PERCENT OF TEST:

10% Agricultural Mechanics Health & Safety 2%

Agricultural Mechanics Tools and Equipment

30% Agricultural Machinery and Equipment
- Small Engines
- Tractors
- Fuel Systems
- Transmissions and Clutch
- Charging and Ignition Systems
- Gasoline and Diesel Engines

30% Construction Repair and Maintenance
- Carpentry
- Hand and Power Tools
- Masonry

25% Metal Work
- Arc SMAW, GMAW, GTAW and FCAW Welding
- Manipulation of Hot and Cold Materials

3% Irrigation Systems
- Fundamentals
- Plumbing

THE INTENT OF THIS EXAM IS TO ASSESS YOUR ABILITY TO TEACH THE SKILLS FOUND IN THE MASSACHUSETTS VOCATIONAL TECHNICAL EDUCATION AGRICULTURAL MECHANICS FRAMEWORK. ALL EXAMS ARE ALIGNED WITH THE MATCHING FRAMEWORK.

SOME QUESTIONS REQUIRE A SYNTHESIS OF KNOWLEDGE BASED ON EXPERIENCE IN THE FIELD AND MAY NOT BE FOUND IN ANY BOOK. HOWEVER, CANDIDATES ARE ENCOURAGED TO STUDY FOR THEIR EXAMS BY REVIEWING CURRENT TEXTBOOKS AND REFERENCE MATERIAL WHICH CAN USUALLY BE FOUND IN THE LIBRARIES OF MOST VOCATIONAL TECHNICAL SCHOOLS AND SCHOOLS WHICH OFFER CHAPTER 74 PROGRAMS. YOU MAY ALSO BE ABLE TO OBTAIN LISTED REFERENCE MATERIALS ONLINE.

You may refer to http://www.doe.mass.edu/cte/frameworks for the Massachusetts Vocational Technical Educator Frameworks.
THE FOLLOWING LIST OF REFERENCE MATERIALS WAS DEVELOPED AS A GUIDE FOR WRITTEN EXAM CANDIDATES:

**Agricultural Mechanics and Technology Systems** by J. P. Hancock, Don W. Edgar, Michael L. Pate, Lori A Dyer, and W. Brian Hoover
Goodheart-Willcox

**Diesel Technology** by John "Drew" Corinchock and Andrew Norman
Goodheart-Willcox

**Small Engines** by R. Bruce Radcliff
American Technical Pub

CANDIDATES ARE ENCOURAGED TO STUDY FOR THEIR EXAMS BY REVIEWING CURRENT TEXTBOOKS AND REFERENCE MATERIAL WHICH CAN USUALLY BE FOUND IN THE LIBRARIES OF MOST VOCATIONAL TECHNICAL SCHOOLS AND SCHOOLS WHICH OFFER CHAPTER 74 PROGRAMS.

The written exam consists of 100 multiple choice questions. Each question consists of one incomplete sentence or a questions followed by four choices. Listed below are several sample items:

1. What should you look for to determine if a tractor is gasoline or diesel powered?
   
   a. tractors built after 1978 are all diesel
   b. diesel tractors have two or fours carburetors while gas tractors have only one
   * c. diesel tractors do not have a carburetor or spark plugs
   d. the mufflers on diesels are always vertical and gas tractor mufflers are always horizontal

2. Standard concrete blocks are normally laid with a mortar join that is _________ inch thick.
   
   a. 1/8
   * b. 3/8
   c. 1/2
   d. 5/8

* indicates correct answer

THE TEACHER TESTING PROGRAM WILL PROVIDE NON-PROGRAMMABLE CALCULATORS FOR USE IN COMPLETING THE WRITTEN EXAM. DOCUMENTATION REGARDING THESE CALCULATORS WILL BE INCLUDED IN YOUR ADMISSION PACKAGE.
PERCENT OF TEST:

20% Grind Valves and Seats in a Small Engine
- Set Up Equipment
- Remove Valves
- Clean Valves And Ports
- Grind Valves And Seats
- Replace Valves
- Adjust Valves
- Test Run Engine
- Follow Safety Standards

20% Time and Replace a Battery Type Distributor on a Large Tractor
- Time Engine
- Install Distributor
- Determine Firing Order
- Start & Time Engine With Timing Light
- Follow Safety Standards

10% Cut a Piece of Metal with Acetylene Torch
- Adjust Torch
- Cut Metal Accurately & Cleanly
- Close Tanks & Bleed Gauges
- Follow Safety Standards

10% Weld Metal Sections with Electric Arc/GMAW (MIG)
- Prepare Metal
- Adjust Machine
- Select Rod
- Perform Horizontal, Vertical or Butt Weld
- Follow Safety Standards

20% Construct Electrical Circuit
- Construct a Basic Electrical Circuit Using a 5 Pin Bosch Relay

20% Cut a Rafter or Stair Stringer to Specification
- Layout Rafter or Stair Stringer
- Cut Rafter or Stair Stringer
- Follow Safety Standards
- Demonstrate Industry and Professional Use of Skill Saw

PERFORMANCE EXAM CANDIDATES WILL BE ASSESSED ON THEIR COMPLETION OF THE EXAM TASKS AND THEIR DEMONSTRATION OF INDUSTRY AND OSHA RECOMMENDED SAFETY PROCEDURES.
THE INTENT OF THIS EXAM IS TO ASSESS YOUR ABILITY TO TEACH THE SKILLS FOUND IN THE MASSACHUSETTS VOCATIONAL TECHNICAL EDUCATION AGRICULTURAL MECHANICS FRAMEWORK. ALL EXAMS ARE ALIGNED WITH THE MATCHING FRAMEWORK.

Most exam tasks require a synthesis of knowledge based on vocational technical work experience. As a result we highly recommend that Performance Exam Candidates possess the required years of related work experience as well as the appropriate industry recognized credentials as outlined as requirements for preliminary vocational technical educator licensure. Candidates are also encouraged to prepare for their exams by reviewing current textbooks and reference material which can usually be found in the libraries of most Vocational Technical Schools and Schools which offer Chapter 74 Programs. You may also be able to obtain listed reference materials online.

TOOLS & EQUIPMENT CANDIDATE MUST BRING:

Safety Glasses Must Be Worn At All Times

Appropriate Working Attire - Work Shoes

Long Hair Is To Be Restrained

Pen and/or Pencil

ALL NECESSARY TOOLS AND SUPPLIES NEEDED TO PERFORM TASK WILL BE PROVIDED. EAR PROTECTION WILL BE AVAILABLE.

ADDITIONAL NOTES

Candidate may leave if test is completed prior to 4 hours.

A break will be allowed.

SAFETY RULES ARE EXPECTED TO BE INDUSTRIAL STANDARDS. IF NOT OBSERVED, EXAMINER WILL STOP THE TEST AT THAT AREA OF TESTING.

You may refer to http://www.doe.mass.edu/cte/frameworks for the Massachusetts Vocational Technical Educator Frameworks.

CANDIDATES ARE ENCOURAGED TO STUDY FOR THEIR EXAMS BY REVIEWING CURRENT TEXTBOOKS AND REFERENCE MATERIAL WHICH CAN USUALLY BE FOUND IN THE LIBRARIES OF MOST VOCATIONAL TECHNICAL SCHOOLS AND SCHOOLS WHICH OFFER CHAPTER 74 PROGRAMS.

CANDIDATES ARE REMINDED THAT THE USE OF A CALCULATOR IS ALLOWED FOR THE PERFORMANCE EXAM PROVIDING YOU BRING YOUR OWN.

UPDATED: 4-2018