Department : Clinical Laboratory Sciences

Course number : CLS 432

Course title : Clinical practice in Biochemistry

Credit hours : 1 + 1 = 2

Course description :

This course is designed to train students in routine procedures performed in a biochemistry laboratory . Laboratory part of the course will be done under the supervision of a trained technologist in a hospital laboratory .

After completion of the course students should have a good knowledge of laboratory skills required for a clinical chemistry laboratory to include: overall organization, safety precautions, specimen handling and quality control procedures. They will be able to perform routine and special chemistry test in serum or urine using manual, semi automated or automated equipment .

CLS 432: Lectures Outline

Weeks Subject

1 . Safety precautions :
- Serial reference to minimum safety precautions, hepatitis and AIDS.

Specimen handling / processing .
- Receiving , master log, distribution to work areas, analysis, collection of data , reporting ,data retrieval, storage of specimens.

2 . Quality control
- QC on equipment, reagents, standards, procedures followed in the laboratory, review last three months charts, critique on the procedures .

Other
- Orders, supplies, inventory, maintenance and repair
- Laboratory administration

3,4. Radioimmunoassay / Enzyme immunoassay / ELISA

- For each test, review clinical significance , principle employed in the test procedure, test protocol , results, interpretation of the date and quality control .

5,6 Electrophoresis

- General considerations, factors that affect the separation, support media , classification , clinical applications .

- Electrophoretic procedures on serum proteins, isoenzymes (CK, LDH) and Hb variants .

- Quantitaion procedure, interpretation of results and quality control .

7,8 . Use of automated equipment

- The routine tests performed on serum, plasma or urine to cover the quantitation procedure, interpretation of results, and quality control .

9 . Glucose, cholesterol, triglycerides urea, creatinine

10 . Sodium, potassium , chloride , CO 2 bilirubin, albumin.

11 . Amylase, alkaline phosphatase, acid phosphates, ALT and AST.

12,13 . Review, problem solving, critique .

CLS 432: Laboratory Schedule:

Week	**subject**
1 .	Introduction to cytology laboratory work .
2 .	Screening histology and cytology slide of the normal cellular constituents of Pap smear .
3 .	Papanicoloau staining method and screening cytology slides for hormonal cytology .
4,5,6 .	Screening abnormal (inflammatory) cervical smears and identifying the causes of inflammation .

7,8,9 Screening smears and identifying malignant cells

10 . Smears preparation from sputum and non-gene material .

11 . Screening smear for the identification of malignant cells in sputum, bronchial wash and bronchial brush smear .

12 . Screening body fluid smears for malignant cells identification .

13 . Revision

14 . FINAL PRACTICAL EXAMINATION

First Mid-Term Exam:	**15**
Second Mid0Term Exam:	**15**
Lab Work **Semester :** **Lab Final Exam:**	 **15** **15**
Final Written Exam:	**40**
Total:	**100**