

OPTION (C). INDUSTRIAL MICROBIOLOGY

Max. Marks - 80

Units	Topics
I	Basic techniques in microbiology - Microscopy, staining techniques. Culture, Nutrition and growth of micro organisms, Survey of micro organisms of industrial use, Replication and structure of viruses & other acellular microorganisms, prokaryotic microorganisms, classification and diversity of Bacteria, Eukaryotic microorganisms.
II	Food Microbiology : Food spoilage, Food preservation methods, Microbiological production of food such as fermented products, meats, leavening of bread, alcoholic beverages, vinegar, fermented vegetables and single cell protein. Fermented dairy products.
III	Fermentation Industry: Selection of micro-organisms, Techniques and quality control, Production of antibiotics, steroids, Human proteins. Vaccines and vitamins, Production of organic acids, amino acids, Enzymes, solvents and fuels.
IV	Recovery of minerals by using microbes, Oil recovery, Biodeterioration, Mushroom culture, Bio-tech products including human insulin, Microbial growth Environmental influences, Physical control, Chemical control & Antibiotic controls.
V	Water quality industry: Bacteriological safety of potable water, Biodegradation of wastes and pollutants, importance of BOD, Primary, Secondary and Tertiary Sewage treatments.