



K16U 0330



Reg. No. : .....

Name : .....

VI Semester B.A./B.Sc./B.Com./B.B.A./B.B.A.T.T.M./B.B.A.R.T.M./B.B.M./  
B.C.A./B.S.W./B.A. Afsal-UI-Ulama Degree

(CCSS – Reg./Supple./Improv.)

Examination, May 2016

Open Course

6D03 PHY : (C) ELECTRICITY IN LIFE

(2010 Admn. Onwards)

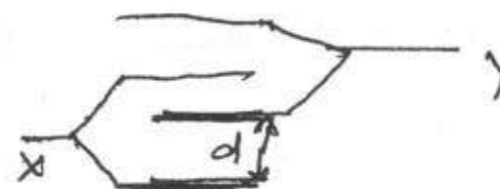
Time : 2 Hours

Max. Weightage : 20

SECTION – A

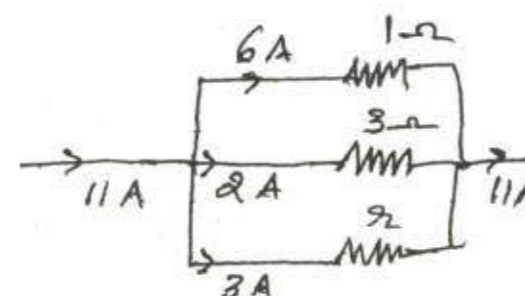
I. Answer all. Each question carries ¼ W.

1) The equivalent capacity between x and y in the figure is



- a)  $\frac{\Sigma_0 A}{d}$
- b)  $\frac{2 \Sigma_0 A}{d}$
- c)  $\frac{3 \Sigma_0 A}{d}$
- d)  $\frac{\Sigma_0 A}{zd}$

2) The value of resistor 'r' in the circuit is



- a) 2Ω
- b) 1Ω
- c) 3Ω
- d) 5Ω



- 3) The resistance of an incandescent lamp is  
 a) Greater when switched off      b) Less when switched off  
 c) Greater when switched on      d) None of the above
- 4) Siemen is the unit of  
 a) Conductance    b) Self inductance    c) Resistivity    d) Mutual inductance
- II. 5) Choke is used to limit high frequency AC has  
 a) Paramagnetic core      b) Diamagnetic core  
 c) Air core      d) Iron core
- 6) The core of a transformer is laminated to reduced the  
 a) Copper loss      b) Magnetic loss  
 c) Eddy current loss      d) Hysteresis loss
- 7) Fuse wire is made of material having \_\_\_\_\_ melting point.  
 a) High      b) Low  
 c) Both a) and b)      d) None of the above
- 8) 1 KWh is \_\_\_\_\_ Joule.  
 a)  $3.6 \times 10^6$       b)  $2.8 \times 10^9$   
 c)  $3.6 \times 10^{10}$       d) None of the above      **(2×1 = 2)**

## SECTION – B

Answer **any six**. Each question carries 1 W.

- 9) State Joules law of electrical heating.
- 10) What is Ohms law ?
- 11) State Faraday' laws.
- 12) What is a rectifier ?
- 13) Give the principle of eliminator.
- 14) How to convert Galvanometers into an ammeter ?
- 15) What is the principle of MCB ?
- 16) Give the first aid for electric shock.
- 17) What is UPS ?
- 18) Distinguish between ceiling fan and exhaust fan.      **(6×1 = 6)**



## SECTION – C

4 to be answered. Each question carries 2 W.

- 19) An electric heater is rated 2 kw. Find the cost of using it for 2 hours daily for the month of September, if each unit cost is Rs. 4.00.
- 20) A wire of resistance 40 ohm is bent in the form of a closed circle. What is the effective resistance between two points at the ends of any diameter of the circle ?
- 21) Three resistance of  $2\Omega$ ,  $3\Omega$  and  $6\Omega$  are connected  
 i) Series      ii) In parallel.  
 Calculate the ratio of effective resistance of series and parallel combination of resistance.
- 22) A coil having a resistance of  $20\Omega$  and inductance 20 Henry is connected to 120 V battery. Find the value of energy stored in the magnetic field when the steady state is reached.
- 23) With a neat diagram explain the operation of a cadmium Batteries.
- 24) Explain in detail care in Handling Electrical Appliances.
- 25) With a neat diagram explain the principle of operation and working of a single phase motor.
- 26) Discuss the growth and decay of current in an inductance circuit.      **(4×2 = 8)**

## SECTION – D

Answer **any one**. Each carries 4 W.

- 27) With necessary theory explain the charging and discharging of a capacitor.
- 28) With necessary theory explain the principle and working of a transformer.
- 29) Derive an expression for the effective capacitance of a three capacitance connected in series.      **(1×4 = 4)**