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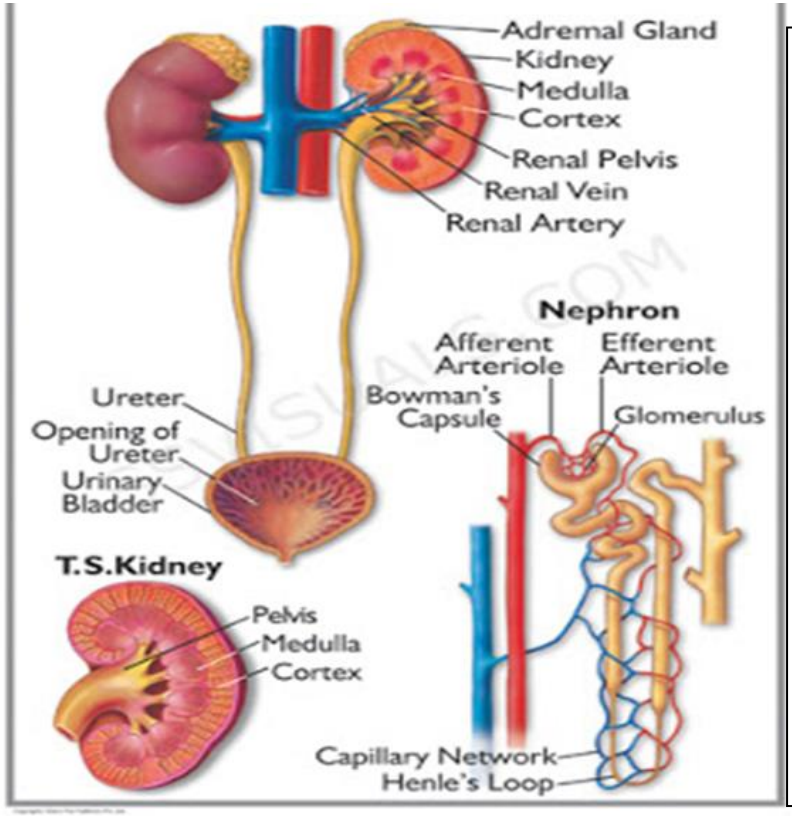
BAQAI MEDICAL COLLEGE
SECOND YEAR M.B.B.S.
RENAL MODULAR STUDY GUIDE 2024



BAQAI MEDICAL COLLEGE

SECOND YEAR M.B.B.S

STUDY GUIDE - 2024

RENAL MODULE

6 weeks

BAQAI MEDICAL UNIVERSITY
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SECOND YEAR M.B.B.S.
RENAL MODULAR STUDY GUIDE 2024

51-Deh Tor, Gadap Road, Super Highway. P.O Box: 2407, Karachi-75340, Pakistan.
Phone (092-21)34410-293 to 298, 34410-427 to 430.
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BAQAI MEDICAL UNIVERSITY VISION STATEMENT

To evolve as a nucleus for higher learning with a resolution to be socially accountable, focused on producing accomplished health care professionals for services in all spheres of life at the national and global level.

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BAQAI MEDICAL UNIVERSITY MISSION STATEMENT

University is dedicated to the growth of competencies in its potential graduates through dissemination of knowledge for patient care, innovation in scholarship, origination of leadership skills, and use of technological advancements and providing.

BAQAI MEDICAL COLLEGE MISSION STATEMENT

The mission of the Baqai medical college is to produce medical graduates, who are accomplished and responsible individuals and have skills for problem solving, clinical judgment, research & leadership for medical practice at the international level and are also aware of the health problems of the less privileged rural and urban population of Pakistan.

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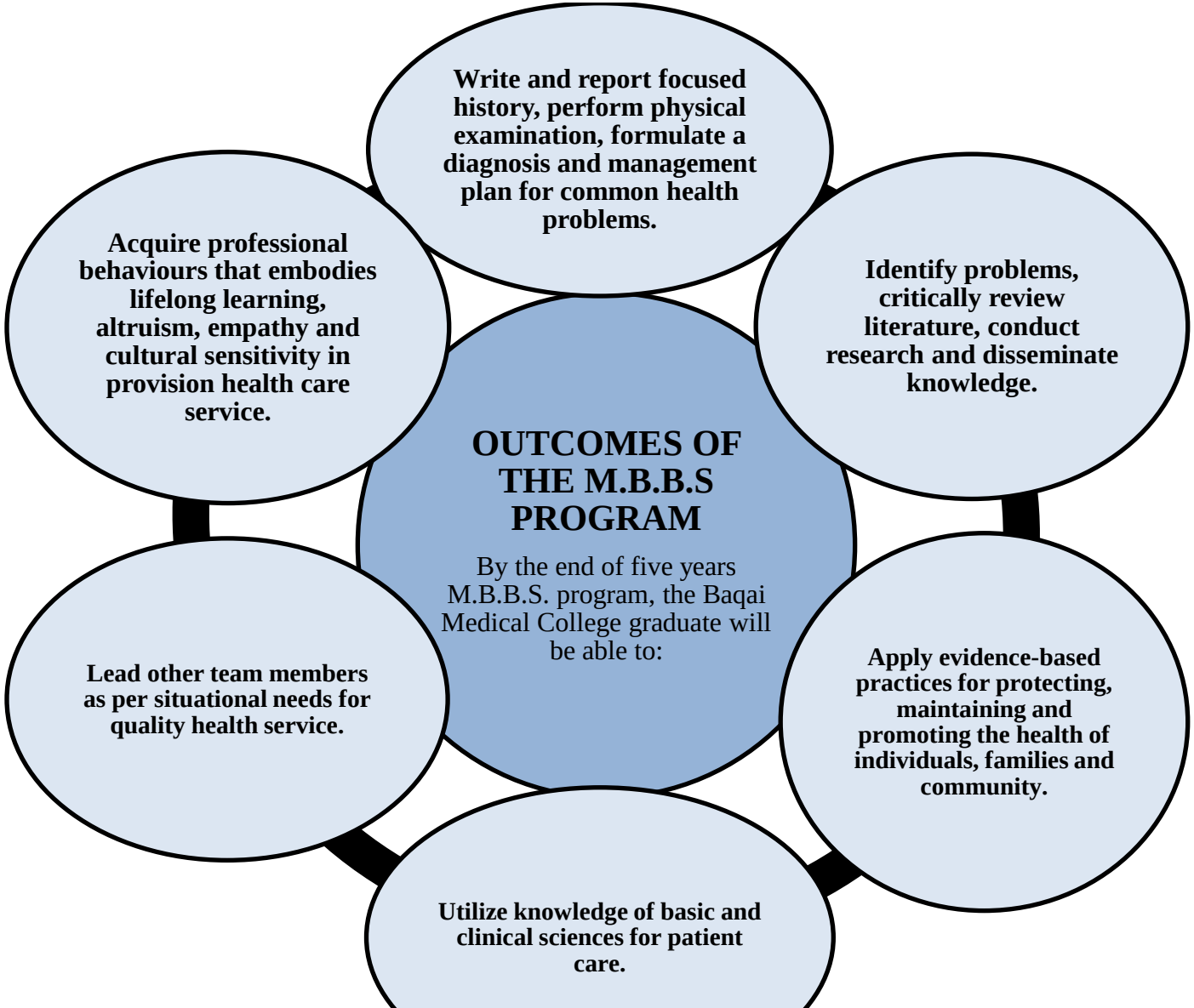

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CIC SPIRAL-1 2nd Year MBBS MODULAR TIME TABLE, STUDY GUIDE and CBL TEAM

NAME OF FACULTY	DEPARTMENT	DESIGNATION IN TEAM	EMAIL ADDRESS
Prof. Dr. Syed Inayat Ali	Anatomy	Head of CIC Spiral-1	drinayatali@baqai.edu.pk
Prof. Dr. Uzma	Anatomy	Class In-charge 2nd Year MBBS	
Dr. Benish Zafar	Biochemistry	Coordinator of 2nd Year MBBS Study Guide & Time Table Team	benishzafar@baqai.edu.pk
Dr. Mubashara Tahseen	Anatomy	Member	mubasharatahseen@baqai.edu.pk
Dr. Sobia	Physiology	Member	sobianabeel@baqai.edu.pk
Dr. Hina Masood	Pharmacology	Member	hinamasood@baqai.edu.pk
Dr. Rozeena	Pathology	Member	
Dr. Rafey Siddiqui	Forensic Medicine	Member	rafaya@baqai.edu.pk
Dr. Ammara	Community Medicine	Member	ammarasaeed@baqai.edu.pk
Dr. Aneeta / Dr. Saima Askari	Medicine	Members	haroonharoon@baqai.edu.pk / saimaaskari@baqai.edu.pk
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Dr. Nikhat Ashraf	Gynaecology & Obstetrics	Member	dr.nikhatahsan@baqai.edu
Dr. Maria Rahim	Research	Member	maria.rahim@baqai.edu.pk
Dr. Mariam Ibrahim	Department of Medical Education	Member	mariamibrahim@baqai.edu.pk
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Dr. Danish/ Dr. Abdullah	Orthopeadics	Members	drdanishmuneeb@baqai.edu.pk / drabdullah@baqai.edu.pk

