AGRICULTURE MICROBIOLOGY

Details of course: -

Course Title	Course Structure			Pre-Requisite
	L	**T**	**P**	
Agriculture microbiology (BT418)	03	01	00	Nil

Course Objective:

Agriculture microbiology provides in depth knowledge about complex interaction between agriculture system and micro-organisms and introduce micro-organism in agricultural system for building a pathway for sustainable agriculture.

Course Outcome (CO):

1 Understand the History and basics of Microbiology.

2 To comprehend the mechanism of ATP generation in bacteria during respiration.

3 To gain knowledge about different microbes and their roles.

4 Understand microbiology of food spoilage and food preservation.

5 Apply the benefits of microorganisms in agriculture.

S.No.	Content	Contact Hours
1.	**Introduction History of Microbiology** Spontaneous generation theory, Role of microbes in fermentation, Germ theory of disease, Plant Protection against infections.	**9**
2.	**Metabolism** Metabolism in bacteria: ATP generation, respiration, fermentation. Bacteriophages: structure and properties of Bacterial viruses–Lytic and Lysogenic cycles.	**9**
3.	**Microbial diversity** Microbial groups in soil, microbial transformations of carbon, nitrogen, phosphorus and sulphur, Microflora of Rhizosphere and Phyllosphere,	**9**
4.	**Food microbiology** Microbiology of food microbial spoilage and principles of food preservation.	**8**