- SEMETSER:- II
- COURSE NO.:- FCN-123
- COURSE TITLE:- FOOD CHEMISTRY - II
- CREDIT:- 3(2+1)

➢ THEORY

NO. OF UNITS	TOPICS	NO. OF LECTURES
1	*Chemistry of food flavor* *Functional characteristics of different* ▪ *Philosophy and definitions of flavour* ▪ *Flavourmatics / flavouring compounds* ▪ *Sensory assessment of flavour* ▪ *Technology for flavour retention*	*3*
2	*Food additives and Technology* ▪ *General attributes* ▪ *Buffer systems/ salts / acids* ▪ *Chelating agents and sequestrants* ▪ *Antioxidants* ▪ *Antimicrobial agents* ▪ *Non-nutritive and low calorie sweetners* ▪ *Stabilizer and thickeners* ▪ *Fat replacers* ▪ *Texturizers and improvers*	*4*
3	*Pigments in animal and plants kingdoms* ▪ *Heme pigments* ▪ *Chlorophyll* ▪ *Carotenoids* ▪ *Phenolic and flavonoids* ▪ *Betalins* ▪ *Effect of processing on pigment behavior* ▪ *Technology for retention of natural colours of food stuffs*	*7*
4	*Food colorants* ▪ *Regulatory aspects –Nartural and synthetic permitted food colours.* ▪ *Properties of certified dyes* ▪ *Use of regulatory dyes* ▪ *Colour losses during thermal processing*	*4*
5	*Vitamins and minerals* ▪ *Dietary sources requirements* ▪ *Allowances* ▪ *Enrichment* ▪ *Restorations* ▪ *Fortifications* ▪ *Losses of vitamins and minerals* ▪ *Optimization and retention of vitamins and minerals*	*4*

6	*Food toxicology* ▪ *Inherent toxicants – antinutritional factors their occurrence, effects and methods of elimination or inactivation- protease inhibitions, lectins, lathyrogens, phytates and flatulence factors* ▪ *Terms in toxicology* ▪ *Safety evaluation using traditional and modern approach* ▪ *Food Contaminants* ▪ *Pesticidal residues – permitted limits* ▪ *Toxicology and public health*	*4*
7	*Enzymes in foods –* ▪ *Role of endogenous enzymes in maturation and ripening* ▪ *Enzymatic browning- mechanism, methods of regulation or control.*	*2*
	TOTAL	**28**

➢ PRACTICALS

NO. OF UNITS	TOPICS	NO. OF EXPT.
1	*Preparation of mineral solution by using ash and tri acid method (dry and wet oxidations)*	*2*
2	*Estimation of calcium*	*1*
3	*Determination of phosphorus*	*1*
4	*Determination of iron*	*1*
5	*Estimation of magnesium*	*1*
6	*Estimation of trypsin inhibitor activity*	*3*
7	*Determination of vit. A (Total carotenoids)*	*1*
8	*Determination of ascorbic acid by dye method*	*1*
9	*Determination of niacine and pyridoxine*	*2*
10	*Determination of food colors*	*2*
11	*Assessment of hydrocolloids as food additives*	*1*
12	*Assessment of various pectinases from fruits and vegetables*	*2*
	TOTAL	**18**

Reference Books:

- *Food Chemistry-Vol. I* *Fennama O. R.*
- *Food Chemistry* *Mayer L. H.*