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Dr. Mehwish	Radiology	Member	
Dr. Kahkashan Perveen	Biochemistry	Spiral-1 CBL Coordinator	dr.kahkashan@baqai.edu.pk
Dr. Shahid Pervez	Anatomy	CBL team member	sshaikh@baqai.edu.pk
Dr. Salimullah	Physiology	CBL team member	drsaleemullah@baqai.edu

INTRODUCTION TO RENAL MODULE GUIDE:

Year to be taught: **Second Year M.B.B.S.-2024**

Placement of Renal Module: **FIRST**

Duration: 6 **weeks**

Tentative Date: As per updated time table

Module Assessment Date: **End of module**

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The Renal Module is the first module for 2nd Year MBBS Integrated Modular Curriculum for MBBS program. It will give an introduction and awareness about the curriculum of excretory system in general along with the teaching and learning environment. This module includes basic anatomical, physiological and biochemical concepts in relation to the excretory system and its link with clinical aspects related to the diseases of excretory system. It also includes the basis of research and orientation about the clinical sciences. The curriculum will be delivered in the form of interactive large and small group formats including lectures, SGDs, practical and DSL.

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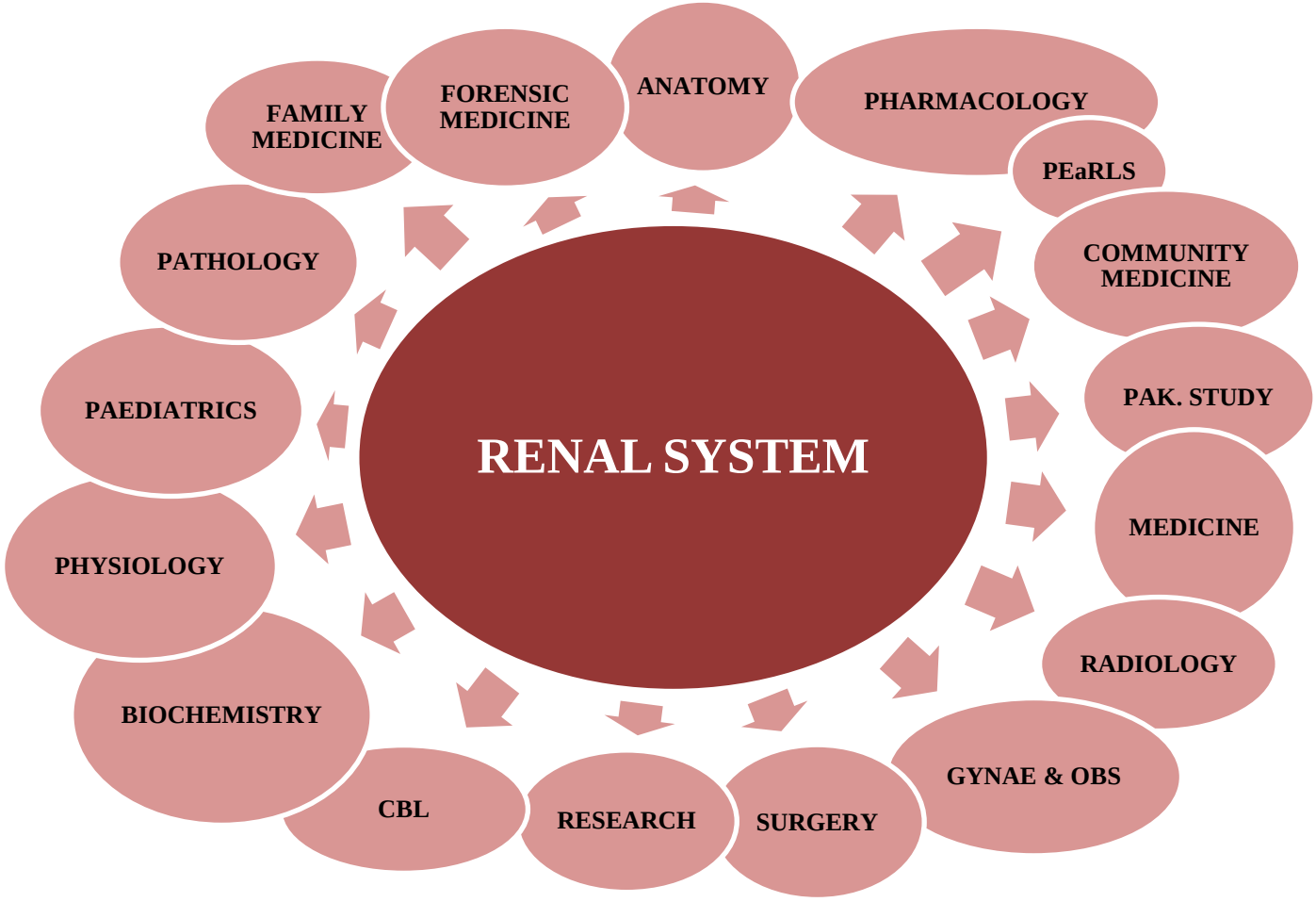

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At the completion of renal module the students of 2nd year M.B.B.S will be able to;

RENAL MODULE OUTCOME

1. Describe the embryological development of kidney and urinary tract with their congenital malformations.
2. Integrate gross and microscopic features of kidney and urinary tract with their physiological and endocrine functions correlating them with their clinical application.
3. Associate the significance of composition of body fluids, in different compartments with their regulation and disruptions.
4. Explain the regulation of acid base balance with its regulation.
5. Understand the significance of counter current mechanism in concentrated urine.
6. Interpret the renal function test used in diagnosis of renal disorders.

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INTEGRATED TEACHING

At the end of this module, Second Year M.B.B.S. student will be able to;

TOPICS WITH OBJECTIVES	DEPARTMENT	DURATION	FACILITATOR	TEACHING STRATEGY	VENUE
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Body Fluid & Compartments** • Categorize the body fluid in the fluid compartments. • Differentiate the ionic concentration of intra & extra – cellular fluids. • Explain the process of estimation of fluids in different fluid compartments • Define Donan's Gibbs effect	**Physiology**	60 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Osmolarity** • Define Osmolarity, osmolality, osmotic pressure & osmole • Explain the terms hypertonic, Isotonic & hypotonic fluids. • Summarize maintenance of osmotic equilibrium b/w extra & intra– cellular fluids.	**Physiology**	90 minutes	Dr. Qamar Aziz	Lecture	Lecture hall – II, Ground floor, Block-A.

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• Define Van't Hoff's Law • Define edema & its types					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Regulatory Mechanisms Of Fluid And Electrolyte Balance** • Recall the compartments of ECF & ICF • Recognize that kidneys are the main organs involved in regulation of fluid and electrolyte balance • Describe neural and hormonal regulatory mechanisms that operate to maintain homeostasis of fluid • Identify the role of kinins & "atrial natriuretic peptide" in water and electrolyte balance	**Physiology**	60 minutes	Dr. Benish	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Water And Electrolyte And Imbalance-1** • Define water intoxication	**Biochemistry**	90 minutes	Dr. Benish	Lecture	Lecture hall – II, Ground floor, Block-A.

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• Enumerate the causes of water intoxication • Associate the clinical features and biochemical findings of water intoxication					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Water And Electrolyte And Imbalance-2** • Define dehydration • Classify the types of dehydration as per Marriot's classification: • Enumerate the causes of primary and secondary dehydration. • Describe the pathophysiology of each type of dehydration. • Associate the clinical features and biochemical findings of each type of dehydration.	**Biochemistry**	60 minutes	Dr. Benish	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Development Of Urinary System I** • Describe the role of intermediate mesoderm in the formation of kidney.	**Anatomy**	60 minutes	Prof.Dr. Uzma	Lecture	Lecture hall – II

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• Describe the development of kidney and excretory system step wise.					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Development Of Urinary System II** • Describe the development of collecting system. • Define the fate of the three progenitors of urinary system: PRONEPHROS, MESONEPHROS AND METANEPHROS.	**Anatomy**	60 minutes	Prof.Dr. Uzma	Lecture	Ground floor
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Gross Structure Of Kidney-I** • Describe the location and gross structure of kidney. • Discuss the relation of kidney. • List the coverings of kidney.	**Anatomy**	90 minutes	Dr. Shahid	Lecture	Lecture hall – II, Ground floor, Block-A.

