NAT I Medical Physics

Sr	Questions	Answers Choice
1	If 2.2 kilowatt power is transmitted through a 10 ohm line at 22000 volt, the power loss in he form of heat will be	A. 0.1 watt B. 1 watt C. 10 watt D. 100 watt
2	A 50-volt battery is connected across 10-ohm resistor.The current is 4.5 A.The internal resistance of the battery is	A. Zero B. 0.5 Ω C. 1.1 Ω D. 5.0 Ω
3	A (100 W, 200 V) bulb is connected to a 160 V power supply. The power consumption would be	A. 64 W B. 80 W C. 100 W D. 125 W
4	Two electric bulbs of 200 W and 100 W have same voltage.If R1 and R2 be their resistance respectively then	A. R₁ = 2R₂ B. R₂ = 2R₁ C. R₂ = 4R₁ D. R₁ = 4R₂
5	A ten-ohm electric heater operates on a 110 V line Calculate the rate at which it develops heat in watts:	A. 1310 W B. 670 W C. 810 W D. 1210 W
6	The excess (equal in number) of electrons that must be placed on each of two small spheres spaced 3 cm apart. with force of repulsion between the spheres to be 10^{-19} N is	A. 25 B. 225 C. 625 D. 1250
7	Two points charges A and B separated by a distance R attract each other with a force of 12 x 10^{-3} N. The force between A and B when the charges on them are doubled and distance is halved	A. 1.92 N B. 19.2 N C. 12 N D. 0.192 N
8	A charge Q is divided into two parts q and Q - q and separated by a distance R. the force of repulsion between them will be maximum when:	A. q = Q/4 B. q = Q/2 C. q = Q D. None of these