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Environmental systems and societies
Standard level
Paper 1

Monday 20 May 2019 (afternoon)

Candidate session number

1 hour

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Instructions to candidates

- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- Answer all questions. Refer to the resource booklet which accompanies this question paper.
- Answers must be written within the answer boxes provided.
- A calculator is required for this paper.
- The maximum mark for this examination paper is **[35 marks]**.



Answer **all** questions. Answers must be written within the answer boxes provided.

1. Identify the most densely populated country in **Figure 3(a)**. [1]

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2. With reference to **Figure 3(b)**, outline **two** reasons for differences between the age-gender pyramids for Indonesia and Timor-Leste. [2]

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3. With reference to the data in **Figure 4(a)**, calculate the percentage of the world's coral species found in the Coral Triangle. [1]

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4. With reference to **Figures 4(b)** and **4(c)**, suggest how fish diversity may be influenced by the habitat diversity of the Coral Triangle. [2]

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5. With reference to **Figure 4(d)**, suggest the impact on the marine food web if tuna numbers were to decline. [2]

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6. Outline **one** advantage for local populations within the Coral Triangle in harvesting their food from:
(a) the marine system [1]

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(b) terrestrial agriculture. [1]

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7. Explain **two** ways in which mangroves improve the water quality for primary producers within marine ecosystems. [4]

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8. With reference to **Figure 5**, describe how loss of a coral reef ecosystem could impact a neighbouring seagrass community. [2]

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9. Outline **two** possible effects of climate change on marine coastal ecosystems within the Coral Triangle. [2]

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10. With reference to **Figure 6**, outline the effectiveness of mangroves and tropical rainforests in the mitigation of climate change. [2]

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11. Explain how the following land-based activities could have a damaging effect on marine ecosystems within the Coral Triangle:

(a) deforestation

[2]

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(b) agricultural activity.

[2]

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12. Suggest **two** strategies that could be used to reduce the threat to coral reefs from tourism.

[2]

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13. With reference to **Figure 8(a)**, outline **two** advantages of Locally Managed Marine Areas (LMMAs) for providing effective conservation of marine systems. [2]

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14. Identify **one** way in which conservation efforts may have given rise to the decline in shark fin imports shown in **Figure 8(d)**. [1]

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15. With reference to data throughout the resource booklet, to what extent would the establishment of Marine Protected Areas (MPAs) benefit marine ecosystems and human societies within the Coral Triangle? [6]

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will not be marked.