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **Gross Structure Of Kidney-II** • Describe the internal structure of the kidney. • Discuss the blood supply of kidney in detail, with clinical segmentation of kidney according to its blood supply. • Discuss the nerve supply of kidney.	**Anatomy**	60 minutes	Dr. Shahid	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Histology Of Kidney-I** • Describe the histological features of kidney (cortex & medulla). • Discuss the parts of a nephron and their types.	**Anatomy**	60 minutes	Prof.Dr. Inayat	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Histology Of Kidney-II** • Describe the filtration barrier and its significance.s • Describe juxtaglomerular apparatus, its location and significance.	**Anatomy**	60 minutes	Prof.Dr. Inayat	Lecture	Lecture hall – II, Ground floor, Block-A.

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At the end of this practical, Second Year M.B.B.S. student will be able to; **Slide of Kidney:** • Analyze the slide by low and high magnification. • List the points of identification of histological features of kidney. • Recognize the parts of a nephron and their microscopic appearance. • Describe juxtaglomerular apparatus, their microscopic appearance.	**Anatomy**	120 minutes	Dr. Hina	Practical	Histology Lab, First Floor, Block-A.
At the end of this SGT session, Second Year M.B.B.S. student will be able to; **Kidney Model-1** • Identify the side of the kidney. • Recognize the gross features of kidney. • Identify the internal parts of kidney. • Identify the arrangement of structures at the hilum of kidney	**Anatomy**	90 minutes	Dr. Aneela / Dr.Hina / Dr.Ayesha	SGT	Lecture hall – II, Dissection hall & Anatomy LRC; Ground floor, Block-A.

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **The Functions Of Kidney I** • List the functions of kidney. • Explain the Importance of urea and Creatinine in renal functions	**Physiology**	90 minutes	Dr. Qamar Aziz	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Renal Functions II** • Define the importance of renal functions • Correlate clinical features with renal functions • List important clinical features differentiating acute from chronic renal failure • Identify scenarios focusing on renal functions	**Physiology**	60 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **The Functions, Types Of Nephron** • Define nephron. • Name the parts of the nephron • explain the functional arrangement of the glomerulus • List the functions of different parts of nephron.	**Biochemistry**	90 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A.

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **Juxtaglomerular Apparatus** • Define the arrangement of Juxtaglomerular apparatus. • - Explain the functional significance of juxtaglomerular apparatus.	**Physiology**	60 minutes	Dr. Saleem	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Macula Densa (MD)** • Define and explain the location of Macula Densa • Summarize the stimulation of MD • Describe the release of renin from JG cells • Explain the role of JGA in long term regulation of BP	**Physiology**	90 minute	DR Qamar Aziz	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **GFR -I** • Define renal blood flow • Define renal plasma flow • Define filtration fraction • List the components of filtration membrane • Define glomerular filtration rate (GFR). • List the determinants of GFR.	**Physiology**	60 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **GFR-II** • Explain how GFR is increased • Explain how GFR is decreased • Explain the role of hormones on GFR	**Physiology**	60 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Renal Autoregulation** • Define feedback regulation of RBF & GFR • Discuss AR preventing changes in renal excretion • Discuss tubuloglomerular feedback & AR of GFR. • State Dietary influence on AR	**Physiology**	90 minutes	Dr.Qamar Aziz	Lecture	Biochemistry Lab, First Floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Tubular Reabsorption- I** • List specific transport mechanisms occurring in different parts of the nephron. • Tabulate filtration, reabsorption & excretion of substances by the nephron • Calculate rate of filtration of substances	**Physiology**	60 minutes	Dr. Sobia	Lecture	Lecture hall – II, Ground floor, Block-A.

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• List the substances totally reabsorbed in PCT • List partially reabsorbed substances in PCT					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Tubular Reabsorption II** • Explain Reabsorption of glucose & TMG • Define renal threshold of Glucose • Define TM of other substances.	**Physiology**	90 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Secretions Of Renal Tubules** • List the names of substances secreted in renal tubules • Explain the secretion of H-ions in CT causing acidification of urine • Summarise the HCO3 reabsorption due to H-ion secretion in PCT • Explain Secretion of K-ions helps maintain ECF-K homeostasis • Summarise why K-secretion only in CT helps in acidifying urine	**Physiology**	90 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to;	**Physiology**	90 minutes	Dr. Sobia	Lecture	Lecture hall – II,

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Counter Current Mechanism-I • Define concentrated urine and conditions when concentrated urine is excreted • Identify the role of Juxta medullary nephrons in CCM • Define dilute urine and conditions when dilute urine is excreted • Define counter current mechanism • Define hyper osmolarity of medullary interstitium • Explain countercurrent multiplier system • Explain counter current exchanger system and its importance & the role of "vasa recta" in maintenance of hyperosmolar medulla					Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Counter Current Mechanism-II** • Define obligatory & facultative reabsorption of water • Explain how ADH promotes water reabsorption through the walls of the distal convoluted tubule and collecting duct. • Define AQUAPORINS • Summarize counter – current mechanism in developing medullary hyper osmolarity	**Physiology**	60minutes	Dr. Sobia	Practical	Biochemistry Lab, First Floor, Block-A.

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **Urea Recycling & Reabsorption** • Cite how reabsorption occurs in nephrons • Explain the role of urea recirculation in causing hyper osmolarity of medullary interstitium • State the percentage contribution of urea in urinary osmolarity • State the normal and abnormal osmolarity of urine & compare with plasma osmolarity • Define diluting segment of nephron • Summarize concentration changes in different segments of nephron	**Physiology**	90 minutes	Dr. Ruqaya	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Urine Formation** • Define urine excretion • Calculate urine excretion by formula E=F+S-R • List substances which are reabsorbed • List substances which are secreted • List substances which are neither reabsorbed nor secreted and are excreted as filtered	**Physiology**	60 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A.

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• List substances which are reabsorbed fully (100%) in PCT • List substances which are reabsorbed 60% in PCT • Define obligatory and facultative reabsorption of water					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Role Of ADH In Formation Of Urine** • Discuss the renal regulation of ECF. • Summarize role of ADH on tubular system in regulation of different ions. .	**Physiology**	90 minutes	Prof. Dr. Qamar Aziz	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Water Reabsorption And Role Of ADH In Dilution Of Urine** • Define dilute urine • Explain dilution of urine • Explain the role of ADH in dilution of urine • Explain SIADH and dilution of urine • Define obligatory volume of urine	**Physiology**	60 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A

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• Summarise OSMORECEPTOR-ADH feedback					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Obligatory Volume Of Urine** • Explain the role of obligatory volume in excretion of solutes • Explain consumption of sea water will increase thirst • Calculate obligatory volume of urine in different conditions	**Physiology**	60 minutes	Dr. Sobia	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Renal Regulation Of Acid-Base Balance** • State Acid base formula • List buffer systems of the body. Name the renal buffer • Discuss phosphate buffer in kidney • Describe the secretion of H-ions in PCT • Discuss the role of H-ions in indirect reabsorption of HCO3 in PCT	**Physiology**	60 minutes	Dr. M.Ali	Lecture	Biochemistry Lab, First Floor, Block-A.

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **Action Of Aldosterone On DCT & CT** • List the actions of aldosterone on DCT and CT • Name the cells on which aldosterone acts • Explain the effect of aldosterone on Na reabsorption • Explain the effect of aldosterone on K secretion.	**Physiology**	60 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Regulation Of K-Secretion** • State the normal serum K levels in ECF and ICF • Define hypokalemia and hyperkalemia • Enumerate the problems associated with hypo and hyper conditions • Describe how the intake must be in balance with output • List factors which alter K distribution in ECF and ICF • Explain the role of insulin causing hypokalaemia	**Physiology**	60 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A.

