Experiment No: 8				
Date of Performance:	17/10/24			
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Program Formation / Execution/ Correction (06)	**Timely Submission (01)**	**Viva (03)**	**Experiment Marks (10)**	**Teacher Signature with date**

EXPERIMENT 8

Introduction:

The Advanced Driver Assistance System (ADAS) enhances vehicle safety and driving efficiency through various automated functions. This document outlines test cases designed to validate the functionality and reliability of the ADAS features, ensuring they perform as intended in real-world scenarios

Test Case Template :

A test case template is a structured format used to document the requirements, execution steps, and expected outcomes of a specific test scenario in software testing. The purpose of a test case template is to ensure consistency, clarity, and comprehensiveness in the testing process. A well-defined template facilitates communication among team members and stakeholders, aids in test case management, and ensures that all necessary information is captured for effective testing.

Key Components of a Test Case Template:

1. **Test Case ID**: A unique identifier for each test case, making it easy to reference.

2. **Test Case Description**: A brief statement outlining the purpose and objective of the test case.

3. **Pre-conditions**: Conditions that must be met before executing the test, ensuring the test environment is set up correctly.

4. **Test Steps**: A detailed sequence of actions to be performed during the test, providing clear instructions for testers.

5. **Expected Result**: The anticipated outcome of the test, which serves as a benchmark for evaluating success.

6. **Actual Result**: The actual outcome observed during the test execution, which is compared against the expected result.

7. **Status (Pass/Fail)**: Indicates whether the test case passed or failed based on the comparison of expected and actual results.

8. **Comments**: Additional notes or observations that may be relevant for future reference or clarification.

Test Case ID	Test Case Description	Pre-conditions	Test Steps	Expected Result	Actual Result	Status (Pass/Fail)	Comments
TC_ID	Description of the test case	Conditions that must be met before the test	Step-by-step actions to perform	What should happen after execution	What actually happened	Pass or Fail	Any additional notes

Test Case ID	TC_ADAS_001
Test Case Description	Verify Emergency Braking Activation

Pre-conditions	Vehicle is in motion at a speed of 50 km/h; an obstacle is detected within 5 meters.
Test Steps	1. Start the vehicle. 2. Monitor the distance to the obstacle using the ADAS sensors. 3. Ensure the obstacle is within the detection range. 4. Observe the system's response.
Expected Result	The ADAS activates emergency braking, bringing the vehicle to a complete stop before colliding with the obstacle. The driver receives an audible warning.
Actual Result	TBD (to be filled after execution)
Status (Pass/Fail)	TBD
Comments	Ensure the system is calibrated correctly for accurate obstacle detection.

Conclusion :

Testing the Advanced Driver Assistance System is crucial to ensure its reliability and safety. This document outlines a specific test case focusing on emergency braking functionality, highlighting the importance of pre-conditions and expected outcomes. By executing and documenting these test cases, developers can identify and rectify any issues, ultimately enhancing the overall safety and effectiveness of the ADAS. Continuous testing and validation will help in maintaining high standards for vehicle automation and driver assistance technologies.