Time : 90 mins **Max Marks: 60**

Part – A (10x 6 = 60)

Answer all Questions

1	What is the outcome of Davisson and Germer experiment?	CO
2	Is Compton effect possible with visible light?	CO
3	The speed of an electron is measured to be 5×10^3 m/s to an accuracy of 0.003%. Find the uncertainty in determining the position of this electron.	CO
4	Does an electron lose energy when it tunnels?	CO2
5	Determine the energy value of an electron confined in box of width 1Å	CO2
6	What are the consequences of having higher numerical aperture?	CO6
7	Why IT Professionals choose Fiber Optic Cables instead of Copper?	CO6
8	A certain optical fibre has an attenuation of 3.5 dB/km at 850 mm. If 0.6 mW of optical power is initially launched into the fibre, what is the power level in mW after 4 km.	CO6
9	What are advantages of LED over incandescent light sources?	CO7
10	A GaAs LED radiates at 900 nm. If the forward current in the LED is 30 mA, calculate the power output, assuming an internal quantum efficiency of 2%.	CO7