



FLORIDA  
AUTOMOBILE  
DEALERS  
ASSOCIATION

# FADA

CERTIFIED TECHNICIAN STUDY GUIDE

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## Overview

This study guide is intended to help students in Florida automotive programs study for the FADA Certified Technician exam. This guide contains **test specifications**, a **task list**, and **sample questions**. After reviewing this guide, you should find it easier to choose appropriate materials to help you prepare for the exam.

The FADA Certification is somewhat different from other certifications which may be available to you. The exam is designed to measure your knowledge of automotive theory in areas selected by industry as “need to know” and to assess your readiness to join the workforce as an entry level automotive technician. As such, no work experience is required to hold this certification.

The FADA Certified Technician examination contains 130 questions, and you will have 2 hours to complete it. The questions, written by industry and education professionals throughout Florida, are randomly drawn from a pool of questions within our database.

The specifications listed below and the task lists, together, provide you with a roadmap of topics that may be covered on the exam. The sample questions included in this guide, along with the sample test that is available online, will give you familiarity with the types of multiple-choice questions that will be used to assemble your individual test and acquaint you with the testing interface. After reviewing this guide, and taking the online sample test, you should have a good idea of which skill areas need further study.

## Going for the Examination

When you go for the exam be sure to bring your current photo ID. The proctor selected by your school will require you to turn in any cell phones and other prohibited personal items. The proctor will assign you a test ticket and sign you into the testing system. **Please remember: before you begin the exam, input your name, address and other information as required.** You will have 120 minutes (two hours) to complete the exam. The system timer will show the amount of time remaining as well as provide you with a basic calculator. You may also bring a pencil and scratch paper with you to the examination. Since we score only on correct answers, you should leave no unanswered questions. If you are unsure of an answer, mark your best guess and flag the question for review at the end of the exam. If you have time after you complete the exam, you may review your marked questions.

### FADA Certified Technician Exam Specifications

- A. Safety, 26 questions – 20%
- B. General Automotive, 26 questions – 20%
- C. Brakes, 26 questions – 20%
- D. Steering /Suspension, 13 questions – 10%
- E. Electrical/Electronics, 39 questions – 30%

## FADA Certified Technician Task List

### A. SAFETY (26 questions)

1. Describe general shop safety rules and procedures
2. Identify when to use all required Personal Protective Equipment (PPE) such as safety glasses, ear protection, gloves, and shoes
3. Review proper lifting procedures
4. Describe procedures for safe handling of tools and equipment
5. Describe safe procedures for floor jacks and jack stands
6. List the proper procedures for safe vehicle lift operation
7. Describe procedures for storage and disposal of hazardous materials
8. Describe proper ventilation procedures for working within the lab/shop area
9. Identify marked safety areas
10. Identify the location and the types of fire extinguishers.
11. Identify the location and use of eye wash stations
12. Identify appropriate clothing for the shop
13. Locate and interpret material safety data sheets (MSDS)
14. Describe the role of OSHA in workplace safety
15. Identify safety aspects of working with electrical systems

### Sample Safety Question

Accidents in the auto shop are usually the result of a mistake; they can be avoided. But if there is an accident, even if it's only a slight one, report it immediately to the:

- a. instructor.
- b. school nurse.
- c. nearest student.
- d. department chairman.

## B. GENERAL AUTOMOTIVE (26 questions)

1. Identify different lubricants and their proper uses
2. Differentiate between solvents and cleaners and list their proper uses
3. Identify hand tools and their uses
4. Identify power tools and their uses
5. Identify precision measurement tools and their uses
6. Differentiate between Metric and Standard units of measure
7. List the three C's to diagnose a vehicle problem
8. Identify common procedures for ordering parts
9. Identify the parts of a work order
10. List the parts of a test drive
11. List the steps to jump a car battery
12. Identify the components of a cooling system
13. Describe common wear patterns on tires and their causes
14. Describe the procedures to perform an oil change
15. List the components routine vehicle maintenance
16. Check vehicle fluid levels
17. Identify different types of sealants and their proper uses
18. List the procedures for reinstalling a tire
19. Determine the correct tire size for a vehicle
20. List steps to reinstall a tire
21. Identify common issues with belts
22. Detail how a fuel injection system (PCM) works
23. Describe common problems with fuel pumps and their causes
24. Identify common exhaust problems and their causes OBD II / DTC
25. Identify common ignition problems and the tools used to test for them

### Sample General Automotive Question

The letter "P" in the tire size code "P205/75TR17" refers to:

- a. the type of vehicle the tire is made for.
- b. the tire type
- c. the tire quality grade code
- d. the tire's speed rating

## C. BRAKES (26 questions)

### General Brakes

1. Describe the components and functions of a braking system
2. Identify common braking issues and their causes (spongy pedal, grinding, pedal pulsation, grabbing)
3. Describe common features of brake lines (material, pressure, shape)
4. Measure brake pad wear and thickness
5. Explain the procedures to bleed a vehicle brake system
6. Explain the purpose of a traction control system
7. Explain the purpose of a master cylinder and common issues associated with them
8. Identify fault codes and instrument panel lighting associated with brake problems
9. Explain the parts and uses of parking brakes
10. Explain the common characteristics and uses of brake fluid
11. Define breaking ratio
12. Identify common brake fluid types and their uses

