

Model Answers: Medium

Q1

The correct answer is **C** because:

- Monocultures are made up of one organism – ‘**mono**’ meaning **one**.
- This would be a negative feature because if the organisms within a population are genetically identical, there is no genetic variation within the population which means every individual could be affected by changing environmental conditions or disease.

A is incorrect as	this is not a negative impact, monocultures do produce a larger yield.
B is incorrect as	monoculture crops usually produce larger yields.
D is incorrect as	all crops, regardless if they are monocultures or not, will need to be harvested at the same time. The benefit of monocultures is that they usually grow at the same rate so are ready to be harvested at the same time.

Q2

The correct answer is **B** because deforestation destroys habitats, and reduced habitats will likely result in loss of species and therefore biodiversity.

A is incorrect as	deforestation is likely to increase flooding as there are less plants to take up water from the soil, leaving the soil more saturated when it rains.
C is incorrect as	trees provide structure to the soil (through their extensive root network) preventing soil erosion.
D is incorrect as	trees take up carbon dioxide from the atmosphere for photosynthesis; the fewer trees there are the less carbon dioxide removed therefore the level in the atmosphere increases.

Q3

The correct answer is **C** because a non-selective herbicide will likely kill all plants; both aquatic plants in the stream and weeds in the field. Even selective herbicides that only target unwanted plants like weeds can harm all plants when their concentration is high enough.

Herbicides kill plants so any answer that refers to more growth will not be correct.

Be careful – don't confuse this with eutrophication, herbicides will kill plants not increase growth

Q4

The correct answer is **C** because the levels of insecticides will increase up the food chain. This is known as bioaccumulation.

A is incorrect as	insecticides do not kill plants, they kill insects.
B is incorrect as	insecticides will not cause acid rain.
D is incorrect as	Insecticides will not add nitrates to the soil.

Q5

The correct answer is **B** because the sludge worm is the animal that lives closest to the outlet of the factory emptying pollutants into the stream.

All the other organisms are only present when the levels of pollution have decreased as they have moved away from the factory.

Q6

The correct answer is **B** because the graph shows that as the levels of sulfur dioxide increase, the number of lichen species decreases.

A is incorrect as	there is a correlation between sulfur dioxide levels and the number of lichens.
C is incorrect as	some lichens are surviving even at relatively high levels of sulfur dioxide.
D is incorrect as	sulfur dioxide levels increase and the levels of lichens do not increase.

Q7

The correct answer is **D** because plastic microbeads are affecting many of the world's oceans, making this one of the largest causes of pollution to aquatic life.

A is incorrect as	eutrophication, whilst a problem for aquatic life, doesn't affect as many aquatic animals as plastic microbeads. Eutrophication is more of a problem in standing water (e.g. lakes or reservoirs) where algae are present.
B is incorrect as	while global warming does affect aquatic life and cause changes to habitats, the effect of increasing levels of plastic in the oceans is significantly higher.
C is incorrect as	the use of herbicides can reduce the number of aquatic plants; this is not as much of a global issue as plastic microbeads.

Q8

The correct answer is **B** because adding fertilisers to the soil increases the risk of eutrophication of local water sources. It will also result in an increase in the number of weeds that can grow, increasing the need for the use of other chemicals such as herbicides.

A is incorrect as	cutting down trees will reduce the amount of carbon dioxide removed. The crops grown in its place will use carbon dioxide.
C is incorrect as	digging the plant matter into the soil provides structure and nutrients for the soil so will not pollute the environment.
D is incorrect as	growing high yield crops will not pollute the environment.

Q9

The correct answer is **C** because the two main gases that cause climate change are **carbon dioxide**, increasing amounts of which are being released by combustion with reduced amounts removed by trees for photosynthesis as a result of deforestation, and **methane**, which is released by industrial processes as well as farming.

A is incorrect as	oxygen is not a greenhouse gas.
B & D are incorrect as	sulfur dioxide causes acid rain, this doesn't contribute to climate change.

Q10

The correct answer is **A** because the biodiversity of plants enables us to find new species of plants that can offer us medicinal products or uses.

B is incorrect as	plants will reduce flooding as they will take up water, but they will not reduce rainfall.
C is incorrect as	plants release oxygen through photosynthesis.
D is incorrect as	plants use carbon dioxide in photosynthesis.