

Module 11 : UNDERGROUND CABLE

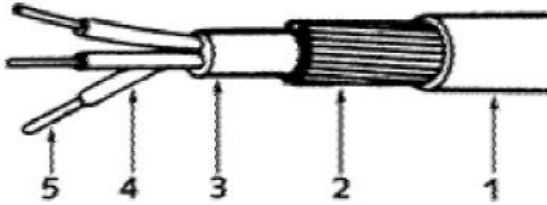
Name:

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Part A: Multiple choice question (MCQ)

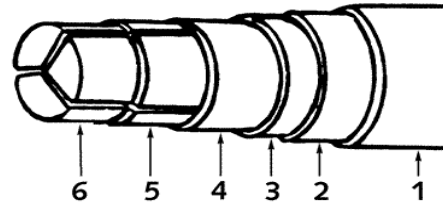
- 1) What does A.W.A stands for?
 - (a) aluminium wire armour
 - (b) aluminium wire aluminium
 - (c) american wire armour
 - (d) armour wound aluminium
- 2) What is another name for XLPE cable?
 - (a) rubber insulated
 - (b) cross link polythene
 - (c) mineral insulated
 - (d) low smoke fume
- 3) What is the maximum voltage a XLPE cable can handle?
 - (a) more than 500 kV
 - (b) up to 500 kV
 - (c) 1000 kV or greater
 - (d) 5000 kV or greater
- 4) An armoured cable can withstand _____ impact. The best answer fill the blank is.
 - (a) force
 - (b) magnetic
 - (c) electrical
 - (d) mechanical
- 5) What is PILC means?
 - (a) protective insured lead cable
 - (b) paper in lead cable
 - (c) paper insulated lead covering
 - (d) protective insulation lead cable
- 6) Which statement below is TRUE about the characteristic of armour cable?
 - (a) Able to withstand high voltage.
 - (b) Able to prevent current leakage to operator.
 - (c) Able to protect cable from mechanical damage
 - (d) Able to protect cable from electrical fault.
- 7) What is the correct depth buried an armour PVC underground cable operating at 415V system?
 - (a) 3 feet or 900mm
 - (b) 5 meter
 - (c) 7 meter
 - (d) below 10 meter
- 8) What is the acceptable insulation test for underground cable?
 - (a) 50 M Ω
 - (b) 100 M Ω
 - (c) 400 M Ω
 - (d) >1 M Ω
- 9) What is the duration test for insulation?
 - (a) 1 second
 - (b) 10 second
 - (c) 60 second
 - (d) 100 second
- 10) The followings are the properties of XLPE, except.
 - (a) this cable can handle operating temperature up to 60°Cel.
 - (b) can operate on voltage greater than 1kV
 - (c) this cable can handle operating temperature up to 150°Cel.
 - (d) tough armour protection

- 11) Refer to figure below, the label no 2 is armour-galvanised steel wire. What the purpose of this?



- (a) as circuit protective conductor.
 (b) to allow leakage current on the cable armour.
 (c) to withstand high voltage.
- 12) Which type of test showing that a cable is shorted?
- (a) insulation test
 (b) cable phasing test
 (c) polarity test
 (d) continuity test
- 13) Which statement below is TRUE about the characteristics of cross link polythylene (XLPE)?
- i. withstand chemical environment.
 ii. resistance to melt at higher temperature.
 iii. able to operate high voltage 2000 volt.
 iv. withstand operating temperature up to 90 deg. Celsius.
- (a) ii, iv (b) ii, iii, iv (c) i, ii, iii, iv
- 14) What is the purpose of perform continuity test on underground cable?
- (a) to check the cable can withstand short circuit fault.
 (b) to ensure the cable can withstand high voltage.
 (c) to ensure the cable is not OPEN circuit.
 (d) to ensure the cable is not cross wired
- 15) Which instrument is used to check cable for any open line?
- (a) multi-meter voltage measurement
 (b) multi-meter ohm measurement
 (c) clamp-meter current measurement
 (d) volt-meter measurement

- 16)

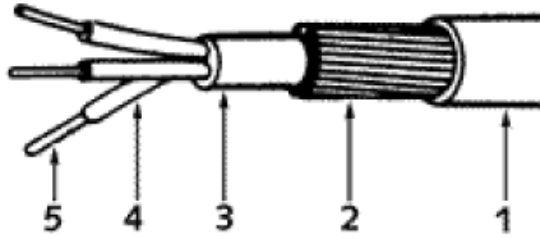


Refer to figure above, the label no 2 is?

- (a) galvanize sheet
 (b) paper insulated
 (c) thin layer of bitumen
 (d) copper covering
- 17) After an underground cable is been place into the ground before covering up, tests must be conducted which consist of the followings;
- i. polarity test (a) iii, iv
 ii. insulation test (b) ii, iv
 iii. earth resistance test (c) i, iii
 iv. continuity test
- 18) List below are the characteristic of Lead sheathed underground cable, which is CORRECT?
- i. perform mechanical function as barrier to hydrocarbons.
 ii. against radial moisture ingress.
 iii. reduce heat inside the cable.
 iv. electrical function in case of earth fault current with its armour.
- (a) ii, iv (b) i, ii, iv (c) i, ii, iii, iv
- 19) During perform insulation tests on an underground cables, the reading are as follows RY-150MΩ, BN-145MΩ, YE-5MΩ.
- (a) poor insulation at Y-E.
 (b) poor insulation at B-N.
 (c) poor insulation at R-Y.
 (d) poor insulation at Y-B.
- 20) What is the depth of cable to be buried having the specification of 500 volt/4 core XLPE cable?
- (a) 900mm (3')
 (b) 1300mm (4')
 (c) 1500mm (5')
 (d) 2000mm

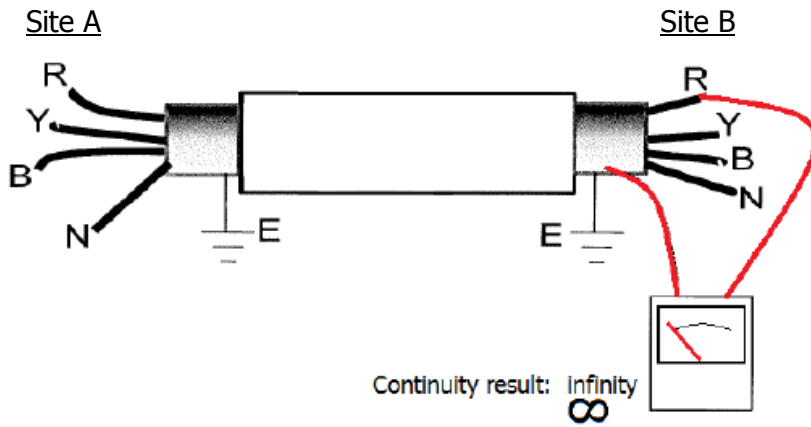
Part B: Subjective Question

1) Write down the label accordingly.



- Label (2) :
- Label (4) :
- Label (3) :
- Label (5) :

2) Refer to figure below, why the test result showing infinity?
(You can add-on to the figure as your answer.)



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3) List three types of armour cable.

- a)
- b)
- c)

4) Draw the correct installation method of an underground cable.