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• Summarise the reabsorption and secretion of K in different segments of nephrons • Explain the role of principal cells in secretion of K • List important factors which stimulate K secretion • Cite the competitive secretion of K with H-ions					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Renal Clearance** • Define renal clearance • List different tests of renal functions • Define renal clearance formula • Define inulin clearance • State the importance of inulin clearance • Discuss the method of creatinine clearance for estimating the kidney function. • State the role of PAH in measurement of renal blood flow • Calculate filtration fraction	**Physiology**	60 minutes	Dr. Saba Abrar	Lecture	Lecture hall – II, Ground floor, Block-A

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At the end of this practical, Second Year M.B.B.S. student will be able to; **Working Principle Of PH** • To measure the pH of various solutions using pH indicators and meter. • To create and study the properties of buffer solutions.	**Physiology**	120 minutes	Dr. Sobia	Practical	Physiology lab, 1st floor, A-Block
At the end of this practical, Second Year M.B.B.S. student will be able to; **Working Principle Of PH** **Estimation of PH of Urine:** • To estimate the pH of urine / water sample.	**Physiology**	120 minutes	Dr. Sobia	Practical	Physiology lab, 1st floor, A-Block
At the end of this practical, Second Year M.B.B.S. student will be able to; **URINOMETER VIDEO** • List the parts of urinometer • Define the principle of urinometer • Summarize the process of the measurements of specific gravity of urine • Explain the advantages of urinometer	**Physiology**	120 minutes	Dr. Sobia	Practical	Physiology lab, 1st floor, A-Block
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Renal Function Tests-1**	**Biochemistry**	60 minutes	Dr.Benish	Lecture	Lecture hall – II, Ground floor, Block-A

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• List the pre-requisites to be covered before performing renal function tests. • Recognize the indications for performing Renal Function Tests • State the importance of Renal Function Tests • Describe the components of urine analysis. • Identify the importance of estimating serum uric acid, urea and creatinine levels.					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Renal Function Tests-2** • Classify Renal Function Tests • Define 'clearance' • Explain briefly the procedure and interpretation of endogenous creatinine clearance test and inulin clearance test • Relate the importance of using Cr-EDTA clearance test in children • Discuss about the tests based on Renal Plasma Flow. • Define PAH clearance and state its normal value	**Biochemistry**	60 minutes	Dr. Benish	Lecture	Lecture hall – II, Ground floor, Block-A

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• Define Filtration Fraction (FF) and state its normal range. • Outline the significance of estimating Filtration Fraction in diagnosing kidney diseases.					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Renal Function Tests-3** • Classify the tests based on tubular function tests • Describe the procedure to perform concentration and water dilution tests. • Identify the precautions to be taken to perform these tests. • State the importance of performing 15-minute psp test. • Describe the interpretation of the results of the tubular function tests	**Biochemistry**	60 minutes	Dr. Benish	Lecture	Lecture hall – II, Ground floor, Block-A

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **Renal Function Tests-4** • Identify miscellaneous tests, viz. I/V pyelography , renogram and renal scintiscan for assessing renal size, shape and also renal blood flow.	**Biochemistry**	60 minutes	Dr. Benish	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this practical, Second Year M.B.B.S. student will be able to; **Spectrophotometry** • Describe the principle of spectrophotometry through its components. • Relate the use of the electromagnetic radiation: visible light in the application of spectrophotometry. • Discuss the terms Incident light, transmitted light, transmittance and optical density. • Describe Lambert-Beers Law. • Relate the function of spectrophotometer with that of estimating the concentration of biomolecules in a fluid.	**Biochemistry**	120 minutes	Dr. Benish Dr .Jmal	Practical	Biochemistry Lab, First Floor, Block-A.

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At the end of this practical, Second Year M.B.B.S. student will be able to; **Urine analysis of Inorganic Constituents** • Detect the presence of the following inorganic constituents in the given sample: *chloride, calcium and phosphorus.* • Name the reagents to be used in the experiment of inorganic constituents. • Describe the principle of the reaction taking place in the experiment.	**Biochemistry**	120 minutes	Dr. Benish Dr .Jmal	Practical	Biochemistry Lab, First Floor, Block-A.
At the end of this practical, Second Year M.B.B.S. student will be able to; **Urine analysis of Organic Constituents** • Detect the presence of the following organic constituents in the given sample: *urea*, and *creatinine* • Name the reagents to be used in the experiment of organic constituents. • Describe the principle of the reaction taking place in the experiment	**Biochemistry**	120 minutes	Dr. Benish Dr .Jmal	Practical	Biochemistry Lab, First Floor, Block-A.
At the end of this practical, Second Year M.B.B.S. student will be able to; **Estimation of serum creatinine**	**Biochemistry**	120 minutes	Dr. Benish Dr .Jmal	Practical	Biochemistry Lab, First

• Describe the principle of the reaction taking place in the experiment by means of the reagents used. • Identify the importance of preparing a blank test tube. • Record the readings of transmittance of stock standard solutions and sample with the help of spectrophotometer. • Refer to the transmittance chart for obtaining optical density values of 'S' and 'T' test tubes. • Calculate the concentration of stock standard solutions of 'S' test tubes.					Floor, Block-A.
At the end of this practical, Second Year M.B.B.S. student will be able to; **Estimation of serum urea** • Describe the principle of the reaction taking place in the experiment by means of the reagents used • Identify the importance of preparing a blank test tube. • Record the readings of transmittance of stock standard solutions and sample with the help of spectrophotometer.	**Biochemistry**	120 minutes	Dr. Benish Dr .Jmal	Practical	Biochemistry Lab, First Floor, Block-A.

• Refer to the transmittance chart for obtaining optical density values of 'S' and 'T' test tubes • Calculate the concentration of stock standard solutions of 'S' test tubes.					
At the end of this practical, Second Year M.B.B.S. student will be able to; **Interpretation of values of serum urea and serum creatinine** • Draw the graphs to obtain the concentration of Serum creatinine and serum urea for the samples used in previous experiments. • State the normal range of serum creatinine and serum urea. • Interpret the result of whether the samples are creatinemia/hypocreatinemia, or within the normal range and uremic/hypouremic or within the normal range	**Biochemistry**	120 minutes	Dr. Benish Dr .Jmal	Practical	Biochemistry Lab, First Floor, Block-A.

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **DEVELOPMENT OF URINARY SYSTEM III** • Describe development of the ureter. • Discuss the anomalies of ureter • Describe development of the urinary bladder. • Discuss the anomalies of urinary bladder.	**Anatomy**	60 minutes	Prof.Dr. Uzma	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Gross Anatomy Of Ureter** • Describe the structure, and location of ureter. • Name the parts of ureter. • Describe the course, anatomical constrictions, and relations of ureter. • Describe the blood supply, nerve supply and lymphatic drainage of ureter.	**Anatomy**	60 minutes	Dr. Mubasahra	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this SGT session, Second Year M.B.B.S. student will be able to; **Model Of Ureter** • Identify the locations of ureter in abdomen model. • Recognize the side of ureters.	**Anatomy**	Dr. Aneela / Dr.Hina / Dr.Ayesha	SGT	Lecture hall – II, Dissection hall & Anatomy LRC; Ground floor, Block-A.	Dr. Aneela / Dr.Hina / Dr.Ayesha

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• Describe level of constriction on the model of ureter.					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Histology Of Ureter** • Describe the arrangement of layers in ureter & their microscopic appearance. • Describe the arrangement of layers in urinary bladder & their microscopic appearance.	**Anatomy**	60 minutes	Dr. Inayat	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this practical, Second Year M.B.B.S. student will be able to; **Slide of Ureter** • Identify the slide and adjust under the microscope. • Recognize the epithelium of ureter. • List the points of identification of histological features of ureter. .	**Anatomy**	120 minutes	Dr. Hina	Practical	Histology Lab, First Floor, Block-A.

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **Gross Features Of Urinary Bladder.** • Describe the structure and location of urinary bladder. • Name the parts of urinary bladder. • Explain the apex, base, surfaces and relation of urinary bladder. • Describe the trigone of the urinary bladder. • Explain the support to the urinary bladder. • Describe the blood supply, nerve supply and lymphatic drainage of urinary bladder.	**Anatomy**	60 minutes	Dr. Mubasahra	Lecture	Lecture hall – II, Ground floor, Block-A.
At the end of this SGT session, Second Year M.B.B.S. student will be able to; **Model Of Urinary Bladder** • Describe the model of urinary bladder in detail. • Discusst he locations of urinary bladder in abdomen on model. • Identify the parts of urinary bladder.	**Anatomy**	Dr. Aneela / Dr.Hina / Dr.Ayesha	SGT	Lecture hall – II, Dissection hall & Anatomy LRC; Ground floor, Block-A.	Dr. Aneela / Dr.Hina / Dr.Ayesha

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At the end of this practical, Second Year M.B.B.S. student will be able to; **Slide of U. Bladder** • Identify the slide and adjust under the microscope. • Recognize the epithelium of u. bladder. • List the points of identification of histological features of u.bladder.	**Anatomy**	120 minutes	Dr. Hina	Practical	Histology Lab, First Floor, Block-A.
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Micturition reflex:** • Define MR • List components of MR • Describe MR • Discuss voluntary control of MR • State act of micturition	**Physiology**	60 minutes	Dr. Saleem	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Gross Features Of Urethra** • Name the parts of urethra. • Describe the structure and location of male and female urethra.	**Anatomy**	60 minutes	Dr. Shahid	Lecture	Histology Lab, First Floor, Block-A.

