

PART A: MULTIPLE CHOICE (10 MARKS)

Choose the best response in each case and place your answer in the appropriate space on your answer sheet.

- A sustainable ecosystem is one that:
 - always remains the same.
 - changes to meet the changing needs of society.
 - meets the needs of present generations without compromising the needs of future generations.
 - allows for a continuously expanding economy for all countries.
- Which of the following layers are in the correct order from the bottom upward?
 - bedrock, subsoil, topsoil, litter
 - litter, topsoil, subsoil, bedrock
 - topsoil, subsoil, bedrock, litter
 - litter, bedrock, subsoil, topsoil
- The greatest number and variety of soil organisms is found in the:
 - tundra biome.
 - boreal forest biome.
 - temperate deciduous forest biome.
 - grassland biome.
- The removal of all the trees from a forest is called:
 - selective-cutting.
 - selective-breeding.
 - forest management.
 - clear-cutting.
- One option to increase food production is to "water the deserts". Which of the following is not a legitimate problem with this proposed solution?
 - The food produced would be too expensive for most people to afford.
 - The soil would eventually become too salty because of evaporation.
 - The natural habitat for the endangered land shark would be destroyed.
 - The project could be very expensive.
- A farmer sends a sample of soil to be analyzed and the report indicates that the soil is too alkaline. The pH of the soil can be reduced by adding:
 - mercury.
 - calcium.
 - nitrogen.
 - sulfur.
- Some areas of the tropical rainforest are being cleared for agricultural uses. This is not a sustainable practice because:
 - the soil is poor and is depleted of its nutrients within a few years.
 - the cleared soil is too rich to grow most crops.
 - humans tend to build cities on the cleared lands and take them out of production.
 - the markets are too far away and it is not economical to ship the agricultural products long distances.
- An organism that is characteristic of the water quality of a particular ecosystem is called a(n):
 - marker.
 - counter.
 - characteristic.
 - indicator.
- Which of the following is not an indicator of water quality?
 - bacteria count
 - concentration of dissolved chlorine
 - biological oxygen demand
 - concentration of dissolved oxygen
- Runoff of road salt from melting ice is the type of pollution known as a:
 - point source.
 - non-point source.
 - brine mixture.
 - domestic spill.

PART B: MATCH (5 MARKS)

Match the definition from the 1st column to the best term in the 2nd column and place the matching letter in the appropriate space on your answer sheet.

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|---|-----------------------|
| 1. Water found in the soil/rock layers of the Earth's crust. | A) acid precipitation |
| 2. Process in which nutrients are dissolved in percolating water and carried lower. | B) coliform bacteria |
| 3. Boundary between the area where ground water is percolating down and a layer that is saturated with water. | C) ground water |
| 4. Form of acid deposition in which acids are dissolved in rain, fog, dew or snow. | D) humus |
| 5. The organic component of soil, made up mostly of decomposing plants. | E) leaching |
| | F) litter |
| | G) percolation |
| | H) surface water |
| | I) water pollution |
| | J) water table |

PART A: MULTIPLE CHOICE (10 MARKS)

1	2	3	4	5	6	7	8	9	10
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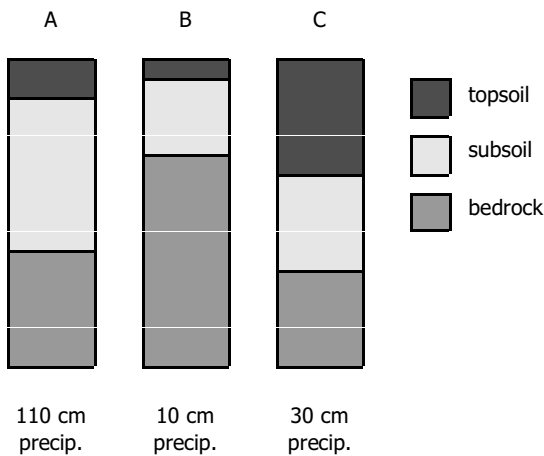
PART B: MATCH (5 MARKS)

1	2	3	4	5
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PART C: SHORT ANSWER (20 MARKS)

Answer the following questions in the space provided. If more space is needed use the back of this sheet.

1. Use the diagram below, which shows data gathered about soil samples from three different biomes, to answer the following questions.



- {6} (a) Identify soil profiles A, B, and C as coming from tundra, boreal forest, or grassland. Give a brief explanation for your choices.

A _____

 B _____

 C _____

- {2} (b) Which soil type could support more plants? Give reasons.

2. The data in the table to the right was collected from three different litter and soil samples. The study areas for each sample was 200 cm X 200 cm.

	Sample #1	Sample #2	Sample #3
Amount of water held by 100 g of soil (mL)	10	25	5
mass of litter above soil (g)	12.1	35.3	2.2
soil temperature (°C)	23°C	19°C	30°C
earthworms	2	8	0
beetles	1	3	0
centipedes	0	1	0
millipedes	2	3	0

- {3} (a) Match each soil sample to one of the following biomes: Desert, Grassland, or deciduous Forest.

#1 _____ #2 _____ #3 _____

- {2} (b) State 2 abiotic factors that provide a favourable environment for the earthworms in sample 2?

① _____
 ② _____

- {2} (c) State 2 biotic factors that provide a favourable environment for the earthworms in sample 2?

① _____
 ② _____

- {5} 3. Biological, chemical & physical forms of pollution can be grouped into 5 broad categories. List them.

① _____
 ② _____
 ③ _____
 ④ _____
 ⑤ _____