

SHRI R. K. PARIKH ARTS AND SCIENCE COLLEGE, PETLAD.

ADD-ON CERTIFICATE COURSE FOR SCIENCE

Course Title : Core concepts and applications of Nanotechnology

Coordinator : Prof. K. R. Trivedi

Department : Physics

Duration : 30 Hours [Theory]

COURSE CONTENT:

1. Nanotech generations.
2. Where are nanoscale materials found?
3. Nanoscience.
4. New forms of carbon.
5. Nanocomposites.
6. Nanomaterials.
7. Properties of nanomaterials.
8. One dimensional nanomaterials.
9. Two dimensional nanomaterials: Carbon Nanotubes, nanohorns, nanowires.
10. Three dimensional nanomaterials: Fullerenes ; Bucky ball, Dendrimers, Quantum dots.
11. Applications of nanotechnology: Environment, Energy, Medicine, Security, other applications.

OUTCOMES OF COURSE:

- BASIC understanding of nanotechnology.
- Develop fundamental knowledge of nanomaterials.
- Understand nanostructured materials.
- Understand the use of nanoscience and nanotechnology for various applications.

References:

1. Nanotechnology, Technology revolution of 21st century by Er. Rakesh Rathi, S. Chand & Co. Ltd., New Delhi (ISBN-81-219-3082-0)
2. Nanotechnology: Principles and Practices by Sulabha K. Kulkarni, Capital Publishing Co. (ISBN-81-85589-29-1)

Web Resources:

1. <https://www.understandingnano.com/>
2. https://serc.carleton.edu/msu_nanotech/nano_intro.html