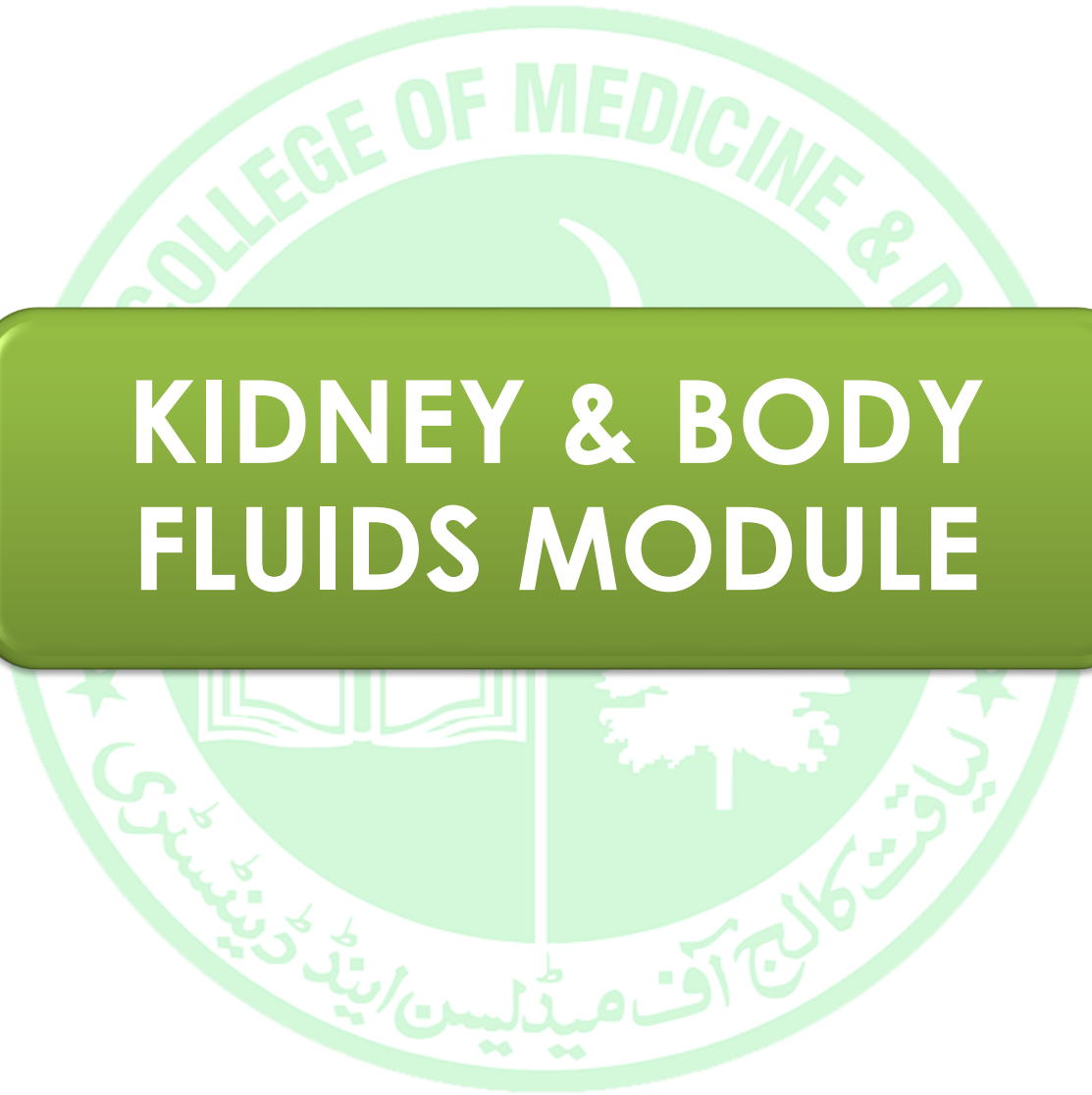




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**KIDNEY & BODY
FLUIDS MODULE**





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| CODES | | | |
|---------------------|----------------------------|----------------------|--------------------|
| Subject Name | | Abbreviations | Color Codes |
| ANATOMY | Anatomy Lectures | A | |
| | General Anatomy | A(Gn) | Navy Blue |
| | Gross anatomy | A(Gr) | Black |
| | Histology | A(H) | Light Pink |
| | Neuro - Anatomy | A(NA) | Red |
| | Embryology | A(E) | Brown |
| | Histology Practical | A(P) | Light Pink |
| PHYSIOLOGY | Lecture | P | Green |
| | Practical | P(P) | |
| BIOCHEMISTRY | Lectures | B | Light Blue |
| | Practical | B(P) | |
| ORAL BIOLOGY | Oral Biology | O | Purple |
| | Tooth Morphology | T | Dark Pink |



| CONTENT | | | | |
|--------------------------------------|------------------|--------------------------------------|--------------------------------|-----------------------------|
| KIDNEY AND BODY FLUIDS MODULE | | | | |
| Subject Name | | TOTAL NO: OF LECTURES | WEEK PER MODULE | MODE OF TEACHING |
| ANATOMY | Gross Anatomy | 01 | 02 Weeks | Lecture/ Tutorial |
| | Histology | 01 | | Lecture/Tut orial |
| | Practical | 01 | | Practical |
| PHYSIOLOGY | Lecture | 11 | | Lecture/ Tutorial |
| BIOCHEMISTRY | Lectures | 03 | | Lecture/ Tutorial |
| | Practical | 04 | | Practical |
| ORAL BIOLOGY | Oral Biology | 02 | | Lecture |
| | Tooth Morphology | 06 | | Lecture |
| Total | | 29 | | |



