants can also use. 🌿
- **Denitrification:** Other bacteria convert nitrates back into nitrogen gas, which is released back into the atmosphere. ⇨

### 7. How can overpopulation affect the environment?

- Overpopulation is when there are too many people in a particular area. 👤
- It can have many harmful effects on the environment, including:
  - **Resource depletion:** Overpopulation can lead to the overuse of natural resources, such as water, food, and energy. 🍎🍌
  - **Pollution:** Overpopulation can increase pollution, such as air pollution, water pollution, and waste pollution. 🏠🚗🗑️
  - **Habitat destruction:** Overpopulation can lead to the destruction of habitats, such as forests and wetlands, to make way for more people and their homes. 🌲

### 8. Name any five sources of water pollution.

- **Industrial waste:** Factories and other industries can release harmful chemicals into rivers, lakes, and oceans. 🏭
- **Sewage:** Untreated sewage can contain bacteria and other pollutants that can contaminate water. 🗑️

- **Agricultural runoff:** Fertilizers and pesticides used in agriculture can run off into waterways. 🚰
- **Oil spills:** Oil spills can cause serious damage to marine ecosystems. 🛢️
- **Litter:** Trash and other litter can pollute waterways and harm wildlife. 🗑️

### 9. Differentiate between parasitism and mutualism.

- **Parasitism:** A relationship between two organisms where one benefits (the parasite) and the other is harmed (the host). 🦋☐
- **Mutualism:** A relationship between two organisms where both benefit. 🐝🌸

### 10. Define nitrogen fixation and nitrification.

- **Nitrogen fixation:** The process of converting nitrogen gas from the atmosphere into a form that plants can use. 🌱
- **Nitrification:** The process of converting ammonia into nitrates, which plants can also use. 🌿