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Environmental systems and societies
Standard level
Paper 1

Thursday 5 May 2022 (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. With reference to **Figures 3(a), 3(b)** and **3(c)**, identify the climatic conditions in lowland seasonal forest.

[2]

.....

2. (a) Based on the 2018 data in **Figure 4(a)**, calculate the doubling time for the population of Costa Rica.

[1]

.....

- (b) With reference to **Figure 4(b)**, suggest **three** possible reasons for the changes between the age–gender pyramid for 1990 and that projected for 2050.

[3]

.....

3. (a) Outline **one** reason why it is difficult to determine the exact number of species in Costa Rica.

[1]

.....

(This question continues on the following page)



(Question 3 continued)

- (b) Explain **three** ways in which the development of protected areas shown in **Figure 5(c)** has improved the conservation of species.

[3]

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4. (a) State **one** criterion used to determine the IUCN Red List status of the jaguar shown in **Figure 6(a)**.

[1]

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- (b) Distinguish between the role of the jaguar as a keystone species and as a flagship species.

[2]

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- (c) Identify **two** difficulties associated with establishing and maintaining wildlife corridors such as those shown in **Figure 6(d)**.

[2]

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5. (a) Outline reasons for the changes in the forested areas over the period shown in **Figure 7(a)**. [2]

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- (b) Outline how the change in the area of forest cover since 1987 may contribute to the mitigation of climate change. [1]

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6. (a) Explain how the production of cash crops (such as pineapples) may have an environmental impact on:

- (i) soil [1]

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.....

- (ii) lakes or rivers. [1]

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.....

- (b) With reference to **Figure 8(c)**, identify where most of the additional land for growing crops came from between 1986 and 2011. [1]

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7. Outline **one** way in which the trend in tourism shown in **Figure 8(d)** may affect conservation efforts in Costa Rica. [1]

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8. (a) Identify **one** possible reason why there has been a change in the quantity of electricity generated from wind as shown in **Figure 9(a)**. [1]

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- (b) With reference to **Figure 9(b)**, calculate the percentage of energy consumed that came from fossil fuels in 2016. [2]

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- (c) With reference to **Figure 9(c)**, suggest **two** strategies that would be most effective in reducing the use of crude oil in Costa Rica. [2]

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9. With reference to **Figure 10(b)**, explain how sustainability in Costa Rica changed between 1961 and 2016. [2]

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- [6]



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08EP07

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will not be marked.



08EP08