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• Describe the blood supply, nerve supply and lymphatic drainage of urethra.					
At the end of this SGT session, Second Year M.B.B.S. student will be able to; **Model Of Urethra** •Identify the parts of male urethra. •List the structures open in the prostatic urethra.	**Anatomy**	Dr. Aneela / Dr.Hina / Dr.Ayesha	SGT	Lecture hall – II, Dissection hall & Anatomy LRC; Ground floor, Block-A.	Dr. Aneela / Dr.Hina / Dr.Ayesha
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Histology Of Urethra** • Describe the arrangement of layers in different segments of urethra & their microscopic appearance.	**Anatomy**	60 minutes	Prof.Dr. inayat	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Developmental Defects Of Urinary Bladder, Ureter And Urethra** • Describe the congenital anomalies of urinary bladder, ureter (Bifid ureter) and urethra.	**Anatomy**	45 minutes	Prof.Dr. uzma	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Overview Of Drugs Acting On Renal**	**Pharmacology**	60 minutes	Dr. Hina Masood	Lecture	Lecture hall – II,

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System I • Recall the structure and function of nephron and its parts. • Discuss the mechanistic pharmacology of drugs promoting urinary excretion**.**					Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Overview Of Drugs Acting On Renal System I** • Recall the physiological role of Vasopressin. • Discuss the mechanistic pharmacology of drugs which cause decrease in urinary excretion.	**Pharmacology**	60 minutes	Dr. Hina Masood	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Introduction To Renal Diseases I** • Describe the mechanism of cell injury on Glomeruli • Describe the mechanism of cell injury on renal tubules • Describe the mechanism of cell injury on	**pathology**	60 minutes	Dr Nasima Iqbal	Lecture	Lecture hall – II, Ground floor, Block-A

renal interstitium					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Introduction To Renal Diseases II** • Define Uremia and Azotemia • Describe Acute Renal Failure • Describe Chronic Renal Failure	**pathology**	60 minutes	Dr Sara Azhar	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Clinical presentation of renal disease:** • Discuss various clinical presentations of renal diseases.	**Medicine**	60 minutes	Dr. Anita Haroon	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Investigations of renal diseases:** • Understand the importance various hematological, biochemical test used to investigate renal diseases.	**Medicine**	60 minutes	Dr. Anita Haroon	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Overview of AKI & CKD staging:**	**Medicine**	60 minutes	Dr. Anita Haroon	Lecture	Lecture hall – II,

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• Differentiate between AKI and CKD • Describe different methods to assess renal function i-e GFR estimation based on creatinine (Cockcroft-Gault, EPI-CKD formula) • Describe different stages of CKD					Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Anemia In Chronic Kidney Disease** • Describe various causes of anemia in CKD	**Medicine**	60 minutes	Dr. Anita Haroon	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Overview of Hemodialysis** • Understand the basic principles of hemodialysis procedure	**Medicine**	60 minutes	Dr. Anita Haroon	Lecture	Lecture hall – II, Ground floor, Block-A

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **Renal changes during pregnancy** • Describe the anatomical changes occurring during normal pregnancy • Discuss the functional changes occurring during normal pregnancy • Explain the reason of presence of glucosein urine of pregnant women.	**Gynae&Obs**	60 minutes	Dr. Sadia	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Renal disorders in pregnancy** • Enlist common renal disorder in pregnancy • Discuss clinical apporoachof pregnant women with renal disease. • Enumerate the fetal andmaternal outcomes with renal disease in pregnancy.	**Gynae&Obs**	60 minutes	Dr. Nikhat	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Introduction to Renal Diseases in Children** • Recall pediatric renal pathophysiology • Describe diagnostic evaluation • Discuss treatment of pediatric renal disorder	**Paeds**	60 minutes	Dr. Madiha Abid	Lecture	Lecture hall – II, Ground floor, Block-A

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **Clinical Approach to Patients with Renal diseases** • List important questions in history. • Identify findings in examination of patients with renal disorder.	**Paeds**	60 minutes	Dr. Saba Sohrab	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Metabolic derangement in Pediatric CKD Patients** • Recall the pathophysiology of Anemia in CKD • Discuss Rickets in CKD	**Paeds**	60 minutes	Dr. Areeba Tanveer	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Posterior abdominal wall:** • Name the boundaries of posterior abdominal wall.	**Anatomy**	60 minutes	Dr. Mubashra	Lecture	Lecture hall – II, Ground floor, Block-A.

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• Discuss the fascia of posterior abdominal wall. • Describe the attachment of muscles of posterior abdominal wall. • Describe the neurovascular supply and action.					
At the end of this SGT session, Second Year M.B.B.S. student will be able to; **Vertebrae:** ▪ Identify the type of vertebrae. ▪ Identify the parts of the vertebrae. • List the structures attached on vertebrae.	**Anatomy**	90 minutes	Dr Hina Dr Aneela Dr Ayesha	SGT	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Introduction To Protein Metabolism** • Define amino acid pool • Describe the formation of amino acid pool. • Identify the difference between positive and negative nitrogen balance. • Recognize that α-NH_2 group from amino acids is removed as ammonia	**Biochemistry**	60 minutes	Dr. Iffat	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Catabolism Of Amino Acids (Protein Metabolism)**	**Biochemistry**	60 minutes	Dr. Iffat	Lecture	Lecture hall – II, Ground floor, Block-A.

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• Describe the process of transamination and role of pyridoxal-P in the reaction. • Describe the process of oxidative deamination through glutamate dehydrogenases and amino acid oxidases. • Describe the processing of D-amino acids in the body. • State the importance of non-oxidative deamination with examples.					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Urea Formation (Protein Metabolism)** • Identify that transport of ammonia takes place in the form of glutamate, glutamine and alanine and is diverted to urea formation. • Recognize that urea is synthesized solely in liver. • Describe the steps and regulation of urea synthesis. • Discuss the consequences of ammonia toxicity.	**Biochemistry**	60 minutes	Dr. Iffat	Lecture	Lecture hall – II, Ground floor, Block-A.

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **Purine Nucleotide Synthesis -2(Nucleotide Metabolism)** • Relate the formation of AMP and GMP from IMP. • Describe the regulation of purine synthesis. •	**Biochemistry**	60 minutes	Dr. kahkashan	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Recycling Of Purines (Nucleotide Metabolism)** • Define salvage pathway. • Describe the reactions of 'salvage pathway' of purine bases.	**Biochemistry**	60 minutes	Dr. kahkashan	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Pyrimidine Nucleotide Synthesis (Nucleotide Metabolism)** • Illustrate the structure of pyrimidine base and sources of C and N atoms of pyrimidine • Identify that synthesis of pyrimidine begins with the formation of carbamoyl phosphate.	**Biochemistry**	60 minutes	Dr. kahkashan	Lecture	Lecture hall – II, Ground floor, Block-A

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• Describe the reactions of pyrimidine synthesis. • Explain the synthesis of deoxypyrimidine nucleotides and its importance in DNA formation.					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Degradation Pf Purines And Pyrimidines (Nucleotide Metabolism)** • Describe the catabolism of pyrimidine nucleotides. • Describe the catabolism of guanosine and adenosine to form uric acid. • Identify that uric acid is excreted in urine • Discuss gout and its clinical importance. • Outline other inherited disorders of purine metabolism	**Biochemistry**	60 minutes	Dr. kahkashan	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Sources of water:** • Explain the interconnection between water and health.	**Community Medicine**	60 minutes	Dr. Noman	Lecture	Lecture hall – II, Ground floor, Block-A

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• Discuss different sources of water.					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Indicator of water quality:** • Discuss the indicator of water quality. • Classify the hardness of water.	**Community Medicine**	60 minutes	Dr. Noman	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Water pollution :** • Describe the different causes of water pollution • Explain the environmental health risk of water pollution	**Community Medicine**	60 minutes	Dr. Munir	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Research topic selection:** • Define the criteria for topic selection. • Explain the rationale of selecting a new topic.	**Research**	60 minutes	Miss Maria	Lecture	Lecture hall – II, Ground floor, Block-A

