छत्रपति शाहू जी महाराज विश्वविद्यालय, कानपुर

CHHATRAPATI SHAHU JI MAHRAJ UNIVERSITY, KANPUR

(पूर्ववर्ती कानपुर विश्वविद्यालय कानपुर)
Formerly Kanpur University, Kanpur – 208024

A Documentary Support

For

Matric No. – 1.1.1

Programme Outcomes & Course Outcomes

Under the

Criteria - I
(Curriculum Design and Development)

Key Indicator - 1.1

In

Matric No. – 1.1.1

M.Sc. MLT Pathology

Co-ordinator
Internal Quality Assurance Cell
CSJM University, Kanpur

(Registrar)
C.S.J.M.University
Kanpur

REGISTRAR
C.S.J.M. UNIVERSITY
KANPUR

academic program
M.Sc. – Medical Laboratory Technology (MLT)

Clinical Biochemistry

Program outcome
At the end of the course the student should be able to:
- Supervise/Perform routine Clinical Biochemistry laboratory testing.
- Provide Medical laboratory services in all types of clinical laboratories from Primary healthcare laboratory to Tertiary health care institution in the fields of Bacteriology, Immunology, Mycology, Parasitology and Virology.
- Make specimen-oriented decision on predetermined criteria including working knowledge of critical values.
- Communicate with other members of healthcare team, customers and patients in an effective manner.
- Process information and ensure quality control as appropriate to routine laboratory.
- Train students in routine/special laboratory procedure.
- Upgrade knowledge and skills in a changing healthcare scenario.
- Should know the logical interpretation of clinical lab investigations.
- Should be capable to extrapolate data acquired
- Should be capable of supervise / guide the staff working on automated machine
- Should be capable of teaching, proposing/executing research project

Program Specific outcome
- Proficiently supervise and perform full range of clinical Biochemistry laboratory tests.
- Develop and evaluate test systems and interpretive algorithms.
- Manage information to enable effective, timely, accurate, and cost-effective reporting of laboratory-generated information
- To teach under graduate students and develop/guide research projects
- Faculty development in Medical Laboratory Technology (MLT)

Pathology

Program Outcome
At the end of the course the student should be able to:
1. Supervise/Perform routine Haematological and Immuno-haematological laboratory testing.
2. Make specimen-oriented decision on predetermined criteria including working knowledge of critical values.
3. Communicate with other members of healthcare team, customers and patients in an effective manner.
4. Process information and ensure quality control as appropriate to routine laboratory.

5. Train students in routine/special laboratory procedure.
6. Upgrade knowledge and skills in a changing healthcare scenario.
7. Should know the logical interpretation of clinical lab investigations.
8. Should be capable to extrapolate data acquired
9. Should be capable of supervise / guide the staff working on automated machine
10. Should be capable of teaching, proposing/executing research project

Program specific outcome
1. Proficiently supervise and perform full range of Haematological and Immuno-haematological laboratory tests.
2. Develop and evaluate test systems and interpretive algorithms.
3. Manage information to enable effective, timely, accurate, and cost-effective reporting of laboratory-generated information
4. To teach under graduate students and develop/guide research projects
5. Faculty development in Medical Laboratory Technology (MLT)

Medical Microbiology & Immunology

Program Outcome
At the end of the course the student should be able to:
- To provide medical laboratory services in all types of clinical laboratories from Primary healthcare laboratory to Tertiary health care institution in the fields of Bacteriology, Immunology, Mycology, Parasitology and Virology.
- Make specimen-oriented decision on predetermined criteria including working knowledge of critical values.
- Communicate with other members of healthcare team, customers and patients in an effective manner.
- Process information andensure quality control as appropriate to routine laboratory.
- Train students in routine/special laboratory procedure.
- Upgrade knowledge and skills in a changing healthcare scenario.
- Should know the logical interpretation of clinical lab investigations.
- Should be capable to extrapolate data acquired
- Should be capable of supervise / guide the staff working on automated machine
- Should be capable of teaching, proposing/executing research project

Program Specific outcome
- Proficiently supervise and perform full range of clinical laboratory investigations related to Medical Microbiology, hence provide medical laboratory services in all types of clinical laboratories from Primary healthcare laboratory to Tertiary health care institution in the fields of Bacteriology, Immunology, Mycology, Parasitology and Virology.
- Develop and evaluate test systems and interpretive algorithms.

- Manage information to enable effective, timely, accurate, and cost-effective reporting of laboratory-generated information
- To teach under graduate students and develop/guide research projects
- Faculty development in Medical Laboratory Technology (MLT)

M.Sc.-MLT -First Year
Biochemistry, Biomedical Techniques & Laboratory Management
Subject Code : MMLT-101
Theory- Min. Hrs -: 160 Hrs., Practical- Min. Hrs -: 160 Hrs.,

Outcomes

- To provide brief knowledge of biochemical metabolites.
To impart knowledge about methods of qualitative and quantitative analysis of biomolecules

Clinical Pathology, Hematology & Immunopathology
Subject Code : MMLT-102
Theory- Min. Hrs -: 160 Hrs., Practical- Min. Hrs -: 160 Hrs.

