Module 3

Name:	Date:

Part A: Multiple choice question (MCQ)

1)   What is the unit of cable conductor size?

(a) meter square (m^2)
(b) diameter square (dia^2)
(c) mili-meter square (mm^2)
(d) mili-ampere (ma)

2)   What is Ib refer to?

(a) current design
(b) current power
(c) current rating
(d) current demand

3)   Current carrying capacity is value to determine..

(a) the power of the circuit
(b) the maximum current for the circuit
(c) the power factor
(d) the voltage drop

4)   Which of the following conductor material is suitable for high frequency applications in electronics?

(a) bronze
(b) iron
(c) copper
(d) gold

5)   Which of the following is an insulator material?

(a) aluminium
(b) copper
(c) silver
(d) rubber

6)   Rubber is a material which can withstand the following conditions, except.

(a) operate up to 90° Celsius
(b) operate under water condition
(c) operate under wet condition
(d) operate up to 250° Celsius

7)   Given a diameter of a copper conductor 1.25mm, 7 strain, calculate the cross sectional area of that conductor in mm^2 ?

(a) 1.5 mm^2
(b) 3.5 mm^2
(c) 5.80 mm^2
(d) 8.58 mm^2

8)   What is the correct cable size of conductor to be used for lighting circuit?

(a) 1.5 mm^2
(b) 2.5 mm^2
(c) 4.0 mm^2
(d) 10 mm^2

9)   The following insulator material properties able to withstand high temperature up to 250° Celsius.

(a) paper
(b) mineral insulated (m.i)
(c) rubber
(d) polyvinyl chloride (pvc)

10) This cable properties is capable to withstand high voltage more than 1000 volts and maximum operating temperatures of 150° Celsius.

(a) cross-link polythene (xlpe)
(b) mineral insulated (m.i)
(c) rubber
(d) polyvinyl chloride (pvc)

11) *"This cable is not suitable to be installed outdoor exposed under hot sun. This condition will causes the cable to crack and damage the insulator material."*
This statement best describing the.

(a) rubber
(b) paper
(c) polyvinyl chloride
(d) cross-link polythene

12) Which of the following formula is correct to calculate the voltage drop on cable (Vc)?

(a) $Vc = \frac{mVA}{Ib \times L}$ (b) $Vc = \frac{mVA \times Ib \times L}{1000}$

(c) $Vc = \frac{Ib}{mVA \times L}$ (d) $Vc = \frac{mVA \times 1000}{Ib \times L}$

13) What is the unit to identify length of circuit?

(a) meter
(b) meter square
(c) inches
(d) centimetre

14) A new water heater rated 2700 watt/240v is been installed on bathroom area, what is the suitable protection rating (In) to be used for this circuit?

(a) 6 A MCB
(b) 20 A MCB
(c) 32 A MCB
(d) 45 A MCB

15) What is the suitable HRC fuse rating when the design current Ib is 34.8 ampere?

(a) 5 ampere
(b) 10 ampere
(c) 50 ampere
(d) 100 ampere

16) The following information is obtain with design current of 24,5 ampere, the maximum voltage drop allowed according to IEE is 9.6 volt and this circuit cable is using 4mm^2 PVC with properties cable of 11 mVA.pm. Calculate the maximum length run for the circuit.

(a) 24.5 meter
(b) 28.5 meter
(c) 32.6 meter
(d) 35.6 meter

17) The value of voltage drop allowed is 4% for 415 volts is calculated.

(a) 7.3 volt
(b) 16.6 volt
(c) 32.6 volt
(d) 85.3 volt

18) Given the value of Iz is 75.8 ampere, find the value of I2 is..

(a) 38.31 ampere
(b) 62.31 ampere
(c) 95.31 ampere
(d) 109.31 ampere

19) What is the material contain inside a mineral insulated (m.i) cable?

(a) phosphor powder
(b) magnesium oxide powder
(c) sulphur powder
(d) carbon powder

20) LSF cable is a type of cable for.

(a) prevent temperature from rising higher
(b) prevent explosion to happen
(c) reduce the cable damage
(d) reduce fire smoke during fire

Part B: Subjective Question

1)   a) List down four (4) insulator material for cables.

i) …………………………………………………………………………………………………..

ii) ……………………………………………………………………………………………………

iii) ……………………………………………………………………………………………………

iv) ……………………………………………………………………………………………………

b) List down three (3) conductor material used as a conductor.

i) …………………………………………………………………………………………………….

ii)
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2)   a) A machine rated 4450 watt / 415volts, calculate the current design (Ib)?

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b) A rewirable fuse rated 15A is install on a circuit, given Ca is 0.75 and Cg is 0.68, calculate the current carrying capacity of the conductor (Iz).

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3)   The total load of the spot light is 4860 watt (240 volts) the cable is using $6.0mm^2$ with properties of 7.3 mili-ampere per meter. The length of this circuit is 20 meter from a distribution board. Find the voltage drop for this circuit.

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4)   A machine rated 3200 watt (240v AC), the length of the circuit is 13 meters, the cable size used 4.0 mm^2 with properties of 11 mili-ampere per meter. Calculate the maximum length run for this circuit?

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