

Structured Questions

Adaptation to Environment

Habitats / Abiotic Factors & Species Distribution / Species Distribution: Skills / Abiotic Factors: Marine & Terrestrial / Biomes

| | |
|----------------------|------------|
| Easy (1 question) | /7 |
| Medium (2 questions) | /20 |
| Total Marks | /27 |

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Easy Questions

1 (a) Place a (✓) or (X) in the correct columns for each of the factors listed in the table below:

| | Biotic | Abiotic |
|----------------------|--------|---------|
| Sunlight | | |
| Predation | | |
| Food availability | | |
| Mineral availability | | |
| Temperature | | |

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(5 marks)

(b) Marram grass (*Ammophila breviligulata*, pictured below) is an example of a grass species that is adapted to live on sand dunes.



Partonez, CC BY-SA 4.0, via [Wikimedia Commons](#)

State **two** adaptations that you would expect marram grass to have in order to aid survival in this habitat.

(2 marks)

Medium Questions

1 (a) The image below shows a mangrove forest, an example of a tropical, coastal habitat.



Katja Schulz, CC BY 2.0, via [Wikimedia Commons](#)

Identify **three** abiotic factors acting on mangrove trees in this habitat.

(3 marks)

(b) (i) Identify one adaptation of mangrove trees that is visible in the image.

[1]

(ii) Explain how this adaptation aids survival.

[2]

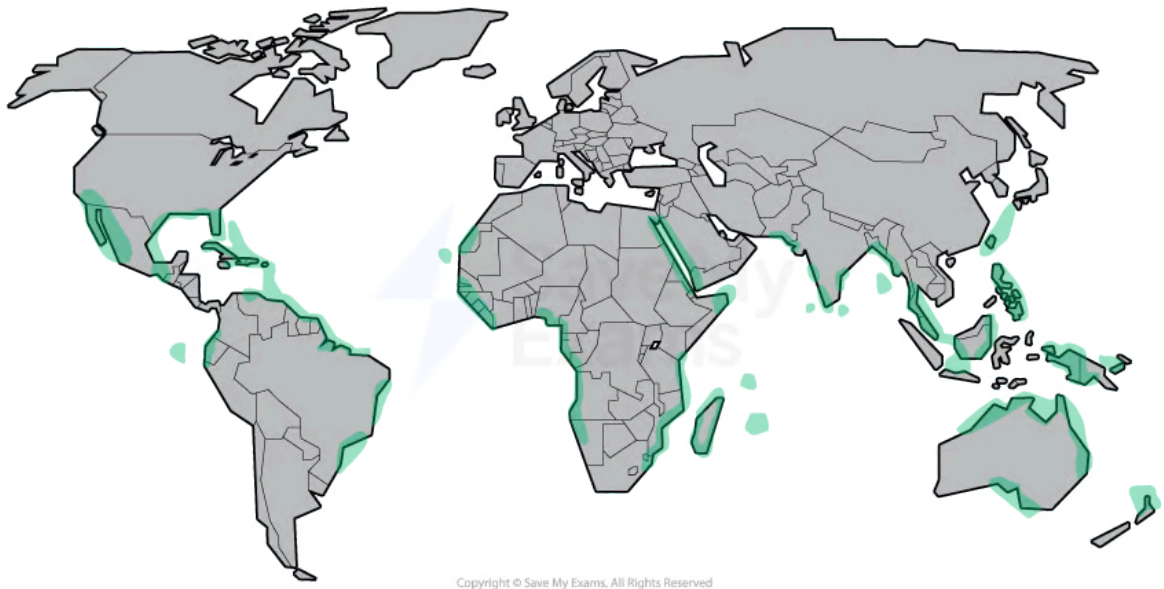
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(3 marks)

(c) The map below shows the global distribution of mangrove habitat.



(i) Describe mangrove forest distribution.

[1]

(ii) Suggest an explanation for the distribution shown in the map.

