UNIT MERINYU ELEKTRIK

ELECTRICAL INSPECTORATE UNIT
University College of Technology Sarawak

SYLLABUS FOR WIREMAN EXAMINATION – 07/2015

WIREMAN 2 (SINGLE PHASE)

A. THEORY

(1) Electricity Ordinance Chapter 50
- i. Requirements of Electricity Ordinance
- ii. Electricity Rules

(2) Trade Orientation and Electrical Safety
- i. Nature and scope of work of a wireman
- ii. Safety rules and regulations pertaining to working procedures
- iii. Electrical shock treatment
- iv. Occupational Safety and Health Act 1994

(3) Basic Electricity
- i. Basic theory and simple calculation
- ii. Ohm's Law

(4) Supply System
- i. Standard Voltage
- ii. Variation of voltage and frequency
- iii. Single-phase two-wire distribution

(5) Consumer's circuit
- i. Internal distribution
- ii. IEE Regulation for control
- iii. Relative rating of conductors and protection devices
- iv. Arrangements of final sub-circuits

(6) Conductors and Cables
- i. Conductor materials
- ii. Insulation materials
- iii. Mechanical protection
- iv. Current-carrying capacity of cables

(7) Wiring System
- i. Surface wiring
- ii. Regulations, location, types of cable

(8) Wiring Accessories

UPGRADE TO WIREMAN 1 (THREE PHASE)

C. THEORY

(1) Current Carrying Conductors
- i. Types of cable
- ii. Current rating of cables
- iii. Voltage drop

(2) Types of Wiring (Wiring system,)
- i. Surface Wiring
- ii. Conduit Wiring
- iii. Concealed Wiring
- iv. M.I.C.C Wiring
- v. Trunking
- vi. Rising Mains
- vii. Ducting
- viii. Armoured Cable

(3) Single and Three Phase Distribution
- i. Switch Board
- ii. Switchgear
- iii. Measuring Instrument and Indicators (Single and Three Phase)

(4) Circuit Protection System
- i. Types of Fault
- ii. Earth Fault Relay
- iii. Over-current Relay
- iv. Earthing System

(5) Testing of Installation (Single and Three Phases)

(6) Types, uses and care of AC Motors

(7) Starters amid Control of Electric Motors

(8) Principles and applications of simple Control devices
- i. Contactors, time switches, float switches, etc.

(9) Earthing i. Definition of 'Earth' ii. Danger from earthed metal iii. IEE Regulations iv. Basic earthing requirements v. Methods of earthing **(10) Domestic Apparatus** i. Schematic diagram, working principle,and testing regulation on electric cookers, water heaters, bells, fans, etc **(11) Illumination** i. Incandescent filament lamps ii. High-pressure mercury-vapour discharge lamp iii. Sodium-vapour discharge lamps iv. Fluorescent lamps	
B. PRACTICAL	**D. PRACTICAL**
(1) Single-phase wiring installation inclusive of the following: i. Lighting points socket ii. Two-way switch iii. 13A/15A power points including water heater/ air-cond point with dipole switch iv. Isolator v. Consumer unit connections **(2) Single-phase motor connections** **NOTE:** **Type of installation is surface wiring or PVC conduit** **Pass Part A and B to be eligible for Wireman 2**	**(1) Three-phase wiring installation inclusive of the following:** i. Lighting points socket ii. Two-way switch iii. 13A/15A power points including water heater/ air-cond point with dipole switch. iv. Isolator v. Consumer unit connections **(2) Three-phase motor connections** **NOTE:** **Type of installation is GI piping** **Pass Part A, B, C and D to be eligible for Wireman 1**