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**Test-II (April-2019)
PhD (2nd SEM)**

Course name: Advances in Nanotechnology

Max Marks: 25

Course Code: 16P1WPH211

Max Time: 1.5

Hrs

Note: All Questions are compulsory

1. Write all the steps of evaporation /dissolution - condensation growth mechanism for 1-D nanostructures. Explain the dependence of growth rate of nanostructures upon the concentration and surface growth of growth species (sketch suitable diagrams). (5)
2. Write the importance of critical radius and critical energy in the formation of zero dimensional nanostructures. Explain schematically nucleation and growth of zero dimensional nanostructures in homogeneous nucleation. (5)
3. With the help of diagram explain Vapor-Liquid-Solid (VLS) mechanism for the synthesis of Si nanowire using Au as the catalyst. (4)
4. What do you understand by the stabilization of nanoparticles in suspension discuss, and write the name of methods used for stabilization. (5)
5. Write short notes on the following; (2x3)
 - a) Aerosol synthesis
 - b) Growth termination
 - c) Spray pyrolysis