Sohag University
Faculty of Engineering
Electrical Engineering Dept

Elective Course (3)
Mid-term Exam 2018/2019
Allowed Time: 1.5 hours

[Attempt to Answer All the Following Questions] [20 Marks]

Q (1): *The illumination in a drawing office 30 m × 10 m is to have a value of 250 lux and is to be provided by a number of 300-W filament lamps. If the coefficient of utilization is 0.4 and the depreciation factor 0.9, determine the number of lamps required. The luminous efficiency of each lamp is 14 lm/W.* ***[5 Marks]***

Q (2): *Electric heater is connected to an electric source of 220 V. The heater is rated 2.2 kW. Calculate the wire cross section if the length of wire was 20 m and electric conductivity is 56 m/Ohm. mm2.* ***[5 Marks]***

Q (3): *Sketch the connection diagram for lighting two lamps from two different places.* ***[5 Marks]***

Q (4): *A drawing office containing several boards and having a total effective area of 70 m2 is lit by a number of 40 W incandescent lamps giving 11 lm/W. An illumination of 80 lux is required on the drawing boards. Assuming that 60% of the total light emitted by the lamps is available for illuminating the drawing boards, estimate the number of lamps required.* ***[5 Marks]***

With our Best Wishes