Modern Physics Deduction of Planck's law to WL and RJ law HUP and application(electron cannot be inside the nucleus) **Quantum Mechanics** Time independent SW equation Lasers Einstein co-efficients(derivation) CO2 Lasers Semiconductor laser **Optical Fibres** Numerical aperture(derivation), types Point to Point Communication Mechanics Relation between the constants Relation between shearing stress, compression strain and elongation strain Moment of bending(Rectangular)[not much important than the two mentioned in the above] Oscillations and Waves

Important Questions for Semester End Examination - Physics

Differital form of SHM

Analytical treatment of Free Vibrations

Electromagnetic Theory

Maxwell's 1,2,3 Equations

Isotropic medium equation

Gauss Theorem Differential form

Semiconductors

Electron concentration(derivation)

Prove Eg=Ef/2

Thin Films and Devices

Stges of film coating and vaccum deposition method

Nanoscience

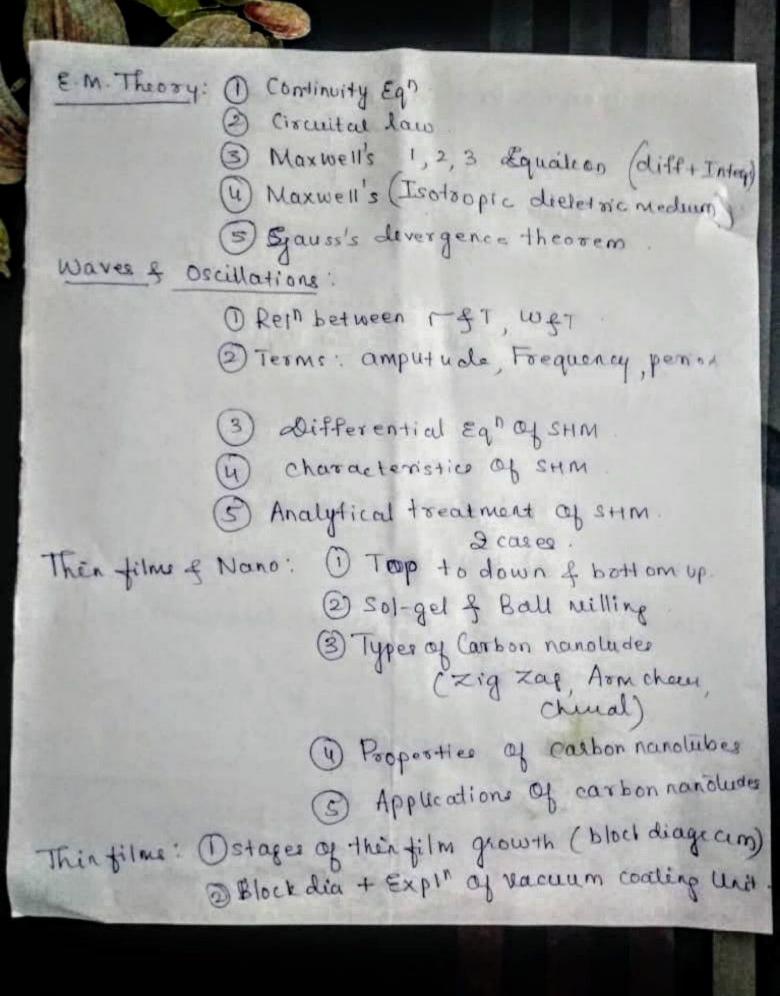
Top Down-Bottom Up

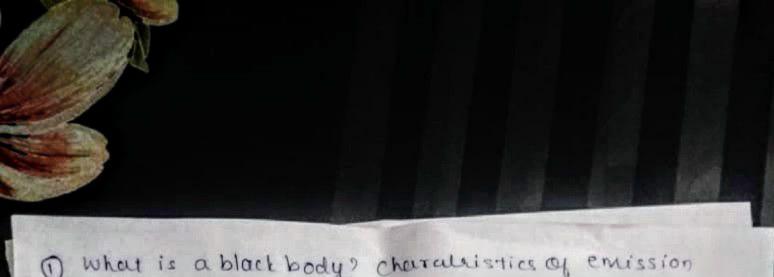
Sol gel and ball milling methods

Carbon nanotubes and it's properties

Density of states(diagram +explanation) for 0,1,2 & 3D

Lasers (1) Explain the terms: 17 Induced absorption 2) ofpin Emission 37 Stimulated Emission 2 Einstein coefficients (derivation) (3) Co, lasers (construction Energy level dia. (Const +diat Expl) 3 Laser culling, drilling welding. Optical fiber: Oderivation + dia -> sing = In,2-n,2 propogation. 3 Types of optical fibers: (3) Point-to-point communication. 1 Degra Expir of tems: Stress, Strain Hook's Elasticity: law Beln: 04, ngo @ 4 kg o (3) Rel between shearing strain, elongation strain & compression strain. (Moment of bending beam > YXIg Ig > bd3 (rectangular bears)





- 1) What is a black body? charaleistics of emission spetrum.
- 2) Reduction of Planich's law to Ween's & R-I law.
- State & Explain Heisenberg Uncertainty principle.
- 3 State & Explain Heisenberg Uncertainty principle.
 4 Prove the Electrons cannot exist inside the nucleus.
 5 Time Independent Schrodinger wave Equ.
 6 Eigen values & Eigen Equations for a
- Eigen values & Eigen Equations for à particle in abox.