<u>Outcomes</u>
- To provide complete knowledge of collection, transportation and processing of various clinical pathology specimens.
- To provide complete knowledge of investigative & diagnostic procedure involved in clinical pathology.
    To provide brief knowledge of immunopharmacological diseases

M.Sc.-MLT -First Year
General Microbiology, Immunology and Immunological Techniques
Subject Code : MMLT-103
Theory- Min. Hrs -: 160 Hrs., Practical- Min. Hrs -: 160 Hrs.,

Objectives :
- Proficiently supervise and perform full range of clinical laboratory investigations related to Medical Microbiology, hence provide medical laboratory services in all types of clinical laboratories from Primary healthcare laboratory to Tertiary health care institution in the fields of Bacteriology, Immunology, Mycology, Parasitology and Virology.
- Develop and evaluate test systems and interpretive algorithms.
- Manage information to enable effective, timely, accurate, and cost-effective reporting of laboratory-generated information
- To teach under graduate students and develop/guide research projects
- Faculty development in Medical Laboratory Technology (MLT)

Outcome
At the end of the course the student should be able to:
- To provide medical laboratory services in all types of clinical laboratories from Primary healthcare laboratory to Tertiary health care institution in the fields of Bacteriology, Immunology, Mycology, Parasitology and Virology.
- Make specimen-oriented decision on predetermined criteria including working knowledge of critical values.
- Communicate with other members of healthcare team, customers and patients in an effective manner.
- Process information and ensure quality control as appropriate to routine laboratory.
- Train students in routine/special laboratory procedure.
- Upgrade knowledge and skills in a changing healthcare scenario.
- Should know the logical interpretation of clinical lab investigations.
- Should be capable to extrapolate data acquired
- Should be capable of supervise / guide the staff working on automated machine

- Should be capable of teaching, proposing/executing research project

Research Methodology & Biostatistics
Subject Code : MMLT-104
Theory- Min. Hrs -: 100 Hrs.

Outcomes
- Understand the basic principles of research and methods applied to draw inferences from the research findings.
- To be made aware of the need of biostatistics and understanding of data and sampling methods in pathology lab.

M.Sc.-MLT –Second Year
Clinical Biochemistry
Subject Code : MMLT-201B

Outcome
- **To provide brief knowledge of biochemical metabolites.**
- **To impart knowledge about methods of qualitative and quantitative analysis of biomolecules.**

Hematology & Clinical Pathology
M.Sc.-MLT (Pathology)

Outcome
- To provide complete knowledge of collection, transportation and processing of various clinical pathology specimens.
- To provide complete knowledge of investigative & diagnostic procedure involved in clinical pathology.

To provide brief knowledge of immunohematological diseases

M.Sc.-MLT –Second Year
Systemic Bacteriology, Applied Microbiology and Immunology
Subject Code : MMLT-201M

Outcome
- To understand different types of bacterial culture procedure.
- To understand the staining procedure and various test to identify the bacteria.
- To understand the morphology, cultural characteristics and lab diagnosis of various bacteria.

M.Sc.-MLT –Second Year
Virology, Mycology & Parasitology
Subject Code : MMLT-202M

Objectives:
- Proficiently supervise and perform full range of clinical Biochemistry laboratory tests.
- Develop and evaluate test systems and interpretive algorithms.
- Manage information to enable effective, timely, accurate, and cost-effective reporting of laboratory-generated information
- To teach under graduate students and develop/guide research projects
- Faculty development in Medical Laboratory Technology (MLT)

Outcome

At the end of the course the student should be able to:
- Supervise/Perform routine Clinical Biochemistry laboratory testing.
- Provide Medical laboratory services in all types of clinical laboratories from Primary healthcare laboratory to Tertiary health care institution in the fields of Bacteriology, Immunology, Mycology, Parasitology and Virology.
- Make specimen-oriented decision on predetermined criteria including working knowledge of critical values.
- Communicate with other members of healthcare team, customers and patients in an effective manner.
- Process information and ensure quality control as appropriate to routine laboratory.
- Train students in routine/special laboratory procedure.
- Upgrade knowledge and skills in a changing healthcare scenario.
- Should know the logical interpretation of clinical lab investigations.
- Should be capable to extrapolate data acquired
- Should be capable of supervise / guide the staff working on automated machine
- Should be capable of teaching, proposing/executing research project

M.Sc.-MLT –Second Year
Teaching Skills/Seminars/Symposia/Journal Club etc.
(Common to all specialization/discipline)
Min. Hrs -: 260 Hrs.

(a) Teaching Skills

Candidates should be encouraged to teach undergraduate students if any. This performance will be based on assessment by the faculty members of the department and from feedback from the undergraduate students.

(b) Seminar
- Seminars /recent advance presentation will be held every week, however, its timings are subject to clinical schedule. Topics must be well researched and must include common knowledge, recent advances, analysis and references.
- PG students should present minimum of two seminars (One in general and one in elective area) and Internal Assessment marks will depend on better topic selection and presentation.

(c) Journal Review Meeting (Journal Club)

The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting.

(d) Work diary / Log Book

Every student shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical practice, if any conducted the student.

Clinical Lab Practices
(Common to all specialization/discipline)
Min. Hrs -: 440 Hrs.

Outcome

Clinical lab postings will enhance the practical skills of the students