PGDMLT-1009: INSTRUMENTATION AND TECHNIQUES

Semester: I	
Course (subject) Code	PGDMLT-1009
Course Type	Skilled Based Elective Course
Teaching Time	15×2=30 Hours
Subject Title	Instrumentation and Techniques
Subject Outcome	At the end of the course, the students will get knowledge of • Working Principle, components, operation and use of various equipments like, potentiometer, centrifuge, distillation unit and weighing balance, colorimeter, spectrometer etc. • Principle, types and application of Electrophoretic and Chromatographic techniques

Course Content

Unit No.	Content	Teaching Hours
Unit-1	**Laboratory Instruments**	**7 Hr.**
1.1	pH Meter	
1.2	Centrifuge	
1.3	Colorimeter	
1.4	Spectrophotometer	
Unit-2	**Electrophoresis**	**8 Hr.**
2.1	Principle	
2.2	Factors Affecting Electrophoresis	
2.3	Support Media	
2.4	Types of Electrophoresis: PAGE & SDS	
Unit-3	**Chromatography**	**7 Hr.**
3.1	Introduction	
3.2	Types and Application	
3.3	Paper Chromatography	
3.4	Thin Layer Chromatography	
Unit-4	**Advance Diagnostic Techniques**	**8 Hr.**
4.1	Protein Blotting Technique	
4.2	Nucleic Acid Blotting Technique	
4.3	NAAT – PCR	
4.4	Autoanalyser: Haematology Cell Counter, Biochemistry Analyser	

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Analytical Biochemistry: (Biochemical Technique)	P. Ashokan	Chinna Pub., Nelvisharani, Vellor
2	Textbook of Medical Laboratory Technology/3rd	P.B. Godkar	Bhalani Publishering
3	Medical Laboratory Science: Theory & Practice	Ochei J. & Kolhatkar A	Tata McGraw Hill Pub.
4	Practical Biochemistry: Principles & Technique/5th	Wilson K. & Walker J	Cambridge University Press