

**BIOCHEMISTRY (BS-ADP 6<sup>th</sup> Semester)**

<b>Module Code:</b>	<b>Chem-335</b>
<b>Module title:</b>	<b>Nutrition</b>
<b>Name of Scheme:</b>	<b>BS-ADP 6th Semester</b>
<b>Department:</b>	<b>School of Chemistry</b>
<b>Faculty:</b>	<b>Science</b>
<b>Module Type:</b>	<b>Optional</b>
<b>Module Rating:</b>	<b>2 credits</b>

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**OBJECTIVES:**

After studying this course student will be able to understand Importance of nutrition and Basal Metabolic Rate measurement. Students will also learn basics of Physiological function and requirement of micro and macro minerals. In addition, it will also help in better understanding of Vitamins, its types, physiological function, deficiency symptoms, and daily dietary requirements.

**SYLLABUS OUTLINE:**

Introduction and importance the science of nutrition: Brief introduction of nutrients, classification of nutrients and their Importance, Importance physiological function and requirement of micro and macro minerals for life and their deficiency symptoms. Introduction and history of vitamins. Classification of vitamins. A discussion of the occurrence, Chemistry, Physiological function, deficiency symptoms, and requirements of Vitamins A, B-Complex, C, D, E and K. Energy value and requirement of food under different living and physiological conditions. Basal metabolic rate (BMR), respiratory quotient and their measurements. Energy expenditure and its importance for health. Direct and Indirect calorimetry methods for the determination of energy expenditure. Thermogenic effect of food and Nutrition status of food in Pakistan.

**RECOMMENDED BOOKS:**

1. Principles of Biochemistry by Lehninger AL, Nelson DL and CoxMN,2000 Pub: worth Publishers
2. Biochemistry by Lubert Stryer (2006) Pub: Freeman and Company
3. Harpers Biochemistry, 27th ed. (2006) McGraw Hill Inc.
4. Advanced Nutrition and Human Metabolism - 6th Edition