

**ALABAMA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION MAINTENANCE TECHNICIAN, SR.
(90246)**

HOW TO PREPARE BOOKLET

PREPARED BY:

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INSTRUCTIONS AND NOTES ON "HOW TO PREPARE" AND TAKE THE EXAMINATION FOR ALABAMA DEPARTMENT OF TRANSPORTATION TRANSPORTATION MAINTENANCE TECHNICIAN, SENIOR (TMT, SR.)

Introduction

The purpose of these Instructions and Notes is to help you prepare for the EXAMINATION for Transportation Maintenance Technician, Senior with the Alabama Department of Transportation. This booklet contains information about the examination including:

- Specific suggestions on how to prepare for the examination;
- A description of the five sections that make up the examination;
- Hints on how to prepare for the examination;
- Information on how to answer questions when taking the examination;
- A description of how the examination will be given;
- Some specific guidelines that you must follow during the examination;
- Information on what you need to bring to the examination.

The Transportation Maintenance Technician, Senior examination is the exam that you need to take in order to be eligible to be hired as a TMT, Sr. with the Alabama Department of Transportation.

Again, we repeat the purpose of these instructions and notes. **This information is designed to help you prepare to take the examination to become a TMT, Sr. with the Alabama Department of Transportation.** It is important that you sit down in a quiet place and review the material in this booklet. You should also set aside time to do the things that are suggested in this booklet to prepare for the examination. Please remember that the material in this booklet is designed to help you prepare for the exam. You will not need the material in this booklet at the time you actually take the exam. Therefore, you will not be allowed to carry this booklet into the exam. Later in this booklet, we will instruct you on what you are **allowed** to bring to the exam session and what you **must** bring to the exam.

Important TMT, Sr. Knowledges and Abilities

An analysis of the TMT, Sr. job in the Alabama Department of Transportation showed that a number of knowledges and abilities were important and needed upon entry into the TMT, Sr. job. The knowledges and abilities the TMT, Sr. exam was designed to measure are listed below.

- Knowledge of where equipment can be utilized safely and how equipment may adversely affect the surrounding area such as bursting gas lines and injuring property or people.
- Knowledge of different kinds of traffic control equipment needed for a job based on the type of work area (i.e., bridge, right of way, roadway), the type of job to be completed such as pothole repair, strip patching, or clearing debris, and the type of road being worked on (i.e., interstates, state routes or rural roads).
- Knowledge of proper flagging procedures to guide the flow of traffic as needed to minimize hazards for self and others and complete work safely.
- Knowledge of traffic control equipment such as cones, warning boards, and portable and permanent signs required for jobs as needed to ensure traffic control setups have the necessary equipment, ensure traffic flow through work zones, and ensure the safety of workers and motorists.
- Knowledge of traffic control setups as found in the AMUTCD manual to include the placement of workers, signs, cones and/or boards for various situations as needed to determine the best route for traffic going through work zones and maintain the safety of workers and motorists.
- Knowledge of the required road distances and locations for warning signs as needed to ensure traffic flow through work zones and the safety of workers and motorists.
- Ability to perform safety inspections on equipment as needed to check fluid levels, lights, brakes, and wipers for proper working conditions and identify any maintenance required.
- Ability to work safely in dangerous situations such as in heavy traffic, on bridges, or on heavy equipment as needed to perform highway maintenance work.
- Ability to read and understand the Traffic Control manual (AMUTCD) as needed to identify proper maintenance and traffic control procedures and follow these procedures in the field.
- Ability to read and comprehend information such as crew day cards, written complaints from public, bulletin board information, and/or job rotation letters.
- Ability to complete crew day card information such as overtime hours, equipment numbers, fuel used, mileage and daily activities as needed to document crew activities.
- Ability to adapt traffic control set ups as needed to meet traffic problems existing in field such as congestion, fast moving traffic, and/or motorist ignoring traffic control routes.

