

# Government Polytechnic Sector-26 (Panchkula)

## Lesson Plan

Name of the Faculty : Miss. Riya

Discipline : Medical Lab Technology

Semester : 1<sup>st</sup> Sem

Subject : Basic Chemistry

Lesson Plan : Workload (lecture/practical) per week (in hours): Lectures-02, practicals-02

Week	Theory		Practical	
	Lecture day	Topic (including assignment/test)	Practical Day (1 lab=2 hours)	Topic
1 <sup>st</sup>	1 <sup>st</sup>	<i>Biologically important elements</i>		Glassware Identification - different types, cleaning and preparation of cleaning solution.
	2 <sup>nd</sup>	<i>Study of atomic number, mass number, atomic mass, equivalent weight &amp; molecular weight.</i>		<i>Standardization, rechecking of volumetric glasswares.</i>
2 <sup>nd</sup>	3 <sup>rd</sup>	<i>Importance of Basic chemistry in medical laboratory technology.</i>		Determination of pH of different solutions.
	4 <sup>th</sup>	<i>Importance of Water quality and Glasswares</i>		Titration of Acid and Base.

		<i>in clinical laboratory:</i>	
3rd	5th	<i>different types of glassware's, use, cleaning, standardization of volumetric glassware</i>	Performing confirmatory tests for a. Carbohydrate –Molisch, b. Protein- Biuret.
	6th	<i>Importance of Water quality and Glasswares in clinical laboratory:</i>	Performing confirmatory tests for a. Carbohydrate –Molisch, b. Protein- Biuret

4th	7th	<p><i>Different types of glassware's, use, cleaning, standardization of volumetric glassware &amp; maintenance.</i></p> <p><i>Pipettes - various types and different pipetting techniques.</i></p>		<p>Identification of Parts of Colorimeter &amp; Spectrophotometer.</p>
	8th	<p><i>Biochemical importance of distilled water and deionised water in clinical analysis.</i></p>		<p>Identification of Parts of Colorimeter &amp; Spectrophotometer.</p>
5th	9th	<p><i>Solution and colloids – importance of colloids in biological system.</i></p>		<p>Preparation of different types of standards solution.</p>
	10th	<p><i>Surface tension, osmosis and viscosity their importance in biological system.</i></p>		<p>Preparation of different types of standards solution.</p>
6th	11th	<p><i>Importance of organic compounds – in Biological system.</i></p>		<p>Determination of Absorption maximum of a coloured solution.</p>
	12th	<p><i>Basic chemistry of carbohydrates, proteins and lipids - Their nutritional effect in humans.</i></p>		<p>Viva Voice</p>
7th	13th	<p><i>Physiological importance of Acid &amp; Bases and role of pH in human system.</i></p>		<p>Viva Voice</p>

	14 <sup>th</sup>	<p><i>Oxidation and</i></p> <p><i>Reduction reactions –</i> <i>Definition. Preparation of</i> <i>various standard</i> <i>solutions</i></p>		Revision and file checking
8th	15 <sup>th</sup>	<p><i>definition of</i></p> <p><i>primary &amp; secondary</i> <i>standards, SI units and</i> <i>their uses.</i></p>		Viva Voice
	16 <sup>th</sup>	<p><i>Principles of photometry,</i></p>		Revision and file checking
9th	17 <sup>th</sup>	<p><i>Laws of photometry,</i></p>		Viva Voice
				Revision and file checking

	18 <sup>th</sup>	<p><i>quantification of biomolecules in micro concentration.</i></p>		<p>Viva Voice</p> <p>Revision and file checking</p>
10 <sup>th</sup>	19 <sup>th</sup>	<p><i>Principles used in determining concentration of molecules with no known weight - preparation of standard graph.</i></p>		Revision and file checking
	20 <sup>th</sup>	<p><i>Blood collection for biochemical analysis,</i></p>		
11 <sup>th</sup>	21 <sup>st</sup>	<p><i>changes occurring in blood after collection,</i></p>		Revision and file checking

	22 <sup>nd</sup>	<p><i>Management of its disposal. Different types of Hazards- Biological, Chemical, fire, apparatus.</i></p> <p><i>Safety measures needed in Basic chemistry and clinical biochemistry laboratory.</i></p>		<p>Viva Voice</p>
		Assuring		Viva Voice

12th	23 <sup>rd</sup>	<i>Good Laboratory Practices (GLP) in Basic chemistry.</i>		
				Revision and file checking
	24 <sup>th</sup>	<i>Revision</i>		
13th	25 <sup>th</sup>			

		<i>Revision</i>	Revision and file checking
	26 <sup>th</sup>	<i>Revision</i>	Viva Voice  Revision and file checking
14 <sup>th</sup>	27 <sup>th</sup>	<i>Revision</i>	Viva Voice  Revision and file checking
	28 <sup>th</sup>	<i>Revision</i>	
15 <sup>th</sup>	29 <sup>th</sup>	<i>Revision</i>	Viva Voice



				Revision and file checking
				Viva Voice
	30 <sup>th</sup>	<i>Revision</i>		Revision and file checking