BIO 20 – REVIEW FOR EXAM 3

Sp05

Exam includes multiple-choice and matching questions. ***No*** electronic devices or dictionaries are permitted. Only ***one*** exam may be made-up for a legitimate medical or legal emergency if accompanied by official verifiable documentation; the make-up exam will include short essay questions and must be scheduled within one week. All testing accommodations must follow pre-approved DSPS guidelines and regulations.

FOREST ECOSYSTEMS

1. Compare the features of conifer, temperate deciduous, and tropical forests, including their location, climate, seasonality, temperature, rainfall, daylength, and soil.

2. Describe the plant and animal life found in the various forests and their ecological adaptations.

3. Compare the productivity, decomposition, and pollination characteristic of the different forests.

4. Identify the environmental problems stemming from logging activities in the different forests.

5. Distinguish the following terms: evergreen, deciduous, broadleaf, woodlands, epiphytes, lianas (vines), aerial roots, drip tips, buttressed trunks, micorrhizae, species richness, species evenness.

HERBACEOUS ECOSYSTEMS

1. Describe the features of grasslands and arctic tundra, including their location, climate, seasonality, soil, succession, productivity, and decomposition.

2. Describe the adaptations of grasses that make more suitable than woody plants for surviving in grasslands and the arctic tundra.

3. Summarize the key ecological differences between the arctic tundra and the alpine tundra.

4. Identify the environmental problems stemming from agriculture, pastoralism, and oil wells.

5. Distinguish the following terms: prairie, pampas, steppes, veldt, savanna; rhizome, fibrous roots, taproot, desertification, permafrost, krummholz.

DRY ECOSYSTEMS

1. Describe the features of scrub and desert ecosystems, including their climate, seasonality, soil, succession, productivity, and decomposition.

2. Describe the different plant adaptations found in scrub and desert ecosystems.

3. Distinguish the following terms: chaparral, Mediterranean climate, sclerophyll, allelopathy; endure, evade, resist, escape; succulents, ephemerals.

FRESHWATER ECOSYSTEMS

1. Describe the features of lakes and rivers, including their origins, seasonal differences, diversity, productivity, oligotrophy, and eutrophy.

2. Describe the key differences between the various depths and zones within lakes and rivers.

3. Describe the features of wetlands, including their sources, plant life, diversity, and productivity.

4. Distinguish the following terms: pond, oxbow, thermocline; epilimnion, metalimnion, hypolimnion; littoral, limnetic, profundal, benthic; stream, water gradient.

MARINE ECOSYSTEMS

1. Describe the salinity, light penetration, temperature variation, upwelling, tides, and productivity in the oceans.

2. Describe the key characteristics of the different depths and zones in the ocean.

3. Compare the diversity and productivity found in tropical and temperate regions, sandy beaches, rocky shores, estuaries, salt marshes, mangroves, coral reefs, sea floor, and hydrothermal deep-sea vents.

4. Describe the requirements for coral growth and the stages of coral reef development.

5. Describe the environment, animal life, energy source, and food chain in deep-sea vents.

6. Describe the origin of El Niño-Southern Oscillation and how it effects climate, currents, and ocean life.

7. Distinguish the following terms: photic, littoral, pelagic, neretic, oceanic, benthic; phytoplankton, zooplankton, nekton; spray, high-tide, mid-tide, low-tide; fringing reef, barrier reef, lagoon, coral atoll, coral cay; chimney, smokers, chemosynthesis.