



# SILVER OAK UNIVERSITY

Silver college of Pharmacy (067)

Programme Name: B.Pharm (18)

Subject Name: Pathophysiology

Subject Code: 1180673204

Semester: III

## Prerequisite:

Pathophysiology is the study of causes of diseases and reactions of the body to such disease producing causes. This course is designed to impart a thorough knowledge of the relevant aspects of pathology of various conditions with reference to its pharmacological applications, and understanding of basic pathophysiological mechanisms. Hence it will not only help to study the syllabus of pathology, but also to get baseline knowledge required to practice medicine safely, confidently, rationally and effectively

## Objective: Upon completion of this course the student should be able to:

1. Describe the etiology and pathogenesis of the selected disease states
2. Name the signs and symptoms of the diseases
3. Mention the complications of the diseases.

## Teaching Scheme

Teaching Scheme				
L	T	P	Contact Hours	Credit
3	1	0	4	4

## Content:

Unit No.	Contents	Teaching Hours	Weightage %
1	<p><b>Basic principles of Cell injury and Adaptation:</b> Introduction, definitions, Homeostasis, Components and Types of Feedback systems, Causes of cellular injury, Pathogenesis (Cell membrane damage, Mitochondrial damage, Ribosome damage, Nuclear damage), Morphology of cell injury – Adaptive changes (Atrophy, Hypertrophy, hyperplasia, Metaplasia, Dysplasia), Cell swelling, Intra cellular accumulation, Calcification, Enzyme leakage and Cell Death Acidosis &amp; Alkalosis, Electrolyte</p> <p><b>Mechanism involved in the process of inflammation and repair:</b> Introduction, Clinical signs of inflammation, Different types of Inflammation, Mechanism of Inflammation – Alteration in</p>	10 Hrs	22%

	vascular permeability and blood flow, migration of WBC's, Mediators of inflammation, Basic principles of wound healing in the skin, Pathophysiology of Atherosclerosis		
2	<b>Cardiovascular System:</b> Hypertension, congestive heart failure, ischemic heart disease (angina, myocardial infarction, atherosclerosis and arteriosclerosis) <b>Respiratory system:</b> Asthma, Chronic obstructive airways diseases. <b>Renal system:</b> Acute and chronic renal failure	10 Hrs	22%
3	<b>Haematological Diseases:</b> Iron deficiency, megaloblastic anemia (Vit B12 and folic acid), sickle cell anemia, thalassemia, hereditary acquired anemia, hemophilia <b>Endocrine system:</b> Diabetes, thyroid diseases, disorders of sex hormones <b>Nervous system:</b> Epilepsy, Parkinson's disease, stroke, psychiatric disorders: depression, schizophrenia and Alzheimer's disease.	10 Hrs	22%
4	<b>Gastrointestinal system:</b> Peptic Ulcer, Inflammatory bowel diseases, jaundice, hepatitis (A, B, C, D, E, F) alcoholic liver disease <b>Disease of bones and joints:</b> Rheumatoid arthritis, osteoporosis and gout <b>Principles of cancer:</b> classification, etiology and pathogenesis of cancer	8 Hrs	18
5	<b>Infectious diseases:</b> Meningitis, Typhoid, Leprosy, Tuberculosis Urinary tract infections <b>Sexually transmitted diseases:</b> AIDS, Syphilis, Gonorrhoea	7 Hrs	16
	<b>Total</b>	45 Hrs	100%

**Course Outcome:** After Completion of Syllabus Students will able to

Sr. No.	CO statement	Unit No
CO-1	Students will define the basic pathogenesis of human disease	1
CO-2	Students will define and explore the most common etiologies and predisposing factors associated with human disease	2
CO-3	Students will understand how the various organ systems are interrelated, and use this understanding to promote a holistic approach towards the evaluation and treatment of patients	3
CO-4	Various diseases related to bones and joints, cancer related important things	4
CO-5	Students should aware and learn about infectious and sexually transmitted diseases	5

**Teaching & Learning Methodology: -**

The various methods or tools follows by the faculties to teach the above subject are:

1. Student centered learning
2. Presentation

**Books Recommended**

1. Vinay Kumar, Abul K. Abas, Jon C. Aster; Robbins & Cotran Pathologic Basis of Disease; South Asia edition; India; Elsevier; 2014.
2. Harsh Mohan; Text book of Pathology; 6th edition; India; Jaypee Publications; 2010.
3. Laurence B, Bruce C, Bjorn K.; Goodman Gilman's The Pharmacological Basis of Therapeutics; 12th edition; New York; McGraw-Hill; 2011.
4. Best, Charles Herbert 1899-1978; Taylor, Norman Burke 1885-1972; West, John B (John Burnard); Best and Taylor's Physiological basis of medical practice; 12th ed; united states;
5. William and Wilkins, Baltimore; 1991 [1990 printing].
6. Nicki R. Colledge, Brian R. Walker, Stuart H. Ralston; Davidson's Principles and Practice of Medicine; 21st edition; London; ELBS/Churchill Livingstone; 2010.
7. Guyton A, John. E Hall; Textbook of Medical Physiology; 12th edition; WB Saunders Company; 2010.
8. Joseph DiPiro, Robert L. Talbert, Gary Yee, Barbara Wells, L. Michael Posey;
9. Pharmacotherapy: A Pathophysiological Approach; 9th edition; London; McGraw- Hill Medical; 2014.
10. V. Kumar, R. S. Cotran and S. L. Robbins; Basic Pathology; 6th edition; Philadelphia; WB Saunders Company; 1997.
11. Roger Walker, Clive Edwards; Clinical Pharmacy and Therapeutics; 3rd edition; London; Churchill Livingstone publication; 2003.

**Recommended Journals:**

1. The Journal of Pathology. ISSN: 1096-9896 (Online)
2. The American Journal of Pathology. ISSN: 0002-9440
3. Pathology. 1465-3931 (Online)
4. International Journal of Physiology, Pathophysiology and Pharmacology. ISSN: 1944-8171 (Online)
5. Indian Journal of Pathology and Microbiology. ISSN-0377-4929. List of Open Source

**CO-PO-PSO Matrix:**

<b>Co. No.</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO-1</b>	3	3	1	2	-	2	-	2	2	3	2	2	3
<b>CO-2</b>	3	2	3	2	-	2	-	3	2	2	3	2	3
<b>CO-3</b>	3	3	3	2	-	2	3	2	3	3	2	3	3
<b>CO-4</b>	3	2	3	3	1	3	-	2	3	3	3	3	3
<b>CO-5</b>	3	3	3	2	-	-	-	-	3	3	3	3	3