- Ability to identify maintenance needs on roads and bridges such as washouts, damaged bridge railing, low shoulders, chemical spills, damaged asphalt or concrete, road or ROW obstructions as needed to report problems to the supervisor and ensure maintenance work will be completed.
- Ability to identify possible hazards such as washouts, rubber on roads, dead animals, downed signs, trees in roads, defective bridge railings, and icy conditions or spills as needed to make repairs on roads or call in safety problems.
- Ability to inspect equipment for maintenance needs such as worn belts, cracked hoses, and ungreased joints as needed to prevent major equipment breakdowns and keep it in proper working condition.
- Ability to use radios as needed to communicate traffic flagging information, ensure traffic flow through work zones, and the safety of workers and motorists.
- Ability to operate herbicide spraying systems to include use of the control levels as needed to mix and spray herbicide chemical on unwanted vegetation to remove it from roadways and Right of Ways.
- Ability to operate dump trucks having a gross vehicle weight limit of less than 26,000 pounds as needed to haul equipment and materials to and from job sites.
- Ability to operate backhoes as needed to dig out ditches, drainage areas, or clean ditches.
- Ability to operate tractors as needed to perform maintenance activities such as mowing grass and or clearing debris off right of ways.
- Ability to operate front end loaders as needed to perform roadway maintenance such as loading fill materials, digging ditches, and repairing drainage areas.
- Ability to operate motor graders as needed to grade roadways, blade ditches, blade shoulders, and place down and level mixes on damaged roadways.
- Ability to operate excavators such as gradalls, trackhoes, badgers as needed to perform road maintenance work such as to remove dirt, dig ditches, fill in washed out or damaged roadways, install driveway pipe, and set concrete barriers.
- Ability to operate bucket trucks/sign trucks to include operating the control levers that raise and lower the bucket as needed to install permanent and temporary roadway signs, repair damaged roadway signs, and clearing limbs off of right of way.
- Ability to operate lowboy transporters as needed to haul maintenance equipment to and from job sites.
- Ability to operate tandem trucks and trailers having a gross vehicle weight limit of more than 26,000 pounds as needed to haul equipment to and from job sites.
- Ability to operate dump trucks having a gross vehicle weight limit of more than 26,000 pounds as needed to haul equipment and materials to and from job sites.
- Ability to operate herbicide trucks as needed to spray herbicide on right-of-ways.
- Ability to perform basic math skills such as addition, subtraction, multiplication, and division as needed to complete crew day cards and determine areas, volumes, and/or quantities.

Description of the Sections Comprising the Examination

The examination is divided into five sections. All five sections of the examination will be given on the same day.

If you require reasonable accommodation to participate in this examination, you must notify the State Personnel Department in writing of this need no later than two weeks prior to your scheduled date to take the examination.

In the rest of this "How to Prepare" booklet, we will provide general information about the examination, information about preparing to take the examination, what the testing situation will be like, and a description of the five different sections of the TMT, Sr. examination.

General Information about the Examination

The examination will last approximately three hours including registration, instructions, and actual testing time.

When you read the word “exam” in the rest of these Instructions and Notes, it is a short way of referring to the entire examination.

There are several different types of questions in the exam. Before each section begins, you will be given oral instructions from the test administrator on how to answer the questions. Your test booklet will also contain these same instructions in written form. The types of questions and how you will be expected to respond to them will be carefully explained in the instructions you are given before you take each section. During these instructions, you will be told how much time you have to complete the section. It is a good idea to bring a watch so that you can keep up with how much time you have remaining on each section. The test administrator will tell you when you can begin work on each section and when you have five minutes remaining for each section. When the test administrator announces that time is up for work on the section, you must stop working. All responses to the various questions will be written in the examination booklet.

Preparing for the Examination

Here are some suggestions for what to do before the exam and for getting to the exam location on the correct day, on time, and with the proper things that you will need to take the exam.