[2]

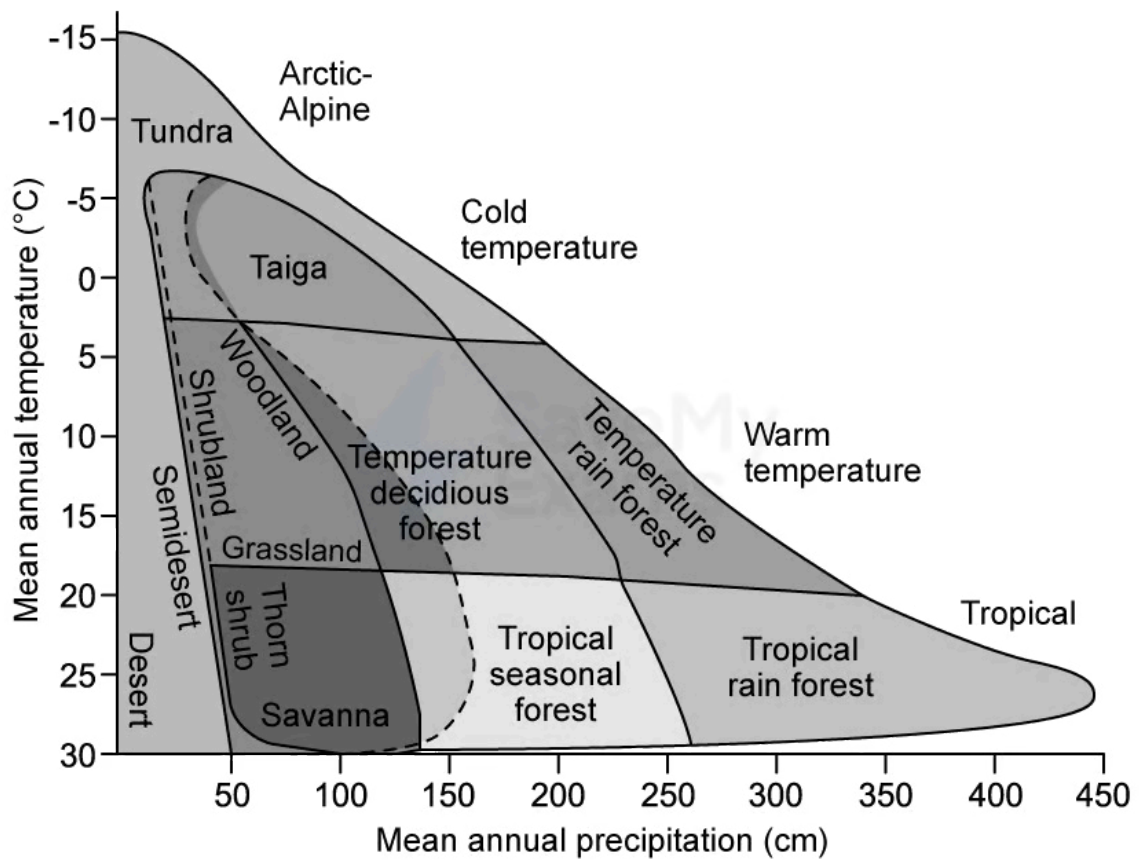
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(3 marks)

(d) Explain how climate change may affect the distribution of mangrove habitat.

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(3 marks)

2 (a) The graph below shows the impact of environmental factors on biome development.



Describe the conditions under which the following biome types will develop, according to the graph:

(i) Temperate rainforest

[1]

(ii) Tropical forest

[1]

(2 marks)

- (b) The transition between one biome and another is usually gradual, and there are some situations where variables other than those indicated on the graph may influence biome development (indicated on the graph by dashed line).

Suggest a variable, other than those shown on the graph axes, that may influence biome development in these transition zones.

(1 mark)

- (c) Plant species found in desert biomes often share similar features.

(i) Explain **two** features common to desert biome plants.

[2]

(ii) Explain why desert biome species share these features despite living in different parts of the world.

[3]

(5 marks)