A REPORT ON CERTIFICATE COURSE ON MEDICAL LABORATORY TECHNICIAN (CCMLT)

Name of the course: Certificate Course on Medical Laboratory Technician (CCMLT)

Year of Introduction: 2013-15

Conducted by: Pub Kamrup College

Duration: 1 year

Advisory Committee:

6. Dr. Balendra Kumar Dev. Choudhury, Principal
7. Mr Jiban Ch. Sarma, Vice-Principal
8. Mr. Mahananda Kumar Pathak, Associate Professor, Dept Mathematics
9. Dr. Kamal Sarma, Associate Professor, Dept of Zoology (Co-ordinator)
10. Md Ayez Ali, Associate Profesor, Dept of Geography

Objective of the course:

1. The objective of the said course is to produce skill-based manpower in paramedical field.
2. General Science Course students may opt the diploma as an add-on course for enhancing the scope of their employability.

Eligibility: 10+2 passed students of any stream who are regularly admitted in TDC course of Pub Kamrup College.

Seats: total intake capacity is 40 students only.

Examination: The examination of the said course will be held as per the Pub Kamrup College examination Schedule.

Job Opportunities: Paramedic skilled persons are in high demand in different health care sector. It is being reported that trained healthcare workers are not available as per the requirement in the state healthcare sector. So, the introduction of the course is given importance in the college curriculum.

Faculties of PKC entrusted to involved in academic matters of the course:

5. For General Science topic Faculties from Physics, Chemistry, Zoology, computer Science and Mathematics are engaged for theoretical classes.
6. Govt. sector doctors and non-govt. sector doctors are appointed as guest lecturer for theory and demonstration classes.

7. Skilled Laboratory technician is appointed to look after the laboratory based non-hazardous practical classes in the college laboratory.
8. Hazardous practical classes are performed in different health care institutes including MoU Signed health care institutions.

List of students: CCMLT regular Course Students:

2017-18

Roll No	Name of the Student	Remark
01	Chinmoy Kalita	Completed CCMLT course
02	Utpal Das	Switch over to ADMLT
03	Aminul Islam	Switch over to ADMLT

Syllabus: CCMLT course (1 year)

Paper – I *General Lab Information and Anatomy (Theory), Marks - 75*

Care and maintenance of lab equipment, prevention, safety and first aid in laboratory accidents.	Introduction to Lab Information
Medical Terminologies, Principles and methods of verbal and non-verbal communication, etiquette at work place and outside, mannerism.	Introduction to Lab information
MS Word, Power point, Excel, Access Graphical Representation, Arithmetic mean, Standard Deviation	Basics of Computer & Statistics
Elements: Definition, Properties, Name, Classification, Symbols, Metals, Non-metals *Solution:* Definition, Solubility and factors influencing solubility, Concentration of solution, Molar,Molal, Normal, Saturated solutions, Preparation of solutions *Acid, Base and Salts:* Definition, Measurement of acid and alkali, Titration, Hydrogen ion Concentration	Essentials of Chemistry
Matter and Substances: Solid, Liquid, Gas and their properties, Surface Tension and its effect, Viscosity, Equilibrium Atom, Molecule, Molecular Weight, Atomic Weight, Derivation and significance of Molecular and Atomic Weights	Essentials of Physics
Ratio and Proportion, Fractions, Decimal, Percentage, Basic Geometry	Essentials of Mathematics

Filtration using funnel	Introduction to Chemistry
Units of Measurements: Metric System, Imperial System, Measurement of weights, Conversions	Introduction to Physics
Haematology – General Haematology, Blood Components, Blood Groups, Blood Transfusion, Fluid balance, Different types of antigen and antibody reaction.	Haematology
The Gastrointestinal System, The Respiratory System, The Heart and Blood Vessels, The Urinary System, The Biliary System, The Nervous System	Physiology
Study of Human Skeleton. a. Name of the bones. b. Identification points. c. Surfaces of bones.	Osteology

Paper – II *Biochemistry and microbiology (Theory), Marks - 75*

Principle, Maintenance and handling of Compound Microscope	Introduction to Biomedical Technology
Sterilization and disinfection – Classification and Methods	Introduction to Biochemistry
Cleaning, drying and sterilization of glassware disposal of contaminated material, Handling of Biomedical Wastes	Introduction to Lab Information
Biomedical basics Detailed description of the biomedical equipments used in emergency management of patients.	Introduction to Lab Information
Morphology and Classification of Bacteria	Microbiology
Study of Human Organs – Brain, Stomach, Lungs, Intestine, Heart, Kidney, Liver, Uterus, Spleen, Fallopian tubes, Reproductive system	Anatomy
Separation of solid from liquids,Centrifugation – Its principle, different types of centrifuges, care and maintenance and applications, Definition, Properties, Difference between Mixture and Compound, Formulae of Common Compounds	Introduction to Chemistry
Heat Definition, Types and effects of heat, Measurement of Heat, Boiling Point, Melting Point, Freezing point *Light and Temperature::* Source, Wave Length, reflection and Refraction, Measurement of colour *Specific Gravity:* Definition of Mass and Weight, Determination of Specific Gravity	Introduction to Physics
Instrumental methods of Biochemical Analysis: Operation, Application, Care and maintenance	Introduction to Biochemistry

a. Colorimeter b. Spectrophotometer	
Precaution and smearing techniques and labeling of the samples	Biochemistry
Personal safety precautions, WHO Safety Code for microbiology lab, Reagents and chemicals used in Microbiology lab	

Paper- *III* Clinical Biochemistry (Practical), Marks – 150

100 + 30(Field visit) + 20 (internal assessment)

Microscopic sediment for RBC, WBC, epithelial cells, Casts, crystals, parasites.	Medical Biochemistry
Preparation of reagents.	Chemistry
RBC, WBC count, Platelet count, Reticulocyte count, haemoglobin estimation, estimation of PCV and ESR study.	Biomedical Technology
Human slides – Epithelial tissue, Connective tissue, Muscular tissue, Nervous tissue, Liver, Kidney, Spleen, Pancreas, Lymph nodes, Skin, Testes, Ovary, Uterus, Tonsil, Stomach layers, Small intestine, Large intestine.	Physiology Practical
Blood pressure estimation. Temperature, pulse, respiration chart.	Physiology Practical
Study of Human Skeleton. a. Name of the bones. b. Identification points. c. Surfaces of bones.	osteology
Instrumental methods of Biochemical Analysis: Operation, Application, Care and maintenance a. Colorimeter b. Spectrophotometer	Biochemistry
Filtration using funnel	Chemistry
Sterilization and disinfection – Classification and Methods	Biomedical Technique
Blood sugar test	Biochemistry
Collection of specimen blood, urine – precautions during collection, preservation and preservation	Biochemistry
Collection of blood through vein puncture, finger puncture and vacutainer methods,	Clinical Biochemistry
Physical and chemical examination of urine	Clinical Biochemistry

Field work	Visit to different laboratories
Internal Assessment	

Pass mark in all papers – 40% of the total marks in all papers.

29/06/22

Signature of Principal

Signature of Coordinator

Principal
Pub Kamrup College
P.O. Baihata Chariali