- Be well rested. Get a good night's sleep for several nights in a row before the exam.
- Allow plenty of time to get to the exam. If you are rushed and late, you might be upset when you get there. Plan to get there before the scheduled time for check-in. If you are late, you may not be admitted to the exam site.
- Come to the exam dressed comfortably. You will be at the test site for about *3 hours* including time to register and take the exam.
- Do not bring this booklet to the exam location. You will not be permitted to bring it to the test site.
- Do not bring any of your study materials to the exam. This includes notes and any resources that you may have used to prepare for the exam.
- You should read and study this booklet.
- You should bring the NOTIFICATION CARD that you will have received from the State Personnel Department to the exam location. The NOTIFICATION CARD lists the **name** of the exam, the **place** you should go in order to take the exam, and the **time** and **date** of the exam. You **must** also bring a PICTURE IDENTIFICATION to the exam location. This may be a valid driver's license, a military identification card, or a passport. You only need to have one form of PICTURE IDENTIFICATION. If your PICTURE IDENTIFICATION does not include your Social Security Number, you must also bring your SOCIAL SECURITY CARD with you.
- We recommend that you also bring a watch to the exam so that you will know how much time you have remaining to work on each section of the exam.
- You should obtain directions to the exam location prior to the day of the exam.

During the Examination

General Guidelines

Some people are nervous when they take exams. Up to a point, there is nothing wrong with that. Whenever you are going to do something important, it is generally good to feel a bit “keyed up.”

However, it is not good to be so nervous that all you can think about is how nervous you are. You need to keep your mind on the content of the exam questions. To improve your ability to do that, you will find the ideas in this booklet on how to study and prepare for the exam useful. **The more prepared you are, the more comfortable and less nervous you will feel during the exam.**

In an exam like this one, some questions are easy and some are hard. Probably no one will make a perfect score. If it is hard for you to figure out an answer, it is probably hard for other people also. Keep your mind on the test and try to answer every question. There is no penalty for guessing on this exam.

Don't pay attention to other people who are taking the exam. You **do not** want to waste your time. You **do** want to concentrate on your exam.

There are two things you can do that will make you feel more comfortable taking the exam.

- Follow the guidelines presented in this booklet on how to prepare for the exam.
- Become familiar with the kinds of questions used in the sections that make up the exam.

Most of the remainder of this booklet will try to help you with these two things.

Specific Guidelines

We are now going to review some specific guidelines that you will be expected to follow when you come to take the five sections that make up the TMT, Sr. examination.

- You should use the restroom before the exam begins. You will not be allowed to leave your seat during the exam except for an emergency (restroom or otherwise). **IMPORTANT:** The exam will not stop while you are out of the room during an emergency and you will lose some of the time given to answer the questions or may miss some of the instructions.
- There will be exam monitors in the room in which you are being tested. They will be available to assist you if you have any problems.
- Exam monitors will not interpret exam questions for you or provide any information related to the exam questions.

- You are not to open the exam booklet or begin working on any section of the exam until you are instructed to do so.
- You will not be allowed to start on an exam section until you are instructed to do so. However, you will be allowed to return to previous sections of the exam to review your work if you have time.
- You may not smoke, eat, or drink in the exam room.
- Please do not talk during the exam. Keep your eyes on your own exam papers and materials. Candidates making any disturbances or caught cheating may be disqualified from the exam.
- The total time for actually taking the entire exam is 2 hours and 30 minutes. This does not include the time for registration, receiving instructions or distributing and picking up exam materials.
- You will be asked to write your responses during the exam. You will be provided with #2 pencils by the exam administrator. You must write legibly. Raters cannot score what they cannot read.
- All materials needed for the exam will be provided. Do not bring any study or reference material with you to the exam site.
- You should always check to make sure that you are writing your answers in the correct location in the exam booklet.

