Diploma Programme
Programme du diplôme
Programa del Diploma

Environmental systems and societies
Standard level
Paper 1

Friday 29 October 2021 (afternoon)

1 hour

Candidate session number

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]**.

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

1. (a) With reference to **Figures 2(b) and 3**, identify an ecosystem found in London. [1]

(b) Outline **one** factor which limits the primary productivity of an ecosystem in London. [1]

(c) Identify **one** distribution pattern of green spaces seen in **Figure 4(a)**. [1]

(d) Outline **three** ways that London's green spaces are considered natural capital. [3]

2. (a) Using **Figure 5**, construct an identification key for the deer species found in London. [3]

(b) With reference to **Figures 6(a), 6(b) and 6(c)**, predict how the ecosystem would be affected if the deer population in Richmond Park was not managed. [2]

Turn over

3. (a) State **one** strength and **one** weakness of using the ecological footprint as a model for measuring sustainability. [2]

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(b) State **one** factor that would allow a region's ecological footprint to exceed its biocapacity. [1]

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(c) With reference to **Figures 8(a), 8(b) and 8(c)**, suggest how urban agriculture could be used to increase the carrying capacity of London. [3]

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4. (a) With reference to **Figure 9**, explain why the highest levels of NO_x are found in the centre of London. [3]

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(b) Evaluate **one** strategy to reduce NO_x emissions from transport. [3]

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(c) Identify **two** potential impacts of improved air quality on London and its population. [2]

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5. (a) With reference to **Figures 10(a) and 10(b)**, suggest **one** reason why London's recycling rates are lower than in the rest of England. [1]

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(b) Evaluate the effectiveness of recycling as a waste management strategy for London. [3]

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6. To what extent is London a sustainable city? Refer to the information provided in the resource booklet in your answer. [6]

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Answers written on this page
will not be marked.