

## **ACHARYA NAGARJUNA UNIVERSITY - UG SYLLABUS**

**Group:** B.Sc      **Subject:** FOOD AND INDUSTRIAL      **Year:** III      **Sem:** V

### **Unit-I:**

Intrinsic and extrinsic parameters that affect microbial growth in food  
Microbial spoilage of food - fruits, vegetables, milk, meat, egg, bread and  
canned foods Food intoxication (botulism).  
Food-borne diseases (salmonellosis) and their detection.

### **Unit-II:**

Principles of food preservation - Physical and chemical methods. Fermented  
Dairy foods – cheese and yogurt. Microorganisms as food – SCP, edible  
mushrooms (white button, oyster and paddy straw). Probiotics and their  
benefits.

### **Unit-III:**

Microorganisms of industrial importance – yeasts, moulds, bacteria,  
actinomycetes. Isolation and Screening of industrially-important  
microorganisms. Outlines of strain improvement.

### **Unit-IV:**

Types of fermentation processes – solid state, liquid state, batch, fed-batch,  
continuous. Design of fermenter. Ingredients of Fermentation media  
Downstream processing - filtration, centrifugation, cell disruption, solvent  
extraction.

### **Unit-V:**

Microbial production of Industrial products - Citric acid, Ethanol, amylases,  
penicillin, glutamic acid and vitamin B12.