Prior to beginning the exam, you will be required to read and sign an exam Security Statement. This agreement states that ***“You are not allowed to possess, use or refer to any personal notes or study materials during this exam. The only materials allowed in the Testing room are those provided by the test monitors during the exam. This Security Statement provides examples of cheating. It states that you are not allowed to discuss the content of the Transportation Maintenance Technician, Sr. examination with other candidates at any time, now or in the future. It states what the consequences may be if you do not comply with these conditions. Your signature certifies that you understand these conditions and you will comply with the conditions as listed on the Security Statement.”***

Before you begin working on each section of the exam, the test administrator will read aloud the instructions for that section. These instructions will tell you exactly how to complete each section and how much time you will have to complete it. The test administrator will also give you an opportunity to ask questions before the section begins. The test administrator will also tell you when you have five minutes remaining for each exam section and when your time for working on each section is over. When the test administrator tells you to stop working on a section, you must stop working on that section. If you complete your work before time is called, you may go back and work on a previous section. However, you will **NOT** be allowed to work ahead on an upcoming section.

The five sections of the TMT, Sr. exam are described in detail in the following pages of this booklet.

TMT, Sr. Examination Section One

Description of Section One

Section one of the TMT, Sr. examination is called the “Equipment Inspection” section.

In this section, you will view pictures of four types of motorized equipment commonly used in the TMT, Sr. job. For each piece of equipment, you must answer two questions:

- What is this piece of equipment called?
- What **five** most important parts or features of the equipment should be checked before operating this piece of equipment?

For each piece of equipment, you will be shown an actual photograph of the equipment and a list of names to choose from. You will also be shown a list of parts and/or features. You will circle the correct name of the piece of equipment being shown. Next, you will place a check mark in the blanks next to what you consider to be the five most important parts or features that should be checked before operating that piece of equipment.

You should list five (5) specific parts and/or features for each piece of equipment. You will lose points if you provide less than 5 parts and/or features. Also, if you provide more than 5 parts and/or features, we will only score the first five responses.

You will be given a total of 15 minutes to complete section one.

TMT, Sr. Examination Section Two

Description of Section Two

Section Two of the TMT, Sr. examination is called the "Flagging Procedures and Traffic Control" section.

In Section Two, you will review information from the Manual on Uniform Traffic Control Devices (MUTCD manual), a table with required warning sign spacing, a table with the meaning of Symbols on Typical Application Diagrams, a page of Warning Signs, and a blank diagram showing a traffic situation. To respond to the questions, you must indicate what people and equipment should be used to direct traffic when making the required road repairs. Specifically, you will be asked about the placement of flaggers, signs, distances between the signs, and the cones needed for the repair situation.

You will be given a total of 45 minutes to complete the two questions in Section Two.

TMT, Sr. Examination Section Three

Description of Section Three

Section Three of the TMT, Sr. examination is called the “Worksite Hazards” section.

In this section, you will view photographs and diagrams of roadway worksites that require maintenance. For each worksite, you will be asked the following question:

- What potential worksite hazards should be taken into consideration when performing the required maintenance work?

There are two questions in this section. After reviewing a picture of a worksite, you will be asked to check off the **five** most important hazards (e.g., speed of traffic, overhead wires) in the area that are listed on the checklist in the test booklet. You will place an “X” or checkmark next to the **five most important** hazards listed on the checklist that exists for this worksite area.

You should check only the five (5) most important hazards in the area listed in the checklist. You will obviously lose points if you check less than 5 potential hazards. Also, if you check more than 5 potential hazards, we will only score the first five responses.

You will be given a total of 15 minutes to complete section three.

TMT, Sr. Examination Section Four

Description of Section Four

Section Four of the TMT, Sr. examination is called the “Completion of Crew Day Cards” section.

In this section, you will be given a scenario of the work a crew performed on a particular day. For each scenario, you will be asked to complete a crew day card.

There are two questions in this section. After reading the paragraph containing the scenario, you will be given a list that indicates what information is missing from the crew day card. You will be asked to complete the partially filled-out crew day cards according to that list. This is the information that you will be required to provide on the card.

You should provide only the information that is asked for in the list. You will not receive extra points for providing additional information that is not requested.

You will be given a total of 45 minutes to complete section four.

