

Check list for December Exams

Topic 1: Systems and Models

Assessment statement

1.1.1	Outline the concept and characteristics of systems.	<input type="checkbox"/> Check
1.1.2	Apply the systems concept on a range of scales.	<input type="checkbox"/> Check
1.1.3	Define the terms open system, closed system and isolated system.	<input type="checkbox"/> Check
1.1.4	Describe how the first and second laws of thermodynamics are relevant to environmental systems.	<input type="checkbox"/> Check
1.1.5	Explain the nature of equilibria.	<input type="checkbox"/> Check
1.1.6	Define and explain the principles of positive feedback and negative feedback.	<input type="checkbox"/> Check
1.1.7	Describe transfer and transformation processes.	<input type="checkbox"/> Check
1.1.8	Distinguish between flows (inputs and outputs) and storages (stock) in relation to systems.	<input type="checkbox"/> Check
1.1.9	Construct and analyse quantitative models involving flows and storages in a system.	<input type="checkbox"/> Check

Topic 2: The ecosystem

2.1 Structure

2.1.1	Distinguish between biotic and abiotic (physical) components of an ecosystem.	<input type="checkbox"/> Check
2.1.2	Define the term trophic level.	<input type="checkbox"/> Check
2.1.3	Identify and explain trophic levels in food chains and food webs selected from the local environment.	<input type="checkbox"/> Check
2.1.4	Explain the principles of pyramids of numbers, pyramids of biomass, and pyramids of productivity, and construct such pyramids from given data.	<input type="checkbox"/> Check
2.1.5	Discuss how the pyramid structure affects the functioning of an ecosystem.	<input type="checkbox"/> Check
2.1.6	Define the terms species, population, habitat, niche, community and ecosystem with reference to local examples.	<input type="checkbox"/> Check

2.4 Biomes

2.4.1	Define the term biome.	<input type="checkbox"/> Check
2.4.2	Explain the distribution, structure and relative productivity of tropical rainforests, deserts, tundra and any other biome.	<input type="checkbox"/> Check

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2.5 Function

2.5.1	Explain the role of producers, consumers and decomposers in the ecosystem.	<input type="checkbox"/> Check
2.5.2	Describe photosynthesis and respiration in terms of inputs, outputs and energy transformations.	<input type="checkbox"/> Check
2.5.3	Describe and explain the transfer and transformation of energy as it flows through an ecosystem.	<input type="checkbox"/> Check
2.5.4	Describe and explain the transfer and transformation of materials as they cycle within an ecosystem.	<input type="checkbox"/> Check
2.5.5	Define the terms gross productivity, net productivity, primary productivity and secondary productivity.	<input type="checkbox"/> Check
2.5.6	Define the terms and calculate the values of both gross primary productivity (GPP) and net primary productivity (NPP) from given data.	<input type="checkbox"/> Check
2.5.7	Define the terms and calculate the values of both gross secondary productivity (GSP) and net secondary productivity (NSP) from given data.	<input type="checkbox"/> Check

2.6 Changes

2.6.5	Describe the concept and processes of succession in a named habitat.	<input type="checkbox"/> Check
2.6.6	Explain the changes in energy flow, gross and net productivity, diversity and mineral cycling in different stages of succession.	<input type="checkbox"/> Check
2.6.7	Describe factors affecting the nature of climax communities.	<input type="checkbox"/> Check