



Reg. No. :

Name :

**VI Semester B.A./B.Sc./B.Com./B.B.A./B.B.A.T.T.M./B.B.M./B.C.A./B.S.W./
B.A. Afsal-UI-Ulama Degree (CCSS – Reg./Supple./Improv.)**

Examination, May 2015

Open Course

6D02 PHY (C) : ELECTRICITY IN LIFE

(2010 Admn. Onwards)

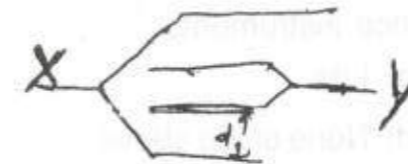
Time : 2 Hours

Max. Weightage : 20

SECTION – A

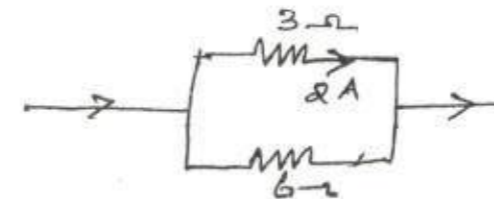
(Answer all. Each question carries 1/4 W.)

1) The equivalent capacity in the below mentioned figure is



- a) $\frac{\epsilon_0 A}{d}$ b) $2 \frac{\epsilon_0 A}{d}$ c) $\frac{\epsilon_0 A}{2d}$ d) $3 \frac{\epsilon_0 A}{d}$

2) The current in the circuit is



- a) 6 A b) 3 A c) 12 A d) 1 A

- 3) An electric bulb marked 40 W, 200V is used in a circuit of supply voltage 100 V, its power
 a) 100 W b) 20 W c) 40 W d) 10 W
- 4) A fuse wire with radius 1mm blows at 1.5A. The radius of fuse wire of the same material to blow at 3 A will be
 a) $\sqrt{3}$ mm b) $2\frac{1}{3}$ mm c) $3\frac{1}{4}$ mm d) $4\frac{1}{3}$ mm
- II. 5) In a transformer $N_p = 500$, $N_s = 5000$ input voltage is 20 V and frequency 50 Hz output voltage is
 a) 200 V, 40 Hz b) 100 V, 50 Hz c) 200 V, 50 Hz d) 150 V, 40 Hz
- 6) Current in an inductance of 1mH is reduced from 5A to 0 in 1ms. The emf induced in it is (mV)
 a) 50 b) 51 c) $\frac{1}{5}$ d) 10^{-6}
- 7) Ammeter is a
 a) Low resistance instrument b) High resistance
 c) Medium resistance d) None of the above
- 8) Water heater is _____ resistance instruments.
 a) High b) Low
 c) Medium d) None of the above (2×1=2)

SECTION – B

(Six to be answered. Each carries 1W.)

9. What is Horse power ?
10. List the different type of capacitor.
11. Define capacitance of a capacitor.
12. State and explain Lenz's law.
13. Define Henry.
14. Define self inductance.
15. What is the principle of solar cell ?

16. Give the principle and application of moving end Galvano meter.
17. Why we need of earthing in house connection ?
18. What is reciprocating pump ?

(6×1=6)

SECTION – C

(4 to be answered, each question carries 2W.)

19. Two lamp, are rated 100 W at 220 V and other 40 W at 220 V are connected parallel to 220 V. Calculate the current drawn from the supply line.
20. A wire of resistance 20 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. A wire of resistance R is cut into three equal parts. If these equal parts are connected in parallel, find the resistance of the combination.
22. A coil of wire of certain radius has 600 turns and a self inductance of 108 mH. Calculate the self inductance of a second similar coil of 500 turns.
23. Explain the operation of lead acid cells.
24. Discuss the principle and working of eliminators.
25. Distinguish between single phase and three phase wiring system.
26. Briefly explain the first aid for electrical shock. (4×2=8)

SECTION – D

(Answer any one, each question carries 4W.)

27. Derive an expression for the effective resistance of number of resistance connected in series and parallel.
28. With a neat diagram explain the principle and operation of a transformer. What are the losses in a transformer ?
29. With a neat circuit diagram explain the principle and working of any two household appliance. (1×4=4)