

# Developing Cognitive Competency Test for Passenger Car Braking System Maintenance Schemes

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## ABSTRACT

### Abstract

The Automotive Engineering Education Department is continuously developing a collaboration with the Indonesian Automotive Certification Institute (LSP OTOINA), especially on automotive mechanics certification. One of important task among the cooperation between the two institutions is to develop a cognitive, affective, and psychomotor test scheme for each competency unit based according to the related occupations in the automotive industry, both the service and the manufacturing industry. Furthermore, there were three research groups of lecturer of Automotive Engineering Education Department which has the task to develop a test for the competency certification program. Hence, this study purports to develop the Brake System Maintenance Scheme Competency Test.

This study was carried out using Borg and Gall's research and development approach by simplifying the steps including: product planning, limited trials, and Field Testing. In each step was followed by revision of the test until the final product revision is obtained.

The result of this research and development study is a cognitive competency test for the Passenger car's Brake System Maintenance scheme. It consists of a full package thirty multiple choice questions, and each question has 5 (five) answer choices to measure the cognitive competence of the participants. These questions have been developed with procedures that are in accordance with the planned stage although there are some adjustments related to the limited circumstances (especially the Covid-19 pandemic). The quality of this cognitive competency test question from a rational review has met the requirements, but from an empirical review there are still some shortcomings that can be used as a reference for further improvement.

Kata Kunci: *Keywords: Test, Cognitive, Brake System*