



# UNIT MERINYU ELEKTRIK

## ELECTRICAL INSPECTORATE UNIT

### SYLLABUS FOR WIREMAN EXAMINATION – 07/2015

WIREMAN 2 (SINGLE PHASE)	UPGRADE TO WIREMAN 1 (THREE PHASE)
A. THEORY	C. THEORY
<p>(1) <b>Electricity Ordinance Chapter 50</b></p> <ol style="list-style-type: none"> <li>i. Requirements of Electricity Ordinance</li> <li>ii. Electricity Rules</li> </ol> <p>(2) <b>Trade Orientation and Electrical Safety</b></p> <ol style="list-style-type: none"> <li>i. Nature and scope of work of a wireman</li> <li>ii. Safety rules and regulations pertaining to working procedures</li> <li>iii. Electrical shock treatment</li> <li>iv. Occupational Safety and Health Act 1994</li> </ol> <p>(3) <b>Basic Electricity</b></p> <ol style="list-style-type: none"> <li>i. Basic theory and simple calculation</li> <li>ii. Ohm's Law</li> </ol> <p>(4) <b>Supply System</b></p> <ol style="list-style-type: none"> <li>i. Standard Voltage</li> <li>ii. Variation of voltage and frequency</li> <li>iii. Single-phase two-wire distribution</li> </ol> <p>(5) <b>Consumer's circuit</b></p> <ol style="list-style-type: none"> <li>i. Internal distribution</li> <li>ii. IEE Regulation for control</li> <li>iii. Relative rating of conductors and protection devices</li> <li>iv. Arrangements of final sub-circuits</li> </ol> <p>(6) <b>Conductors and Cables</b></p> <ol style="list-style-type: none"> <li>i. Conductor materials</li> <li>ii. Insulation materials</li> <li>iii. Mechanical protection</li> <li>iv. Current-carrying capacity of cables</li> </ol> <p>(7) <b>Wiring System</b></p> <ol style="list-style-type: none"> <li>i. Surface wiring</li> <li>ii. Regulations, location, types of cable</li> </ol> <p>(8) <b>Wiring Accessories</b></p>	<p>(1) <b>Current Carrying Conductors</b></p> <ol style="list-style-type: none"> <li>i. Types of cable</li> <li>ii. Current rating of cables</li> <li>iii. Voltage drop</li> </ol> <p>(2) <b>Types of Wiring (Wiring system,)</b></p> <ol style="list-style-type: none"> <li>i. Surface Wiring</li> <li>ii. Conduit Wiring</li> <li>iii. Concealed Wiring</li> <li>iv. M.I.C.C Wiring</li> <li>v. Trunking</li> <li>vi. Rising Mains</li> <li>vii. Ducting</li> <li>viii. Armoured Cable</li> </ol> <p>(3) <b>Single and Three Phase Distribution</b></p> <ol style="list-style-type: none"> <li>i. Switch Board</li> <li>ii. Switchgear</li> <li>iii. Measuring Instrument and Indicators (Single and Three Phase)</li> </ol> <p>(4) <b>Circuit Protection System</b></p> <ol style="list-style-type: none"> <li>i. Types of Fault</li> <li>ii. Earth Fault Relay</li> <li>iii. Over-current Relay</li> <li>iv. Earthing System</li> </ol> <p>(5) <b>Testing of Installation (Single and Three Phases)</b></p> <p>(6) <b>Types, uses and care of AC Motors</b></p> <p>(7) <b>Starters amid Control of Electric Motors</b></p> <p>(8) <b>Principles and applications of simple Control devices</b></p> <ol style="list-style-type: none"> <li>i. Contactors, time switches, float switches, etc.</li> </ol>

<p><b>(9) Earthing</b></p> <ol style="list-style-type: none"> <li>i. Definition of 'Earth'</li> <li>ii. Danger from earthed metal</li> <li>iii. IEE Regulations</li> <li>iv. Basic earthing requirements</li> <li>v. Methods of earthing</li> </ol> <p><b>(10) Domestic Apparatus</b></p> <ol style="list-style-type: none"> <li>i. Schematic diagram, working principle, and testing regulation on electric cookers, water heaters, bells, fans, etc</li> </ol> <p><b>(11) Illumination</b></p> <ol style="list-style-type: none"> <li>i. Incandescent filament lamps</li> <li>ii. High-pressure mercury-vapour discharge lamp</li> <li>iii. Sodium-vapour discharge lamps</li> <li>iv. Fluorescent lamps</li> </ol>	
<p><b>B. PRACTICAL</b></p>	<p><b>D. PRACTICAL</b></p>
<p><b>(1) Single-phase wiring installation inclusive of the following:</b></p> <ol style="list-style-type: none"> <li>i. Lighting points socket</li> <li>ii. Two-way switch</li> <li>iii. 13A/15A power points including water heater/ air-cond point with dipole switch</li> <li>iv. Isolator</li> <li>v. Consumer unit connections</li> </ol> <p><b>(2) Single-phase motor connections</b></p> <p><b>NOTE:</b>  Type of installation is surface wiring or PVC conduit  Pass Part A and B to be eligible for Wireman 2</p>	<p><b>(1) Three-phase wiring installation inclusive of the following:</b></p> <ol style="list-style-type: none"> <li>i. Lighting points socket</li> <li>ii. Two-way switch</li> <li>iii. 13A/15A power points including water heater/ air-cond point with dipole switch.</li> <li>iv. Isolator</li> <li>v. Consumer unit connections</li> </ol> <p><b>(2) Three-phase motor connections</b></p> <p><b>NOTE:</b>  Type of installation is GI piping  Pass Part A, B, C and D to be eligible for Wireman 1</p>