Q1 (1 mark)

- A community of organisms and their environment

Q2 (1 mark)

- When organisms depend on each other for survival

Q3 (1 mark)

- A network of interconnected food chains

Q4 (1 mark)

- Plant / algae

Q5 (2 marks)

Any two:

- Herbivore
- Carnivore
- Omnivore

Q6 (2 marks)

Any two:

- Food (energy source)
- Oxygen
- Habitat
- Shelter

Q7 (2 marks)

Any two:

- Temperature
- Light
- Water
- Oxygen/ carbon dioxide concentrations
- pH
- Soil moisture
- Wind intensity
- Food supply

Q8 (3 marks)

- Organisms rely on each other for food (1)
- Producers support all food chains (1)
- Changes affect other organisms (1)

Q9 (2 marks)

- Food chain is a single pathway (1)
- Food web shows interconnected chains (1)

Q10 (3 marks)

- Insects transfer pollen (1)
- Enables fertilisation (1)
- Produces fruits and seeds (1)

Q11 (3 marks)

- Pollination allows seed/fruit formation (1)
- Crops grow from seeds (1)
- Crops provide food for humans (1)

Q12 (4 marks)

- Fewer bees = less pollination (1)
- Reduced crop production (1)
- Less food available for humans (1)
- Higher food prices or shortages (1)

Q13 (4 marks)

- Organisms depend on environment (1)
- Changes reduce food/habitat (1)
- Population sizes may decrease (1)
- Some organisms may migrate or die (1)

Q14 (6 marks)

Level 1 (1–2 marks)

- Basic statements about food chains or pollination

Level 2 (3–4 marks)

- Some explanation of interdependence

Level 3 (5–6 marks)

- Clear, detailed linked explanation

Expected content:

- Producers form base of food webs (1)
- Organisms depend on each other for food (1)
- Changes affect whole food web (1)

- Insects pollinate crops (1)
- Pollination allows fertilisation (1)
- Humans depend on crops for food (1)

Example full-mark answer:
"Organisms in ecosystems are interdependent because they rely on each other for survival and food. Plants are producers and form the base of food webs, which show feeding relationships. If one organism changes, it affects others in the food web. Insects are also important because they pollinate crops, allowing fertilisation and the production of seeds and fruit. Humans depend on these crops for food, so ecosystems are essential for survival."

Q15 (6 marks)

Level 1 (1–2 marks)

- Basic idea of food supply

Level 2 (3–4 marks)

- Some links to ecosystems and crops

Level 3 (5–6 marks)

- Clear explanation of food security impacts

Expected content:

- Loss of pollinators reduces crops (1)
- Lower crop yields reduce food supply (1)
- Food webs are disrupted (1)
- Reduced biodiversity affects stability (1)
- Humans depend on crops (1)
- Ecosystem changes affect availability of food (1)

Example full-mark answer:
"Changes in ecosystems can affect food security because many crops depend on insects for pollination. If pollinator populations decrease, fewer crops are produced, leading to lower food supplies for humans. Food webs can also be disrupted, reducing biodiversity and ecosystem stability. This means there may be less reliable access to food."

Q16 (6 marks)

Level 1 (1–2 marks)

- Basic idea of toxins in food chains

Level 2 (3–4 marks)

- Some explanation of buildup

Level 3 (5–6 marks)

- Clear explanation of biomagnification and effects

Expected content:

- Toxins enter food chain (1)
- Small organisms absorb toxins (1)
- Toxins build up through food chain (1)
- Top predators have highest concentration (1)
- Causes harm or death (1)
- Pollution source example (1)

Example full-mark answer:
"Toxic materials can enter ecosystems through pollution. This could be air or water pollution, such as the gases and chemicals released by industrial warehouses. Small organisms absorb these toxins, and when they are eaten by larger organisms, the toxins build up in concentration through the food chain. This means top predators have the highest levels of toxins in their bodies. This can cause serious harm or death and disrupt ecosystems."