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **Research project and its components:** • Define research synopsis. • List the components of a research.	**Research**	60 minutes	Miss Maria	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Emotional Intelligence-I:** • Define Emotional Intelligence (EI) or Emotional Quotient (EQ). • Differentiate between IQ & EQ. • Identify pers0nal level of EQ.	**DME**	60 minutes	Dr. Saima Qamar	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Emotional Intelligence-II:** • Discuss "Amygdala Hijack". • Discuss ways to develop EI. • Discuss components of EI. • Identify factors that affect EI.	**DME**	60 minutes	Dr. Saima Qamar	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Biopsycosocial Model:** • Explain the bio-psycho-social model. • Describe the evolution of the model in context of current health care systems.	**Behavioural Sciences**	90 minutes	Miss Azra	Lecture	Lecture hall – II, Ground floor, Block-A

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• Discuss the application of this model for health and diseases. • Compare the model with other theories of illness as an alternative practice.					
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Emotions & Motivation:** • Define emotions as per the current literature. • Classify the different types of human emotions. Compare the various theories of human emotions.	**Behavioural Sciences**	60 minutes	Miss Azra	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Aims & Objectives of Ideology of Pakistan:** • Describe and explain the aims & objectives of the Creation of Pakistan.	**Pakistan Studies**	60 minutes	Miss Uzma	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **The Ideology of Pakistan & Quaid-e-Azam:** • Explain the Ideology of Pakistan in the light of the sayings of the Quaid-e-Azam.	**Pakistan Studies**	60 minutes	Miss Uzma	Lecture	Lecture hall – II, Ground floor, Block-A

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At the end of this lecture, Second Year M.B.B.S. student will be able to; **The Ideology of Pakistan & Allama Iqbal:** • Explain the Ideology of Pakistan in the light of sayings of Allama Iqbal.	**Pakistan Studies**	60 minutes	Miss Uzma	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Importance of the Ideology of Pakistan:** • Explain the importance of the Ideology of Pakistan.	**Pakistan Studies**	60 minutes	Miss Uzma	Lecture	Lecture hall – II, Ground floor, Block-A
At the end of this lecture, Second Year M.B.B.S. student will be able to; **Two Nation Theory:** • Describe the Two Nation Theory.	**Pakistan Studies**	60 minutes	Miss Uzma	Lecture	Lecture hall – II, Ground floor, Block-A

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REFERENCE BOOKS AND OTHER READING RESOURCES:

Gross Anatomy	BD Chaurasia's **Handbook of GENERAL ANATOMY** **Netter Atlas of Human Anatomy**
Embryology	**Langman's Embryology**
Histology	**Laiq Hussain Histology**
Physiology	**Guyton and Hall**. Textbook of Medical Physiology, 13th Edition. **Ganong's** Review of Medical Physiology, 24th Edition.
Pathology	Robin`s Basic Pathology-10th Edition
Pharmacology	**Essential** **- Bertram G. Katzung.** Basic and Clinical Pharmacology, 14th Edition. 2017. **- Katzung and Trevor's pharmacology** Examination and Board Review 11th Edition 2015. **Recommended** **- Lippincott's illustrated review of Pharmacology**. 6th Edition. 2015.
Pak. Studies	1. Burki, Shahid Javed. State & Society in Pakistan, The Macmillan Press Ltd 1980. 2. Akbar, S. Zaidi. Issue in Pakistan's Economy. Karachi: Oxford University Press, 2000. 3. . SM. Burke and Lawrence Ziring. Pakistan's Foreign policy: An Historical analysis. Karachi: Oxford University Press, 1993. 4. Mehmood, Safdar. Pakistan Political Roots & Development. Lahore, 1994. 5. Wilcox, Wayne.The Emergence of Bangladesh., Washington: American Enterprise, Institute of Public Policy Research, 1972. 6. Mehmood, Safdar. Pakistan Kayyun Toota, Lahore: Idara-e-Saqafat- e-Islamia, Club Road, nd. 7. Amin, Tahir. Ethno - National Movement in Pakistan, Islamabad: Institute of Policy Studies, Islamabad. 8. Ziring, Lawrence. Enigma of Political Development. Kent England: WmDawson & sons Ltd,

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	1980. 9. Zahid, Ansar. History & Culture of Sindh. Karachi: Royal Book Company, 1980. 10. Afzal, M Rafique. Political Parties in Pakistan, Vol. I, II & III. Islamabad: National Institute of Historical and cultural Research, 1998.
Community Medicine	Ilyas M, Public Health and Community Medicine, 7th Edition, Karachi, Pakistan, Time Publisher, 2007. Maxcy-Rosenau-Last, public Health and Preventive Medicine, 13th Edition, USA, Prentice-Hall International Inc, 1992. K.Park, Preventive and Social Medicine, 20th Edition, Jabalpur (India), M/s Banarsidas Bhanot, Publisher, 2009.
Medicine	Davidson`s Principles and Practice of Medicine-22nd Edition
Clinical Examination	Talley and O'Connor's Clinical Examination-6th Edition
Surgery	Bailey And Love Short Practice Of Surgery, 27th Edition Last's anatomy 12th edition Snell's anatomy by regions 10thedition
Research	Introduction to Research in Health Sciences- Stephen Polgar, Shane A. Thomas. Biomedical Research Proposal Writing- Syed Sharaf Ali Shah, Zarfshan Tahir, Rozina Karmaliani. Epidemiology - Leon Gordis; Fifth Edition.
PEARLs	https://www.mededportal.org/publication/10610/
PAEDS	Nelson Textbook of Pediatric 21st edition. Textbook of Paediatrics (PPA) Fifth edition. Basis of Pediatrics (Pervez Akbar Khan) 10th edition

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- four options (likely answer).
- Students after reading the statement/scenario select ONE, the most appropriate response from the given list of options.
- Correct answer carries one mark, and incorrect 'zero mark'. There is no negative marking.
- Students mark their responses on specified computer-based/OMR sheet designed for BMC, BMU.

❖**OSPE/OSCE: Objective Structured Practical/Clinical Examination:**

- Each student will be assessed on the same content and have same time to complete the task.
- Comprise of 05 stations.
- Each station may assess a variety of clinical tasks; these tasks may include history taking, physical examination, skills and application of skills and knowledge.
- Stations are observed, unobserved, interactive and rest stations.
- Observed and interactive stations will be assessed by internal or external examiners.
- Unobserved will be static stations in which there may be an X-ray, Labs reports, pictures, Biochemical estimation tests graph construction tasks or clinical scenarios with related questions for students to answer.
- Rest station is a station where there is no task given and in this time student can organize his/her thoughts.

INTERNAL EVALUATION:

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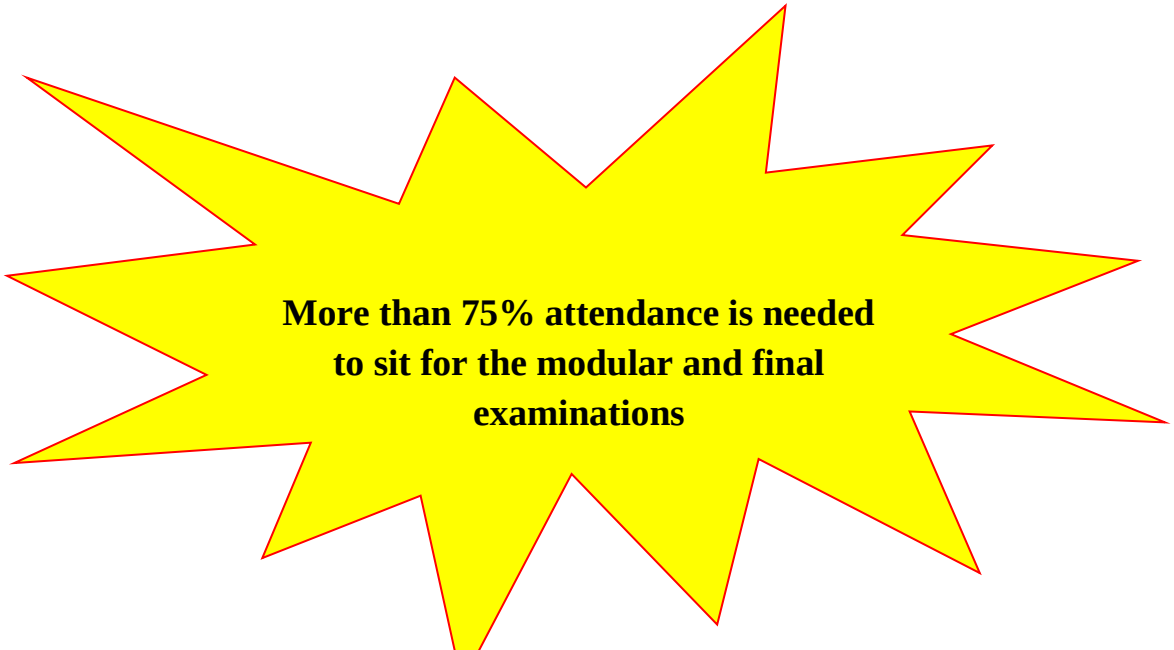
- Students will be assessed to determine achievement of module objectives through the following:
- **Module Examination:** will be scheduled on completion of each module. The method of examination comprises theory exam which includes MCQs and OSPE (Objective Structured Practical Examination).

