

# PATHOPHYSIOLOGY AND METABOLISM IN DISEASE

4 Cr (Th)

## Objectives

This course will enable the students to:

1. to understand the pathophysiological changes in different organs, tissues and systems in different disease conditions across the lifespan
2. to understand the metabolic changes occurring in disease conditions
3. Comprehend the implications of functional interrelationships in a diseased body
4. to know and interpret the various diagnostic indicators/parameters
5. to apply this knowledge for planning nutritional care of individuals

## Contents:

Module No	Topic and Details	No of Credits
1	<b>Basic concepts of pathophysiology and metabolism of adaptation</b> a. Altered cellular and tissue biology b. Fluid and electrolyte, acids and bases c. Immunity d. Inflammation e. Hypersensitivity, infection and Immunodeficiency f. Stress and Disease g. Musculoskeletal system-Biochemistry and Pathophysiology, Osteoporosis, Osteomalacia, Osteoarthritis  <b>Cellular Proliferation and Cancer</b> a. Biology of Cancer b. Tumor spread and treatment c. Clinical manifestations of cancer	1
2	<b>Endocrine System</b> a. Mechanisms of hormone regulation b. Alteration of hormonal regulation c. Hypo and Hyperfunctions of Pituitary, Adrenal cortex and medulla, Hypo and Hyperthyroidism d. Type I, Type II and other types of Diabetes	2

	<p><b>Digestive system: Biochemistry and Pathophysiology</b></p> <ul style="list-style-type: none"> <li>a. Manifestations of gastrointestinal dysfunction,</li> <li>b. Acute and chronic gastritis, Ulcers</li> <li>c. Malabsorption syndrome</li> <li>d. Pancreatic insufficiency and Pancreatitis</li> <li>e. Liver dysfunction, Hepatitis, Cirrhosis, Cholelithiasis</li> <li>f. Ulcerative colitis, Crohn’s disease</li> </ul> <p><b>Renal and Urological Biochemistry and Pathophysiology</b></p> <ul style="list-style-type: none"> <li>a. Alteration of renal and urinary tract function</li> <li>b. Urinary tract obstruction, kidney stones,</li> <li>c. Cystic pyelonephritis, glomerulonephritis, 20ephritic syndrome, renal failure</li> </ul>	
4	<p><b>Alterations of Haematologic functions:</b></p> <ul style="list-style-type: none"> <li>a. Anemias and clinical manifestations</li> <li>b. Thalasemia, sickle cell anemia</li> </ul> <p><b>Cardiovascular, lymphatic and pulmonary system</b></p> <ul style="list-style-type: none"> <li>a. Alteration of cardiovascular functions, atherosclerosis, arteriosclerosis, Thrombus, embolus, dysrhythmias Myocardial ischemia, Myocardial infarction, Heart failure stroke</li> <li>b. Hypertension</li> <li>c. Dyslipidemias</li> <li>d. Alterations of pulmonary function- sings and symptoms of pulmonary disease Respiratory distress syndrome in adults and newborn Obstructive pulmonary diseases Asthma and cystic fibrosis</li> </ul>	1