SEMESTER-III (Pool-B)

COURSE NAME: NANOSCIENCE IN FOOD TECHNOLOGY

(CHOI-B05)

Number of Credit: - 02   **Maximum marks: 50**

Unit:-1 Food and New Ways of Food Production - Efficient Fractionation of Crops Efficient Product Structuring -Optimizing Nutritional Values -Food Ingredients for Color, Texture and Flavor,Nutrients and Dietary Supplements, Food Storage.

Unit:-2 Applications of Nanotechnology in Foods : Sensing, Packaging, Encapsulation, Engineering. Food Ingredients to Improve Bioavailability - Nanocrystalline Food Ingredients, Nanoemulsions, Nano-Engineered Protein Fibrils, Nanosensors and Nanotracers with potential by the food industry

Unit:-3 Diagnostics Enzyme Biosensors and Diagnostics - DNA- Based Biosensors and Diagnostics Radiofrequency Identification- Integrated Nanosensor Networks:- Detection and Response, Nucleic Acid Antibody, Microarrays, Surface Plasmon Resonance Spectroscopy, Nanosensors and Nanotracers with potential by the food industry

Unit:-5 Nanotechnology in food packaging, Physical Properties of Packaging, Quality Assessment- Food Safety Indication, Product Properties - Information and Communication Technology- Sensors-Radiofrequency Identification Technology Risks, Consumer and Societal Acceptance,Nano Environment, Human Health and Safety Harmonization.

Recommended Books

1.Nanobiotechnology: Concepts, Applications and Perspectives by Mirkin Chad, Wiley

2. Nanobiotechnology-Concepts and Applications in Health, Agriculture, and Environment by R. Tomar, Apple Academic Press

3. Nanobiotechnology in Food: Concepts, Applications and Perspectives by J.M. Hoda, Springer

4. Nanomaterials Handbook by Y. Gogotsi, CRS Press, Taylor and Francis Group

5. WIPO Intellectual Property Handbook: Policy, Law and Use.