➢ **Formative Assessment of students combined**: Quiz, viva, practical, assignment, small group activities such as CBL, online assessment, and Practical journal work.

➢ Marks and attendance of modular examination and formative assessment respectively will constitute 20% weightage which will be added to the marksheet of Second Professional Annual Examination.

FORMATIVE ASSESSMENT:

- Individual departments or group pf departments may hold quiz or short answer questions to help students assess their own learning.
- The marks obtained are not included in the internal evaluation.
- .



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TIME TABLE FOR 2nd YEAR MBBS 2024
RENALMODULE
Week 1

DAYS	8:30-9:30	9:30-10:30	10:30-11:00	11:00-12:00	12:00-1:00	1:00-1:30	1:30-3:00	3:00-4:30
MONDAY 26-2-2024	**PHYSIO** Body fluid compartments **DR SABA ABRAR**	**BIOCHEMISTRY regulatory mechanism of fluid & electrolytes balance DR BENISH**	Tea break	**SDL**	**DEPARTMENT OF MEDICAL EDUCATION DR SAIMA QAMAR**	Lunch & Prayer	**PHYSIO** Osmolarity **DR QAMAR AZIZ**	**ANATOMY** Gross feature of kidney-I **DR SHAHID**
TUESDAY 27-2-2024	**ANATOMY HISTO** Histology of kidney-I **DR INAYAT**	**ANATOMY** Gross feature of kidney-II **DR SHAHID**		**SDL**	**P. Studies MISS UZMA**		**ANATOMY EMBRYO** Development of Urinary System **DR UZMA**	**PHYSIO** The functions of kidneys I **DR QAMAR AZIZ**
WEDNESDAY 28-2-2024	**ANATOMY HISTO** Histology of kidney-II **DR INAYAT**	**PHYSIO** functions of kidneys II **DR SABA ABRAR**		**ANATOMY EMBRYO** Development of urinary system-II **DR UZMA**	**SDL**		**PHYSIO** The functions, types of Nephron **DR SABA ABRAR**	**Anatomy LRC SGT** (Demonstration of kidney model) **DR AYESHA DR HINA AD ANEELA**
THURSDAY 29-2-2024	**PHYSIO** Juxta glomerular apparatus **DR SALEEM**	**SDL**		**PRACTICAL A,B& C (Histology)** slide of Kidney I **(DR HINA) (BIOCHEMISTRY)** spectrophotometry **MS ERAJ (Physiology)** Working principle of pH meter **DR. M. ALI**			**PHYSIO** urine formation **DR QAMAR AZIZ**	**BIOCHEMISTRY** water & electrolytes imbalance-1 **DR BENISH**
FRIDAY 1-3-2024	**PHYSIO** GFR+filtration+ Factors affecting GFR-I **DR SABA ABRAR**	**BIOCHEMISTRY** water & electrolytes imbalance-2 **DR BENISH**		**PRACTICAL A,B& C (Histology)** slide of Kidney I **(DR HINA) (Biochemistry)** spectrophotometry **DR BENISH (Physiology)** Working principle of pH meter **DR. M. ALI**			**1:30-2:30 SDL**	**PRACTICAL A,B& C (Histology)** slide of Kidney I **(DR HINA) (Biochemistry)** spectrophotometry **MR JAMAL (Physiology)** Working principle of pH meter **DR. M. ALI**

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TIME TABLE FOR 2nd YEAR MBBS 2024
RENALMODULE
Week 2
4-2-2024 to 8-2-2024

DAYS	8:30-9:30	9:30-10:30	10:30-11:00	11:00-12:00	12:00-1:00	1:00-1:30	1:30-3:00	3:00-4:30
MONDAY 4-3-2024	BIOCHEMISTRY Introduction to protein metabolism DR IFFAT	PHYSIO GFR=filtration+ Factors affecting GFR-II DR SABA ABRAR	Tea break	DEPARTMENT OF MEDICAL EDUCATION DR SAIMA QAMAR	SDL	Lunch & Prayer	ANATOMY Ureter DR MUBASHARA	PHYSIOLOGY Renal autoregulation-tubuloglomerlar, myogenic DR QAMAR AZIZ
TUESDAY 5-3-2024	PHYSIOLOGY Tubular reabsorption DR SOBIA	BIOCHEMISTRY Catabolism of aminoacids DR IFFAT		SDL	P. Studies		PHYSIOLOGY Hormones acting on Kidney + Tubular reabsorption DR SABA ABRAR	BIOCHEMISTRY urea formation DR IFFAT
WEDNESDAY 6-3-2024	ANATOMY HISTO Histology of kidney-III DR INAYAT	RESEARCH Research Topic Selection I MISS MARIA		COMMUNITY MEDICINE Source of water DR NOMAN	SDL		B.SCIENCES Bio Psychosocial model MISS AZRA	PHYSIOLOGY Counter current mechanism-I DR SOBIA
THURSDAY 7-3-2024	BIOCHEMISTRY fate of carbon skeletons of amino acids DR IFFAT	PHYSIOLOGY Counter current mechanism-II DR SOBIA		PRACTICAL A,B& C (Histology) slide of Kidney DR HINA (Biochemistry) Urine analysis of inorganic constituents MS ERAG (Physiology) Estimation of urine pH DR SABA			PHYSIOLOGY Urea reabsorption and recycling DR SALEEM	ANATOMY (LRC) SGT Ureter Model DR AYESHA DR HINA AD ANEELA
FRIDAY 8-3-2024	PHYSIOLOGY Urea reabsorption and recycling DR SABA ABRAR	ANATOMY EMBRYO Development of urinary system-III DR UZMA		PRACTICAL A,B& C (Histology) slide of Kidney DR HINA (Biochemistry) Urine analysis of inorganic constituents DR BENISH (Physiology) Estimation of urine pH DR SABA			1:30-2:30 SDL	PRACTICAL A,B& C (Histology) slide of Kidney DR HINA (Biochemistry) Urine analysis of inorganic constituents MR JAMAL (Physiology) Estimation of urine pH DR SABA

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TIME TABLE FOR 2nd YEAR MBBS 2024
RENALMODULE
Week 3
11-3-2024 TO 15-3-2024

DAYS	8:30-9:30	9:30-10:30	10:30-11:00	11:00-12:00	12:00- 1:00	1:00-1:30	1:30-3:00	3:00-4:30
MONDAY 11-3-2024	PHYSIOLOGY Obligatory volume of urine D. Sobia	PATHOLOGY Introduction To Renal Diseases I Dr Sarah Azher	TEA BREAK	ANATOMY Urinary Bladder Dr Mubashara	RESEARCH Research Topic Selection II MISS MARIA	Lunch & Prayer	FORMATIVE ASSESSMENT	PHYSIOLOGY Role of ADH In Formation Of Urine Dr.Qamer Aziz
TUESDAY 12-3-2024	PHYSIOLOGY Renal regulation of acid base balance Dr.M.Ali	MEDICINE Renal Diseases Dr. Anita Haroon		PAEDS Introduction to renal disease s in children Dr Madiha Abid	P. Studies MISS UZMA		BIOCHEMISTRY/SDL Purine nucleotide synthesis –I DR KAHKASHAN	BIOCHEMISTRY/SDL Purine nucleotide synthesis –I DR KAHKASHAN
WEDNESDAY 13-3-2024	PHYSIOLOGY Action of Aldosterone on DCT & CT Dr. Saba Abrar	SDL	10:30-12:30		12:30-1:15	1:15-1:30	ANATOMY (LRC) Urinary Bladder MODEL (SGT) DR AYESHA DR HINA AD ANEELA	
			CBL		PATHOLOGY Introduction To Renal Diseases II Dr Sarah Azher	Prayer		
THURSDAY 14-3-2024	ANATOMY HISTO Histology of kidney-III DR INAYAT	MEDICINE Over View Of acute Kidney Injury And Ckd Staging Dr. Anita	PRACTICAL A,B& C (Histology) slide of U.Bladder DR HINA (Biochemistry) Urine analysis of organic constituents DR. BENISH (Physiology) urinometer video D. Sobia		SDL		PHYSIOLOGY Micturition reflex Dr. Saba Abrar	
FRIDAY 15-3-2024	PRACTICAL A,B& C (Histology) slide of U.Bladder DR HINA (Biochemistry) Urine analysis of organic constituents DR BENISH (Physiology) urinometer video D. Sobia		PRACTICAL A,B& C (Histology) slide of U.Bladder DR HINA (Biochemistry) Urine analysis of organic constituents MR JAMAL (Physiology) urinometer video D. Sobia		SDL	1:15-1:45 Prayer	1:45-2:30 PHYSIOLOGY Acid base disorder SGT Dr.Ali, Dr. Sobia, Dr. Saba Abrar	

