

▪ SEMESTER:- IV

▪ COURSE NO.:- FIM-244

▪ COURSE TITLE:- FOOD SAFETY AND MICROBIAL

▪ CREDIT:- 3(2+1)

STANDARDS

➤ THEORY

NO. OF UNITS	TOPICS	NO. OF LECTURES
1	<i>Hazards in food chain physical, chemical, biological</i>	6
2	<i>Toxins in food, naturally occurring, bacterial and fungal</i>	4
3	<i>Intrinsic toxins produced during processing and storage</i>	3
4	<i>Metals as toxins – sources, contamination, toxicity and elimination</i>	3
5	<i>Pesticide residues as toxin i) chlorinated ii) Non – chlorinated.</i>	3
6	<i>Permitted and non permitted food additives as and when amended</i>	4
7	<i>Microbial standards of fresh and processed foods.</i>	3
8	<i>Risk assessment and management during food preparation.</i>	4
	TOTAL	30

➤ PRACTICALS

NO. OF UNITS	TOPICS	NO. OF EXPT.
1	<i>Estimation of Salmonella /Shigella/ Stachyphylococcus from food samples.</i>	2
2	<i>Estimation of fungal toxins from food samples. (Different types of foods)</i>	2
3	<i>Heavy metal detection (lead)</i>	2
4	<i>Isolation and identification of Listeria and E. Coli</i>	2
5	<i>HACCP for food industries by taking few models</i>	2
6	<i>Study of national and international microbial quality standards</i>	2
7	<i>Visit to export oriented food processing industry</i>	2
8	<i>Microbial and chemical analysis of water</i>	2
	TOTAL	15

➤ *Reference Books:*

- *Food Hygiene and Sanitation* *S. Roday*
- *Food Microbiology* *W. C. Frazier and D. C. Westhoff*
- *Food Chemistry (New Edition)* *Owin R. Fenema*
- *Handbook of Food Toxicology* *S.S. Deshpande*
- *Food Microbiology* *M.R. Adams and M.O. Moss*
- *Food Additives Toxicology* *J. A. Maga and A. T. Tu*
- *Safety of Foods (II Edition)* *H. D. Graham*