Course Code: ZOO 437 **Course Title: Nutritional Biochemistry**
Number of Credits: 2
Effective from AY: 2020 -21

Prerequisite for the Course:	Basic knowledge of physiology and biochemistry	
Objectives:	1. To make aware the students about the importance of nutrition in maintaining health. 2. To cultivate proper feeding habits. 3. To learn the proper and scientific value of different food items	
Content	**Module 1:** Basic concepts of energy and energy expenditure; Calorific values of food – Basal metabolic rate, energy requirements of man, women, infants and children. Dietary Carbohydrates : Functions, classification, food sources, storage in body, biomedical importance ; Dietary Proteins - Functions, classification, food sources, composition, essential & non-essential amino acids, protein deficiency. biomedical importance; Dietary Fats: Function of fats, classification, food sources, composition, saturated and unsaturated fatty acids, biomedical importance. Vitamins: sources and functions, deficiency status. **Module 2:** Water as nutrient**;** Electrolyte concentrations of body fluids; Minerals: macro & micronutrients functions, sources. Bioavailability and deficiency of Calcium, Iron, Iodine, Sodium & Potassium (very brief account); concept of acidosis and alkalosis. Nutritional requirements during pregnancy and lactation; Nutrition during infancy, Nutrition of school children, Nutrition during adolescence, Nutrition during adulthood. Nutrigenomics of omega 3 and omega 6 fatty acids, essential amino acids, vitamin A, C, D, E and B complex.	12 hrs 12 hrs
Pedagogy:	Lectures/ tutorials/self-study	
Learning Outcome:	1. Gaining the knowledge of importance about the nutrition and keeping ourselves in well- being state. 2. Understanding the importance of some nutrient in controlling the expression of genes	
References /Reading	1. Gopalan.C, BS. Ramasastri & SC Balasubramanian: 1971, Nutritive value of Indian foods. National Institute of Nutrition, Hyderabad.	

	2. Gopalan.D & K. Vijaya raghavan 1971, Nutrition atlas of India, ICMR, New Delhi. 3. Ghosh.S 1981, The feeding care of infants and young children, UNICEF, New Delhi. 4. Mudambi.SR ,1995. Fudementals of food and nutrition. New age international, New Delhi. 5. Swaminathan.M, 1989. Handbook of food and nutrition. Bappco, Bangalore. 6. Swaminathan.M, 1974 Essentials of food and nutrition. Vol I & II, Ganesh and Co. Madras. 7. Brody T, Nutritional, Biochemistry, Academic Press, New York. 8. Elia M, Ljungqvist O, Stratton R and Lanham SA, Clinical Nutrition, Willey Blackwell Publication, UK. 9. Swaminathan MS, Nutritional Biochemistry, T R Publication, India.