

## Course Overview

<b>Course code :</b>	LMT 604
<b>Course title:</b>	<b>Clinical Biochemistry II</b>
<b>Level/semester:</b>	(Sixth Semester)
<b>Preceding Courses &amp; Main Subjects</b>	chemistry I
<b>Credit hours: 4</b>	<b>Theoretical: 3</b>
	<b>Practical: 2</b>

<b>Learning Outcomes</b>	<ol style="list-style-type: none"> <li>1. Know the classification of carbohydrates and metabolism.</li> <li>2. -Know the factors affect glucose level</li> <li>3. Know the glucose disorders.</li> <li>4. -Know the methods of glucose analysis</li> <li>5. Know the factors affect glucose level.</li> <li>6. -understand glucose disorders. Methods of glucose analysis.</li> <li>7. Know the non-protein nitrogen measurements monitor and assess renal function.</li> <li>8. -Understand the analytical methods for urea.</li> <li>9. Know urea disorders.</li> <li>10. Metabolic and biochemical consequences of renal disease</li> <li>11. Understand the biochemical changes in plasma in acute renal failure</li> <li>12. Know the analytical methods for creatinine</li> <li>13. Understand the relationship between creatinine clearance and plasma creatinine concentration</li> <li>14. Know the causes for abnormal plasma urea to creatinine ratio</li> <li>15. Know the analytical methods of uric acid measurements.</li> <li>16. -Understand the abnormal uric acid levels.</li> <li>17. Know the iron metabolism.</li> <li>18. -Know Iron disease.</li> <li>19. Understand the principle, procedure and reagent preparation for measurement of iron and iron binding capacity (IBC).</li> <li>20. Know the function of calcium.</li> <li>21. -Understand methods for determining calcium concentration.</li> </ol>
--------------------------	--

	<p>22. -Understand the principle, procedure of analytical method</p> <p>23. Know the disorders of calcium</p> <p>24. Know the primary methods of electrolyte determination</p> <p>25. Understand the principle and procedure for sodium and potassium determination in serum.</p> <p>26. -Know sodium and potassium disorders</p>
--	---

**Course Title:-Practical**

<b>EXERCISE</b>	<b>CONTENTS</b>	<b>HOURS</b>
<b>1.</b>	Learn laboratory rules and laboratory safety	<b>2</b>
<b>2.</b>	Measure glucose concentration by using enzymatic colorimetric method.	<b>2</b>
<b>3.</b>	Measure glucose level rapidly using strips and kits available at the market.	<b>2</b>
<b>4.</b>	Determination glucose tolerance test (GTT).	<b>2</b>
<b>5.</b>	Able to determine urea concentration in plasma and serum by using enzymatic colorimetric method or kinetic UV test.	<b>2</b>
<b>6.</b>	Able to determine creatinine concentration in plasma and serum by using kinetic UV test	<b>2</b>
<b>7.</b>	Understand how to analyse curves on abnormal urea to creatinine ratio	<b>2</b>
<b>8.</b>	Able to determine uric acid concentration in serum by using enzymatic method	<b>2</b>
<b>9.</b>	Help students to prepare the reagents and iron and measurement in serum	<b>2</b>
<b>10.</b>	Help students to prepare the reagents and IBC and measurement in serum	<b>2</b>
<b>11.</b>	Help students for measurement of calcium in serum	<b>2</b>
<b>12.</b>	-Help students for measurement sodium concentration in serum	<b>2</b>
<b>13.</b>	-Help students for measurement potassium concentration in serum	<b>2</b>
<b>TOTAL</b>		<b>26</b>