### Drum Brakes

13. List parts of a drum brake system
14. Name the types of drum brakes
15. Describe steps to inspect, clean, and measure drum brakes
16. Identify causes of out of round on brake drums
17. Describe steps to refinish brake drums to specifications
18. List causes of brake fluid contamination

### Disc Brakes

19. List parts of a disc brake system
20. Describe steps to inspect, clean, and measure disc brakes
21. Explain the purpose of a calipers and common issues associated with them
22. Measure disc brake rotors thickness, parallelism, and runout
23. Identify causes of rotor wear, warpage, and excessive runout
24. Detail the Antilock Braking Systems (ABS)
25. Identify common problems with anti-lock braking systems (ABS)

### Sample Bakes Question

A noise from the brakes when there is no pressure on the brake pedal could be caused by the \_\_\_\_\_ indicators on the brake pads.

- a. Signal
- b. Wear**
- c. Pressure
- d. Fade

## D. STEERING AND SUSPENSION (13 questions)

1. Identify common components of a steering system (pitman arm, centerlink, idler, power steering pump)
2. Identify common components of a suspension system
3. Explain different types of steering systems
4. Explain different types of suspension systems
5. Describe common signs of alignment issues and their causes
6. Describe common signs of power steering issues and their causes
7. Define steering axis inclination and included angle
8. Explain the difference between camber, caster, and toe
9. Explain the purpose of a shock absorber
10. Describe the procedure to remove a tie rod
11. Identify and explain the cause of tire wear patterns
12. Explain the procedure to remove and remount a tire
13. Identify the parts of a tire and how they are selected for a car or truck
14. Define curb height

### Sample Steering and Suspension Question

A customer complains: "At higher speeds the steering wheel begins to rapidly wiggle back and forth and the car starts to shimmy badly." This condition is likely to be caused by:

- a. dynamic imbalance of tires.
- b. static imbalance of tires.
- c. worn shock absorbers.
- d. worn upper thrust bearings.

## E. ELECTRICAL-ELECTRONICS (39 questions)

1. Define basic electronic principles and how they are measured
2. Define and use the formula for Ohm's law ( $E = I \times R$ )
3. Convert electrical units (K, Ohms, V, mV)
4. Calculate total resistance, and current flow in a circuit
5. Identify tools used to test and diagnose electrical/electronic problems
6. Interpret digital multi-meter measurements (DMM)
7. Explain common electrical system parts (relay, solenoid, transformer, diode, resistor)
8. Explain electrical/electronic series, parallel and series-parallel circuits
9. Describe the procedures to test for and the causes of voltage drop
10. Define and determine the cause of excessive parasitic draw
11. Describe the types of switches used in automobiles
12. Describe a thermistor and its uses
13. Identify the cause of common problems in electrical/electronic circuits (ie. shorts, grounds, opens, and resistance problems)
14. Describe the procedures to inspect and test bulbs, fusible links, circuit breakers, and fuses
15. Describe the procedures to inspect and test electrical/electronic circuit switches, connectors, relays, solenoid solid state devices, and wires
16. Describe the procedures to test starter current draw tests and starter circuit voltage drop
17. Describe the procedures to inspect and test starter relays and solenoids
18. Explain the basic functions and parts of a computer

### Sample Electrical/Electronics Question

When the engine starts, approximately \_\_\_\_\_ are supplied to the battery and electrical system.

- a. 6.4v
- b. 8.5v
- c. 14.2v**
- d. 18.6v

## FADA Certified Technician Practice Test

Below is a test ticket to access sample tests for the FADA Certified Technician Practice Test. This practice test is available for anyone wishing to see the types of questions asked and the system used for the FADA Certified Technician Exam. The practice tests are 50 questions in length and give a sample of what the questions on the actual test might look like. These tests will show a grade and results by the standard at the end of the test, but none of these scores are kept. The 50 items on the test will be broken up, as they are on the actual test, into the following areas:

All that is necessary to access the practice test is the sample test ticket below:

Site URL: <a href="http://www.techfluency.org/esess/">http://www.techfluency.org/esess/</a>
Org. Name: FADA
First Name: Practice
Last Name: Practice
Password: Practice

Once you enter the ticket info you will be able to take the practice test. You may do so as many times as you would like.

Completing the practice test is also a good check to make sure your computers meet the technical requirements. Be sure to complete the IT requirements before trying any of the practice tests. To access the FADA Certified Technician Assessment Website copy the link below into your browser and click on the IT Requirements button

<http://www.ctecs.org/FADA-Test%20Overview.htm>

If your computer does not meet the technical requirements or if you have issues accessing the practice tests please contact Tim Withee at [twithee@ctecs.org](mailto:twithee@ctecs.org).