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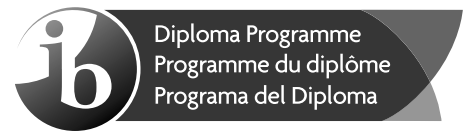
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Information technology in a global society
Higher level
Paper 3

Monday 13 May 2019 (morning)

Candidate session number

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1 hour 15 minutes

Instructions to candidates

- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- Read the case study carefully.
- Answer all questions.
- Answers must be written within the answer boxes provided.
- The maximum mark for this examination paper is **[30 marks]**.



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

Refer to the *On the road to driverless cars* case study **and** to your own related research in responding to the following questions.

1. (a) Information is communicated between a driverless vehicle and the road infrastructure.

(i) Identify **one** piece of information communicated from the driverless vehicle to the road infrastructure. [1]

.....
.....

(ii) Identify **one** piece of information communicated from the road infrastructure to the driverless vehicle. [1]

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.....

(b) Outline **one** economic advantage of the introduction of autonomous vehicles. [2]

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2. Explain the function of both GPS and LIDAR in a fully autonomous vehicle at level 5 of the SAE scale.

[6]

A large rectangular area with a dotted grid pattern, intended for writing the answer to question 2.



08EP03

Turn over

A large rectangular area containing 25 horizontal dotted lines for writing.



08EP05

Turn over

Your response to question 4 **must** include evidence of independent research linked to the *On the road to driverless cars* case study.

- 4. A government has decided to allow fully autonomous cars to operate on its roads despite the concern of some citizens that not all of the potential problems have been resolved.

Evaluate the decision of this government to allow fully autonomous cars to operate on its roads.

[12]

[Large empty rectangular box with horizontal dotted lines for writing]



A large rectangular area containing 30 horizontal dotted lines for writing.



08EP07

Turn over

A large rectangular area containing 25 horizontal rows of dotted lines, intended for writing an answer.



08EP08