***NOTE:** An example of a correctly completed crew day card is provided for you on page 16. There are certain pieces of information that a TMT, Sr (or crew leader) is expected to complete on the card. These areas are indicated on the card by a circled number (1-4). Please read the brief description on page 15 while studying the completed crew day card on page 16.*

EXAMPLE OF CREW DAY CARD COMPLETION:

On page 16 you will see a completed crew day card. Some of the information, such as the top portion of the crew day card, is entered by the Transportation Maintenance Superintendent. Other information is recorded by the Transportation Maintenance Technician, Senior, who is also the crew leader. You should pay special attention to the circled-numbered points 1-4 on the crew day card. These are some of the pieces of information the crew leader is responsible for:

- 1.) **Entering the time worked** by the crew, including inmates. Frank Johns, Jill Lewis, and Russ Sims all worked 8 hours plus 1 hour each of overtime. However, Pete Hall only worked 2 hours this day. The 2 inmates worked 8 hours each for a total of 16 hours. The total hours worked by the entire crew was 42 hours with an additional 3 hours of overtime.
- 2.) **Entering equipment usage** for that day. The crew drove a crew cab truck 40 miles and drove a flat bed truck 47 miles.
- 3.) **Entering amount of materials used** on the project that day. The crew used 2.0 cubic yards of gravel and 40.0 pounds of Bag Patch Pavement in order to repair the pot hole.
- 4.) **Signing the crew day card.** The signature of the crew leader, Frank Johns, is required at the bottom of the card.

EXAMPLE COMPLETED CREW DAY CARD

OVERRUN-----OVERRUN-----OVERRUN

MM 701 1/96		Alabama Department of Transportation MAINTENANCE CREW DAY CARD			
ACTIVITY NO.	ACTIVITY NAME			RD CLASS	CREW SIZE
	ROADWAY MAINTENANCE				6
MGMT. UNIT	MANAGEMENT UNIT NAME		PLANNED	REMAIN	MONTH
					MARCH
ASSIGNED TO:		COUNTY		DATE	
FRANK JOHNS		UNION CO.		71 3 / 10 / 07	
LOCATION AND SPECIAL INSTRUCTIONS:					
UNION CO - HIGHWAY 90 - MILE MARKER 21 POT HOLE REPAIR					
LABOR			EQUIPMENT		
R.T.	EMPLOYEE	O.T.	EQUIP. NO.	DESCRIPTION	USAGE
8	FRANK JOHNS	1	4501	CREW CAB TRUCK	40 mi
2	PETE HALL		5193	FLAT BED TRUCK	47 mi
8	JILL LEWIS	1			
8	RUSS SIMS	1			
16	2 CONVICTS				
42	TOTAL HOURS	3			
MATERIALS					
CODE	DESCRIPTION			AMOUNT	UNIT
614	GRAVEL			2 0	Cubic Yds.
409	BAG PATCH PAVEMENT			40 0	POUNDS
SIGNATURE		DAILY ACCOMPLISHMENT		AMOUNT	UNIT
Frank Johns					

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TMT, Sr. Examination Section Five

Description of Section Five

Section Five of the TMT, Sr. examination is called the “Equipment Operation Experience” section.

In this section you will answer six questions based on your past work experience with various equipment. This is not a test of your belief that you have the ability to perform these tasks. It is instead designed to determine which of these tasks you have actually performed in a correct manner.

To complete this section, you will indicate if you have, or have not, performed each task as stated. You will check a box for “yes, I have performed this task (I have correctly operated this piece of equipment)” or leave the box blank for “no, I have not performed this task (I have not operated this piece of equipment).” If you indicate you have correctly performed a particular task (that is, if you have operated that piece of equipment), then you must indicate how long you actually performed that task and provide the name of your most recent supervisor and the name of your most recent employer where you performed the task. You must also indicate the approximate date (year(s)) in which you performed the task.

It would be a good idea to begin to research the names of past employers and the names of your supervisors at jobs where you gained equipment operation experience so you will know this information for the test. Note: you will not be allowed to bring this or any other information into the exam room.

