INDIAN SCHOOL NIZWA - WORKSHEET

BIOLOGY-WS Class XII A

Ch 12 Ecosystem

1.	**In a grassland ecosystem, which of the following would cause the maximum disruption in energy flow if removed?** a) Top carnivores b) Herbivores c) Producers d) Decomposers
2.	**In a forest ecosystem, which pair forms a grazing food chain?** a) Dead leaves → Earthworm → Birds b) Grass → Deer → Tiger c) Fruits → Fungi → Ants d) Wood → Termite → Lizard
3.	**Which statement best explains why food chains are generally short (3–5 trophic levels)?** a) Energy is created at each level b) Energy is lost significantly at each level c) Tertiary consumers cannot survive long d) Longer chains are unstable
4.	**The rate at which energy is stored by producers in the form of organic matter per unit area per unit time is:** a) Gross primary productivity b) Net primary productivity c) Secondary productivity d) Assimilation
5.	**In an ecological pyramid of biomass for aquatic ecosystems, the pyramid is often:** a) Upright b) Inverted c) Linear d) Irregular
6.	**Assertion (A):** Decomposers play an essential role in nutrient cycling in an ecosystem. **Reason (R):** Decomposers convert inorganic materials into organic matter.
7.	**Assertion (A):** The pyramid of biomass in a pond ecosystem is inverted. **Reason (R):** Zooplankton biomass exceeds phytoplankton biomass at any given time.
8.	**Assertion (A):** In a lake ecosystem, phytoplankton show high turnover rate. **Reason (R):** They have short life cycles and rapid reproduction.
9.	Differentiate between GPP and NPP.
10.	What is standing crop? How is it measured?
11.	Why is the "detritus food chain" (DFC) important in ecosystems? Give two examples.
12.	Describe the process of decomposition. Explain each step with significance.
13.	Read the following case and answer Q13(a–d): *A lake ecosystem shows following data:* • GPP: 25,000 kcal/m²/yr • Respiration by producers (R): 10,000 kcal/m²/yr

	• Consumption by herbivores: 5,000 kcal/m²/yr • Detritus formed: 3,000 kcal/m²/yr Q13(a) Calculate NPP. Q13(b) What percentage of NPP is consumed by herbivores? Q13(c) Give one reason why only a part of NPP is consumed by herbivores. Q13(d) Which food chain is more energy-efficient—grazing or detritus? Why?