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TIME TABLE 2ND YEAR MBBS 2024
RENAL MODULE
4THWK
18 MARCH-22 MARCH 2024

DAYS	8:30-9:30	9:30-10:30	10:30-11:30	11:300-12:30	12:30-1:15	1:15-1:30	1:15-2:30
MONDAY 18-3-2024	PHYSIOLOGY Regulation Of K-Secretion DR SABA ABRAR	PHARMA Overview Of Drugs Acting On Renal System I DR IZRUM / DR HINA MASOOD	ANATOMY Urethra DR SHAHID	COMMUNITY MEDICINE Indicator of water quality DR NOMAN	SDL	Prayer	PHYSIOLOGY Secretions Of Renal Tubules DR SABA ABRAR
TUESDAY 19-3-2024	BIOCHEMISTRY purine nucleotide synthesis –II DR KAHKASHAN	MEDICINE Cinical Presentation Of Renal Diseases DR ANITA HAROON	SDL	P. Studies MISS UZMA	ANATOMY Muscles of Posterior abdominal wall DR SHAHID		ANATOMY LRC (SGT) Urethra DR AYESHA DR HINA AD ANEELA
WEDNESDAY 20-3-2024	ANATOMY Aorta DR MUBASHARA	GYNAE& OBS Renal changes during pregnancy DR SADIA	SDL	B.SCIENCES Emotions And Motivation MISS AZRA	PAEDS Clinical Approachto Patients With Renal Disease DR SABA SOHRAB		PHYSIOLOGY Renal Compensation In Acidosis And Alkalosis(SGT) DR ALI DR SOBIA DR SALEEM
THURSDAY 21-3-2024	ANATOMY Lymphatic DR MUBASHARA	MEDICINE Anaemia In Chronic Kidney Disease DR ANITA HAROON	PRACTICAL A,B& C (Histology) slide Of ureter DR HINA (Biochemistry) Estimation serum urea DR BENISH (Physiology) Determinants Of GFR DR SOBIA		SDL		BIOCHEMISTRY purine nucleotide synthesis -III DR KAHKASHAN
FRIDAY 22-3-2024	PRACTICAL A,B& C (Histology) slide of ureter DR HINA (Biochemistry) Estimation serum urea DR BENISH (Physiology) Determinants Of GFR DR SOBIA		PRACTICAL A,B& C (Histology) slide of ureter DR HINA (Biochemistry) Estimation serum urea MR JAMAL (Physiology) Determinants Of GFR DR SOBIA		SDL	1:15-1:45 Prayer	1:45-2:30 ANATOMY LRC (SGT) POSTERIOR ABDOMINAL WALL MODEL AD ANEELA DR HINA DR AYESH

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TIME TABLE 2ND YEAR MBBS 2024
RENAL MODULE
5THWK
25 MARCH-29 MARCH 2024

DAYS	8:30-9:30	9:30-10:30	10:30-11:30	11:30-12:30	12:30-1:15	1:15-1:30	1:30-2:30
MONDAY 25-3-2024	BIOCHEMISTRY purine nucleotide synthesis –IIII DR. KAHKASHAN	COMMUNITY MEDICINE Water pollution DR MUNIR	SDL	BIOCHEMISTRY Renal Function Test I DR BENISH	PHARMA Overview Of Drugs Acting On Renal System II DR JAVERIA / DR HINA MASOOD	Prayer	PHYSIOLOGY Plotting values in acid base normograme (SGT) DR QAMAR AZIZ
TUESDAY 26-3-2024	ANATOMY Inferior vena cava DR MUBASHARA	MEDICINE Investigation Of Renal Diseases DR ANITA HAROON	SDL	P. Studies MISS UZMA	PAEDS Metabolic Derangement In pediatric CKD Patient DR AREEBA TANVEER		BIOCHEMISTRY Renal Function Test II DR BENISH
WEDNESDAY 27-3-2024	BIOCHEMISTRY Renal Function Test III DR BENISH	GYNAE& OBS Renal disorders In pregnancy DR NIKHAT	ANATOMY Review class DR MUBASHARA	SDL	RADIOLOGY Anatomy And Basic Interpretation Of Urinary System On X-Ray And Ultrasound DR MEHWISH		ANATOMY LRC(SGT) Lumbar Vertebrae Bony Features DR AYESHA DR HINA AD ANEELA
THURSDAY 28-3-2024	ANATOMY Lumbar plexuses DR MUBASHARA	MEDICINE Urine Analysis DR ANITA HAROON	PRACTICAL A,B& C (Histology) urinary systemDR HINA (Biochemistry) Estimation of serum creatinine DR BENISH (Physiology) Arterial blood gases analysis DR SOBIA		SDL		PHYSIOLOGY Renal clearance DR SABA ABRAR
FRIDAY 29-3-2024	PRACTICAL A,B& C (Histology) slide of urinary systemDR HINA (Biochemistry) Estimation of serum creatinine DR BENISH (Physiology) Arterial blood gases analysis DR SOBIA		PRACTICAL A,B& C (Histology) urinary systemDR HINA (Biochemistry) Estimation of serum creatinine MR JAMAL (Physiology) Arterial blood gases analysis DR SOBIA		SDL	1:15-1:45 Prayer	1:45-2:30 ANATOMY LRC(SGT) Lumbar Vertebrae Attachment DR AYESHA DR HINA AD ANEELA

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TIME TABLE 2ND YEAR MBBS 2024
RENAL MODULE
6THWK
1ST APRIL-5TH APRIL2024

DAYS	8:30-9:30	9:30-10:30	10:30-11:30	11:30-12:30	12:30-1:15	1:15-1:30	1:30-2:30
MONDAY 1-4-2024	BIOCHEMISTRY Renal Function Test IV DR BENISH	FORMATIVE ASSESSMENT	SDL	CBL		Lunch & Prayer	PHYSIOLOGY Renal Dialysis In CRF DR QAMAR AZIZ
TUESDAY 2-4-2024	BIOCHEMISTRY Renal Function Test V DR BENISH	MEDICINE Electrolytes Abnormalities In Renal Failure DR ANITA HAROON	ANATOMY Sympathetic trunk abdominal part DR UZMA	P. Studies MISS UZMA	SDL		ANATOMY APPLIED ANATOMY OF URINARY SYSTEM DR MUBASHARA
WEDNESDAY 3-4-2020	PHYSIOLOGY REVIEW CLASS DR SABA ABRAR	MEDICINE Overview Of Hemodialysis DR ANITA HAROON	SDL	ANATOMY LRC MODELS REVIEW CLASS DR AYESHA DR HINA AD ANEELA			BIOCHEMISTRY REVIEW CLASS DR BENISH
THURSDAY 4-4-2024	PRACTICAL A,B& C (Histology) urinary system DR HINA (Biochemistry) Interpretation of serum creatinine and serum urea levels DR BENISH (Physiology)urinometervideo DRSOBIA	PRACTICAL A,B& C (Histology) urinary systemDr HINA (Biochemistry) Interpretation of serum creatinine and serum urea levels DR BENISH (Physiology) urinometer video DR SOBIA			SDL		PRACTICAL A,B& C (Histology) urinary system DR HINA (Biochemistry) Interpretation of serum creatinine and serum urea levels MR JAMAL (Physiology) urinometer video DR SOBIA
FRIDAY 5-2-2024	**RENAL MODULE EXAM**						

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