

Read the text about a new computer device that allows cashless parking. Some parts are missing. Choose the correct part (A-K) for each gap (1-8). There are two extra parts that you should not use. Write your answers in the boxes provided on the answer sheet. The first one (0) has been done for you.



## Cashless Parking

Vacant parking spaces in town are thin on the ground. Finding one is just as tiresome as making sure you have the right change for the parking machine. An adhesive microchip on the windshield will make things much easier by (0) \_\_\_ to cashless parking.

The car moves slowly towards the car park exit, the barriers (1) \_\_\_ - without the driver having to wind down the window and insert a ticket. This is thanks to a small RFID chip on the inside of the windshield. Devices on the ceiling above the car park entrance and exit read the adhesive foil transponder measuring just 1.5 x 10 cm and (2) \_\_\_. The fees are charged by a direct debit from an online account.

VIATAG is the name of the RFID system which the research scientists at the Fraunhofer Institute for Material Flow and Logistics IML in Dortmund have developed for Munich-based company motion ID technologies.

“Waiting at the parking machine, searching for change, losing your ticket – all that is a thing of the past. The car driver (3) \_\_\_ and enjoys a

more convenient service,” says project manager Arnd Ciprina from the IML, listing the advantages of the system. And the car-park operators benefit too. The cost of recording and (4) \_\_\_ is reduced, but they can continue to use their existing systems in parallel to the new solution.

VIATAG is a passive RFID solution, which means that the microchip does not (5) \_\_\_. It draws its energy from the electromagnetic field of the reader device. The radio data (6) \_\_\_ in the ultra-high frequency (UHF) range and the distance between the transponder and reader can be up to eight meters. Each chip has its own twelve-digit code, enabling every car to be identified when (7) \_\_\_ the entrance and exit. The fees are charged in the background online. A database application running on a central server controls the payment transactions. The customer can (8) \_\_\_ of the amounts debited at all times on a web application, like online banking. A list of the parking time and charges can be printed out as a partial or complete account. The total amount owed is paid at the end of the month by direct debit.

|              |                           |
|--------------|---------------------------|
| A            | passing through           |
| B            | are transmitted           |
| C            | saves time                |
| <del>D</del> | unlocking the door        |
| E            | remain closed             |
| F            | billing the parking time  |
| G            | maintain an overview      |
| H            | register the parking time |
| I            | prints your ticket        |
| J            | open automatically        |
| K            | need a battery            |

# Cashless Parking

|  |                               |                               |                               |
|--|-------------------------------|-------------------------------|-------------------------------|
| 0<br><input type="checkbox"/> <b>D</b> | 1<br><input type="checkbox"/> | 2<br><input type="checkbox"/> | 3<br><input type="checkbox"/> |
| 4<br><input type="checkbox"/>          | 5<br><input type="checkbox"/> | 6<br><input type="checkbox"/> | 7<br><input type="checkbox"/> |
| 8<br><input type="checkbox"/>          |                               |                               |                               |

Von der Lehrperson auszufüllen

| richtig | falsch   | richtig  | falsch | richtig  | falsch | richtig  | falsch |
|---------|--|--|--------|--|--------|--|--------|
|         |  | 1<br><input type="checkbox"/> <input type="checkbox"/> |        | 2<br><input type="checkbox"/> <input type="checkbox"/> |        | 3<br><input type="checkbox"/> <input type="checkbox"/> |        |
|         | 4<br><input type="checkbox"/> <input type="checkbox"/> | 5<br><input type="checkbox"/> <input type="checkbox"/> |        | 6<br><input type="checkbox"/> <input type="checkbox"/> |        | 7<br><input type="checkbox"/> <input type="checkbox"/> |        |
|         | 8<br><input type="checkbox"/> <input type="checkbox"/> |  |        |  |        |  |        |

\_\_\_ P.