CITY OF DETROIT
JOURNEYMAN EXAMINATION CONTENT & DESCRIPTION

Electric Journeyman – a person other than an Electrical Contractor who, as his or her principal occupation, is engaged in the practical installation or alteration of electric wiring. An Electrical Contractor or Master Electrician may also be an Electrical Journeyman. Electrical Administrative Act 217 of 1956

All examinations are open codebook, based on Act 217, of 1956, as amended (Electrical Administrative Act), Act 230, of 1972, as amended (State Construction Code Act), and the State Electrical Code (2011 National Electrical Code, and Part 8, Michigan amendments). A 2011 NEC, the State Electrical Code, and Public Act 217 are provided to all applicants for the examination as required. Applicants are allowed to bring an unmarked 2011 NEC book for use during the examination. Code books may include listed index tabs (not homemade varieties). No markings will be allowed within the codebook. This includes margin notes, test notes, highlighting, paper clips or other testing aids. Handbooks are not allowed. Applicants are allowed to bring a non-programmable calculator.

Applicants for examination are required to bring picture identification to the examination site. (Current and valid Driver’s License preferred).

A score of 75% or better is required to pass the examination. If you do not pass, you may not review your examination. EXAM RESULTS ARE NOT GIVEN OVER THE TELEPHONE.

Electric Journeyman Examination Format
The Journeyman Examination consist of 80 multiple choice questions worth 1.25 points each. It is an open codebook examination with a 2½ hour time limit.
Part I - Fundamentals and Practical Electricity.
   20 problems, 1.25 points each.....................total 25
Part II - Part 8 Rules.
   10 questions, 1.25 points each....................total 12.5
Part III - National Electrical Code
   50 questions, 1.25 points each....................total 62.5
Total points.....................................................100

The Electrical Journeyman examination covers entry-level knowledge of the electrical industry as outlined in all categories listed below.

I. Grounding and Bonding
Demonstrate knowledge of system and circuit grounding requirements, methods and location of grounding connections. Select proper size grounding conductors, bonding of enclosures, equipment and interior metal piping systems.
II. Branch Circuits, Wire Connections and Devices
Knowledge of circuit classifications, ratings, design, and use requirements. Knowledge and
calculation of branch circuit loads. Application of code rules covering electrical outlets and
devices, including wiring connectors and methods.

III. Conductors
Determine ampacity, type of insulation, usage requirements, methods of installation, protection,
support and termination. Includes calculation of voltage drop and duration.

IV. General Knowledge of the Electrical Trade
Terminology and practical calculations such as power factor, voltage and current ratings of
equipment.

V. Motors and Controls of Motors and Equipment
Knowledge of code rules governing installation of motors and controls. Includes calculations for
motor feeder and branch circuits, short circuit, ground fault, and overload protection, and
disconnecting means. Knowledge of all control circuits and motor type application and usage.

VI. Services and Feeders
Knowledge of code rules covering services. Calculation of electrical loads and determination of
proper size, rating and type of service and feeder conductors.

VII. General use Equipment
Knowledge of code rules covering appliances, heating and air conditioning equipment, generators,
transformers, etc.

VIII. Overcurrent Protection
Knowledge of application of fuses, circuit breakers and all types of protective devices for
conductors and equipment. Includes rules on taps and splices.

IX. Raceways
Knowledge of all types of raceways and their uses. Determining proper size, conductor fill, support
and methods of installation.

X. Special Occupancies and Equipment
Knowledge of code rules as they apply to hazardous locations, health care facilities, places of
assembly, etc. Includes code rules on signs, welders, industrial machinery, swimming pools, etc.

XI. Boxes, Cabinets, Panelboards, Non-Raceway Enclosures
Application of proper type, use and support of boxes and cabinets, etc. Includes calculation of
proper size and rating.

XII. Low Voltage Circuits and Equipment
Knowledge of circuits and equipment characterized by usage and electrical power limitations,
which differentiate them from electric light and power circuits. Includes remote-control, signaling,
and power limited circuits.
XIII. Lighting and Lamps
Knowledge of all types and applications of lighting fixtures, ratings, requirements for occupancies, special provisions, clearances, etc. Includes load calculations for lighting.

XIV. State Laws, Rules and Code Amendments