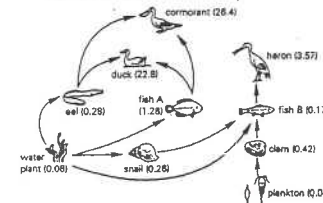


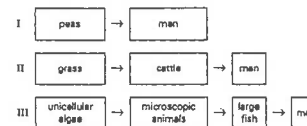
Past HKCEE Questions
Ecosystem
Paper I

1. The diagram below shows a food web in an estuary (the mouth of a river), downstream from a field which has been sprayed with the insecticide, DDT. The numbers show the concentration of DDT (in parts per million) found in each organism. (The organisms are not drawn to the same scale).



- Which organism is an omnivore?
- Write down a food chain consisting of four organisms.
- Explain why a low concentration of DDT sprayed on the field results in a high concentration in the duck.
- If all the cormorants died due to a high concentration of DDT in their tissues,
 - what would be the immediate effects on the ecosystem, and
 - how would the population of snails be affected? Why?
- Explain how the dead body of a cormorant could supply nutrients for the water plants. (HKCEE 1982)

2. The following food chains indicate three ways in which man may obtain protein:

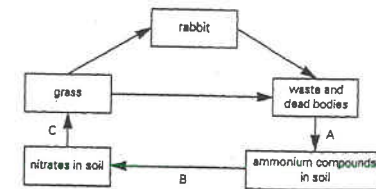


- Briefly explain the importance of the plants in the above food chains.
- What is the term used to describe the diet of man?
- With reference to food chain III:
 - what is the trophic level of man?
 - state the change in the number of individuals from one trophic level to another.
 - draw the food web if the unicellular algae were also eaten by some small fish which were preyed upon by both large fish and man.
- For the same amount of energy input,

which food chain would produce the greatest quantity of protein for man? Explain your answer fully.

(HKCEE 1983)

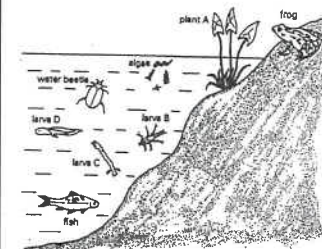
3. The diagram below shows some pathways by which nitrogen is cycled in grassland:



- What are the processes represented by A and
- State the importance of the process represented by A, and name two types of organisms which are involved.
- What major compound is formed in grass from the nitrates in the soil?
- State one natural process, other than C, which can decrease the amount of nitrates in the soil.
- Continuous hunting of rabbits in this habitat was found to result in a decrease in the nitrogen content of the soil. Give a reason.

(HKCEE 1984)

4. The diagram below shows some of the plants and animals in a slow-flowing stream. (The organisms are not drawn to the same scale.)



- From which larva and by what process does the frog develop?
- State one distinct feature for classifying fish and frogs
 - in the same phylum (major group).

04-53	C
04-54	A
05-21	B
06-35	A
06-36	D
06-37	D
06-38	A
06-43	B
06-44	C
06-45	A
07-04	D
07-05	A
07-37	C
07-38	B
07-39	D
07-43	A