

On-line Test Time: - $1\frac{1}{2}$ hr
"Physics" (Honesty is the best policy)

You are required to answer these questions in your own words.

- Q1 Explain briefly the concept of operators in wave mechanics. (2)
- Q2 Derive the intensity distribution and positions of maxima and minima for diffraction through a single slit. (5)
- Q3 A glass plate is used as a polariser. Find the angle of polarization and the angle of refraction. Given μ for glass = 1.46. (3)
- Q4 Briefly explain wave particle duality. (2)
- Q5 Set-up Schrodinger's equation for a particle trapped in a box. Solve the equation and normalize the wave function. Discuss the physical interpretation of the obtained energy eigenvalues. (8)
- Q6 Find out resolving power of a grating. (2)

All the best - Submit at

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By ~~the~~ latest 2 p.m. (14/04/2020)