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| Topic | Lecture | Kidney & Body Fluids Learning Objectives | Learning Strategy | KSA Competencies Knowledge/ Skill/ Attitude | Assessment Tools |
|----------------------------------|--------------|--|----------------------------------|---|----------------------------------|
| Gross Anatomy of Kidney | K&BF-A1(Gr1) | <ul style="list-style-type: none"> Describe the gross features of Kidney Discuss the blood supply & venous drainage of Kidney | Lecture | KSA | MCQ / OSPE |
| Nephron | K&BF-A2(H1) | <ul style="list-style-type: none"> Describe the shape and structure of nephron Distinguish different parts of nephron | Lecture | KSA | MCQ / OSPE |
| | K&BF-A(P1) | <ul style="list-style-type: none"> Recognize the cells of nephron under the microscope Distinguish different parts of nephron under the microscope | Practical | KSA | MCQ / OSPE |
| Introduction | P1 | List the functions of kidney | Interactive Lecture | Knowledge | MCQ |
| | | Explain the structure and functions of Nephron with their types | | Knowledge | MCQ |
| Urine formation & GFR | P2 | Discuss the processes involved in urine formation | Lecture/ Tutorial Open book test | Knowledge & Attitude | MCQ / OSPE |
| | | Define GFR and its value | | Knowledge | MCQ/ google classroom assignment |
| | | Describe the glomerular filtration membrane and how it excludes blood cells and proteins from the filtrate. | | Knowledge | MCQ |
| | | Elaborate the dynamics of Glomerular filtration. | | Knowledge | MCQ / OSPE |
| | | Explain the forces that promote and oppose glomerular filtration. | | Knowledge | MCQ |
| | | Calculate net filtration pressure. | | Knowledge & Skill | MCQ |
| Regulation of GFR | P3 | Describe Auto-regulation of GFR | Interactive Lecture | Knowledge | MCQ |
| | | Give its significance. | | Knowledge | MCQ |
| | | Describe how the nervous system and hormones regulate glomerular filtration (factors affecting GFR) | | Knowledge | MCQ |
| Tubular Reabsorption | P4 | Discuss the passive and active mechanism of transport for tubular reabsorption | Interactive Lecture | Knowledge & Attitude | MCQ / OSPE |
| | | Discuss tubular reabsorption along different parts of the nephron and its regulation | | Knowledge & Attitude | MCQ / OSPE |
| | | Define tubular load and Tubular transport maximum (T _m). | | Knowledge | MCQ/ google classroom assignment |
| | | Discuss the reabsorption of fluid by | | Knowledge & | MCQ |



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| | | peritubular capillaries. | | Attitude | |
| Tubular Secretion | P5 | Discuss the tubular secretion processes | Interactive Lecture | Knowledge & Attitude | MCQ |
| | | Discuss secretion in different parts of nephron | | Knowledge & Attitude | MCQ / OSPE |
| Renal concentrating, diluting mechanism | P6 | Discuss how osmotic gradient is established | Interactive Lecture / tutorial SGD | Knowledge & Attitude | MCQ |
| | | Discuss the role of collecting ducts in the formation of concentrated urine. The Counter Current Mechanism. | | Knowledge & Attitude | MCQ / OSPE / quiz assign |
| | | Discuss renal mechanisms for excreting diluted urine | | Knowledge & Attitude | MCQ |
| | | Discuss the role of antidiuretic hormone & osmoreceptors | | Knowledge & Attitude | MCQ |
| Renal blood flow | P7 | Describe the regulation of renal blood flow along with factors affecting it and Measurement. | Interactive Lecture | Knowledge | MCQ |
| | | | | | MCQ |
| Hormones and Kidney | P8 | Discuss the effect of following hormones on kidney: ADH Aldosterone Angiotensin II ANP PTH | Flipped class room | Knowledge & Attitude | MCQ / OSPE |
| Micturition Reflex | P9 | Explain bladder accommodation of wide range of urine volume Describe the neural reflex pathway that regulates emptying of bladder Describe Micturition reflex | Lecture | Knowledge Knowledge & Attitude Knowledge & Attitude | MCQ / OSPE |
| Acid Base balance | P10 | Discuss the role of kidney in maintaining acid base balance | Lecture / tutorial | Knowledge, Skill & Attitude | MCQ MCQ MCQ |
| Water & Electrolyte Imbalance | P11 | Explain Water & Electrolyte imbalance | Lecture | Knowledge | MCQ |
| Physiological tooth movement + eruption | O1 | Physiological tooth movement and eruption, Discuss shedding of teeth. | Lecture / Tutorial | Knowledge | MCQ |
| | O2 | Explain orthodontic tooth movement. | | Knowledge (TA based learning) | |
| Nutrition & Balance Diet | B1 | Discuss the biomedical importance of nutrition | Lecture / Tutorial | Knowledge | Quiz / Google Assignment |
| | B2 | Explain the importance of balanced diet Relate clinical abnormalities with diet imbalance | Lecture / Tutorial | Knowledge | Quiz / OSPE, Assignment |
| | B(P)1 | Identify normal constituents of urine in the given sample | Practical | Skill | OSPE / VIVA |