Before you begin, you will be asked to read, sign, and date the following statement:

Your signature certifies that all information you will provide in response to this section will be complete and accurate to the best of your knowledge and belief. The State Personnel Director may disqualify you from further consideration, remove your name from the register, or refuse to certify your name from the register if you have not provided complete and accurate information. Further, you can be dismissed from State service for making false statements or certifications with respect to a test.

You will be given a total of 30 minutes to complete the eleven questions in this section.

An example of a correctly completed Equipment Operation Experience Form is shown on the next page. You will be asked to provide this type of information for eleven different pieces of equipment.

EXAMPLE
EQUIPMENT OPERATION EXPERIENCE FORM

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	COLUMN 5	COLUMN 6
EQUIPMENT	Place a check next to each piece of equipment that you have operated as a part of your routine job duties.	For each piece of equipment that you checked in Column 2, write how long you actually operated that piece of equipment.	For each piece of equipment that you checked in Column 2, write the name of the most recent Organization or Company you worked for when you operated the piece of equipment.	For each piece of equipment that you checked in Column 2, write the name of the most recent Supervisor who can verify that you operated the piece of equipment.	For each piece of equipment that you checked in Column 2, write the approximate dates in years (2007 – 2009) that you operated the piece of equipment.
EXAMPLE Bucket Truck	√	7 months	ALDOT	John Parr	2008 - 2009

Exam Summary

- The exam consists of five sections.
- You will be allowed a fixed amount of time to complete each section.
- The test administrator will read the instructions aloud for each section before the section begins.
- For each section, the test administrator will let you know when there is 5 minutes remaining to complete the section.
- The test administrator will call time when each section is over.

The table below summarizes each section of the exam and the time allowed.

Section Number	Section Name	Time Allowed
Section One	Equipment Inspection	15 minutes
Section Two	Flagging Procedures and Traffic Control	45 minutes
Section Three	Worksite Hazards	15 minutes
Section Four	Completion of Crew Day Cards	45 minutes
Section Five	Equipment Operation Experience	30 minutes

Additional Tips for Preparing for the TMT, Sr. Examination

You should study whatever material you believe will assist you in gaining or improving your level of the knowledges and abilities listed on page four and page five of this guide. You may also find it beneficial to review a MUTCD manual, especially the sections regarding traffic control. However, your exam booklet will contain all of the MUTCD based diagrams you will need to answer the test questions.

Some general ways to study for the exam are given below.

- Set aside certain times when you will be able to review this booklet so you will know what to expect at the exam.
- When you do study, keep your mind on what you are doing. Do not try to read where it is noisy or when you are doing something else.
- Review this booklet several times. Do not put off your review until just before the day of the test.
- Practice writing in a neat and legible way. You must provide written answers that can be read in order to receive full credit. Ask someone to review your handwriting for legibility.
- Research your past work duties and experiences with highway maintenance equipment. The name of your employer and the name of your supervisor are very important.

We have presented these study guidelines to help you prepare to take the TMT, Sr. examination. Preparing for the exam should help you to do your best on the exam.

What to Bring to the TMT, Sr. Examination

Bring your NOTIFICATION CARD, PICTURE IDENTIFICATION, and SOCIAL SECURITY CARD when you come to take the examination.

Bring a wristwatch to help keep track of time. Please turn off any alarm before you get to the testing facility.

Everything you need to take the exam, such as paper, pencils, and calculators will be provided for you. You will not need to bring any of these items with you on the day of the exam.

Do not bring this booklet to the exam. Also, do not bring any personal notes, reference or study material that you prepared or used before the exam.

Do not bring cell phones, pagers, beepers, personal stereos, or any other noise producing devices with you to the exam. You will not be allowed to bring them with you into the exam facility.

Do not bring children or any other visitors to the exam. They will not be admitted to the test site.

THIS CONCLUDES THE INSTRUCTIONS AND NOTES ON "HOW TO PREPARE" AND TAKE THE TRANSPORTATION MAINTENANCE TECHNICIAN, SENIOR EXAMINATION.