BCO 110-P NANOBIOTECHNOLOGY [P]
Practical Course Credit : 1
Contact Hours : 30

1. **Biosynthesis of metal nanoparticles:**

Growth of the culture/ obtaining plant extract; screening for nanoparticle biosynthesis using whole cells, or culture filtrate/ plant extract; detection of nanoparticle formation by change in colour and/or UV spectral data.

2. **Antimicrobicity of nanoparticles:**

a. Antibacterial: Gram positive and Gram negative organisms.
b. Antifungal: melanized and non-melanized, sporulating/non-sporulating fungi

Reference Books (Composite list for theory and practicals)

1. Nicolini, C. Nanobiotechnology&Nanobiosciences Pan Stanford Publishing Pte. Ltd.
2. Niemeyer C.M.,&Mirkin, C.A,Nanobiotechnology, Concepts, Applications and perspectives, Wiley, Verlag GmbH & Co.
3. DeVilliers, M.M., Aramwit, P., & Kwon, G.S., Nanotechnology in Drug Delivery, Springer-American Association of Pharmaceutical Scientists Press.
4. Yao, N.,& Wang, Z.L., Handbook of Microscopy for Nanotechnology. Kluwer Academic Publishers.
5. Robert, A., &Freitas, Jr. Nanomedicine, Volume I: Basic Capabilities, Landes Bioscience.
6. Pradeep T., Nano, The Essentials, Understanding Nanoscience and Nanotechnology, Tata McGraw-Hill Publishing Company Limited.
7. Mirkin, C.A. & Niemeyer, C.M. Nanobiotechnology- II, More Concepts and Applications, Wiley, Verlag GmbH &Co.
8. Bulte, J.W.M.,&Modo, M.M.J., Nanoparticles in Biomedical Imaging: EmergingTechnologies and Applications, Springer Science Business Media, LLC
9. Shoseyov, O. & Levy, I., Nanobiotechnology-Bio Inspired Devices and Materialsof the Future, Humana Press Inc.