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|--|-------|--|----------------------|---------------------|-----------------------------------|
| | B(P)2 | Identify pathological constituents of urine (Glucose & Protein) | Practical | Skill | OSPE / VIVA |
| | B(P)3 | Identify pathological constituents of urine (ketone bodies & bile salts) | Practical | Skill | OSPE / VIVA |
| | B(P)4 | Identify pathological constituents of urine ((Blood & Bile Pigments) | Practical | Skill | OSPE / VIVA |
| Minerals | B3 | Explain Sodium Potassium chloride metabolism | Lecture/ Tutorial | Knowledge | Assignment Google Classroom |
| Occlusion | T1 | Explain normal occlusion in deciduous and permanent dentition | | Knowledge | |
| | T2 | Identify different types of malocclusion on simulation | | Knowledge/ Skill | Quiz / Assignment |
| | T3 | Identify the shape and number of canals in individual teeth | | Knowledge | Quiz / VIVA/ Assignment |
| Pulp chambers and canals + dentoosseous structure | T4-5 | Enumerate the blood vessels and nerves of tooth supporting structures | Lecture/ Tutorial | Knowledge | |
| Forensic odontology | T6 | Forensic odontology | | | |



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| ISLAMIC STUDIES | | | | |
|---------------------------------------|--|-----------------------|-------------------------------|------------------|
| Topic | Objectives | Mode of Teaching | KSA Competencies | Assessment Tools |
| | | Lecture/ Tutorials | Knowledge/ Skill/ Attitude | |
| INTRODUCTION TO THE HOLY QURAN | | | | |
| Introduction To The Holy Quran | <ul style="list-style-type: none"> Discuss the importance of the Quran in our daily lives | Lecture | Knowledge | MCQs |
| | <ul style="list-style-type: none"> Describe briefly the history of revelation of the Quran (Prediction of Warqa bin Naufal, 1st Revelation etc). | Lecture | | |
| | <ul style="list-style-type: none"> Explain how the Quran is the greatest miracle of Rasool-ullah (S.A.W). | | | |
| | <ul style="list-style-type: none"> Explain how the Quran was compiled in different ways in the era of: <ul style="list-style-type: none"> Rasool-ullah (S.A.W) Abu Bakar (R.A.) Usman Ghani (R.A.) | | | |
| | <ul style="list-style-type: none"> Discuss the Quranic Sciences (Uloom ul Quran): <ul style="list-style-type: none"> Definition and differences between Makkan and Madinah verses or chapters. Explain the Shan e Nuzool / reasons for the revelation (Two examples) | | | |
| | <ul style="list-style-type: none"> Differentiate between the Abrogator & Abrogated verses (Nasikh & Mansookh) (Two examples) | | | |



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| INTRODUCTION TO ETHICS | | | | |
|------------------------|---|-----------------------|-------------------------------|------------------|
| Topic | Objectives | Mode of Teaching | KSA Competencies | Assessment Tools |
| | | Lecture/ Tutorials | Knowledge/ Skill/ Attitude | |
| Aesthetics and Ethics | • Define aesthetics and its history | Lecture | Knowledge | MCQs |
| | • Differentiate between aesthetics and ethics with examples | | | |





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| LEADERSHIP, PROFESSIONALISM & ETHICS (LeaPE) | | | | |
|--|--|--|-------------------------------|------------------|
| Topic | Objectives | Mode of Teaching | KSA Competencies | Assessment Tools |
| | | Lecture/ Tutorials | Knowledge/ Skill/ Attitude | |
| BIOETHICS | | | | |
| Common Terminologies | <ul style="list-style-type: none"> Define dilemma, diversity, tolerance and pluralism, integrity with strong moral compasses like Truth telling, honesty, and respect | Lecture /role play/ Small group discussion | KSA | MCQs/OSPE |
| | <ul style="list-style-type: none"> Define key ethical terms: dilemma, diversity, tolerance, pluralism, integrity. Explain moral principles such as truth-telling, honesty, and respect. Apply ethical terminology to real-world scenarios in dentistry. | | | |

