COURSE SPECIFICATION

Clinical Pathology

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course:	Postgraduate Master degree of Medical Parasitology
(2) Department offering the programme:	Medical Parasitology Department
(3) Department responsible for teaching the course:	Clinical Pathology Department
(4) Part of the programme:	first part
(5) Date of approval by the Department`s council	**9-5-2016**
(6) Date of last approval of programme specification by Faculty council	9-8-2016
(7) Course title:	Clinical Pathology
(8) Course code:	**(PAR 530)**
(9) Credit hours:	3 hours lectures 1 hour practical
(10) Total teaching hours	45 hours lectures 30 hours practical

(B) Professional information

(1)Program Aims:

The broad aims of the program are to provide the candidates with proper knowledge for hematology, clinical microbiology, immunology and clinical chemistry.

This program is designed to provide candidates with the following:

1. Knowledge about Hematology and hemoglobinopathies.
2. The general outlines of clinical microbiology.
3. Laboratory identification of microorganisms.
4. Ability to recognize the general outlines of clinical chemistry.

(2) Intended Learning Outcomes (ILOs):

A Knowledge and Understanding: the course enables students to:

A1. Recognize the components of the immune system and its function:

-Role of complement in health and disease.

-Antigen processing.

-Ig: structure, function, timing and pattern of development after immunization and infection.

-Cytokines as mediators and markers of immune and inflammatory responses.

-T and B lymphocytes (development, activation, TCR & BCR diversity).

A2. Explain the Basic physiology of renal function and laboratory methods for assessment of renal function and proteinuria.

A3. Discuss the Dynamics of liver enzyme release, utility of meassuring hepatic enzymes.

A4. Recognize Assessment of liver function by non-enzyme analytes and understanding bilirubin metabolism.

A5. Recognize the components of CBC count, and understand the information provided by each.

A6. Recognize hemoglobinopathies affecting resistance or susceptibility to malaria.

A7. Discuss clinical indications for body fluid analysis and urinalysis.

A8. Explain manual hemocytometer cell counting.

A9. Identify blood and body fluid cell morphology.

A10. Recognize dynamics of bacterial growth.

A11. Discuss infectious disease serology.

A12. Recognize QC testing and proficiency testing needed for optimum identification of infectious agents in clinical specimens.

A13. Explain handling of infectious agents and chemichals recommended biosafety levels and disposal of hazardous waste.

A14. Describe infection control principles for prevention of nosocomial infections.

A15. Describe the mechanism of action of major classes of antimicrobial agents used to treat bacterial, viral, fungal and parasitic infections.

B– Intellectual skills

The Postgraduate Degree provides opportunities for candidates to achieve and demonstrate the following intellectual qualities:

B1. Interpret abnormal test result

Biochemical test

CBC

Urine chemistry result, and correlate them with clinical history.

B2. Formulate an approach for control of hospital acquired infections.

B3. Evaluate procedures of good quality sampling.

C- Professional/practical skills

The Postgraduate Degree provides opportunities for candidates to demonstrate the following professional/practical skills:

C1. Prepare a Gram and a Ziehl-Neelsen stained films and identify, according to morphology and characteristics, stained preparations.

C2. Conduct serological tests commonly used for bacterial identification and distinguish positive and negative results.

C3. Examine laboratory specimens (urine, sputum).

C4. Biochemical testing for blood glucose, liver and kidney function.

C5. Perform the technique of lymphocyte separation.

C6. Perform complete blood counting (CBC) and interpret results.

D- Communication & Transferable skills

The Postgraduate Degree provides the opportunity to demonstrate the following transferable skills:

D1. Establish a concise scientific activity according to standard scientific thinking and integrity.

- Review literature on a research topic.
- Retrieve recent data from web sites
- Manage time efficiently.

D2. Work productively in a team.

- Communicate effectively and respectively with colleagues, supervisors and staff members

D3. Able to react positively with health care professionals, the national campaigns and health authorities which are conducted to infection control practice.

(3)Curriculum structure and contents:

Subjects	Lectures (3 hours/week)	Clinical	Laboratory (2hours/week)
Clinical pathology **1-Clinical Haematology** a) Hematology: CBC, hemoglobinopathies b) Body fluids c) Urinalysis	10 hours		
2-Clinical chemistry a) Renal function assessment b) Liver function assessment	7 hours		
3-Immunology a) Innate immunity, complement b) Ig –structure, function c) B-lymphocytes d) T-lymphocytes e) TCR&BCR diversity f) Toll like receptors g) MHC&antigen processing h) Detection of cytokines, CD4,CD8 cells i) Ag/Ab detection methods	18 hours		
4-Clinical microbiology a) Good quality sampling b) Anti microbial therapy **c)** Hospital acquired infection & infection control guidelines	10 hours		4 hours
Total teach. Hours	45 hours		30 hours

Practical skills (30 hours)

Skill	Objective	Teaching hours
kidney function tests as ur creatinine	Assessment of renal function	5 hours
Liver enzyme testing ALT, AST	Assessment of liver function	5 hours
Glucose assay in blood	For control of diabetes	2 hours
Stained film preparation: 1- Gram stain. 2- Ziehl Nelseen stain.	**Identification of acid fast organisms mainly Mycobacteria**	5 hours
Lymphocyte separation	Technique steps	5 hours
Serology: ELISA, IHA	Serum testing for evidence of infection	5 hours
CBC	Blood cell disorders (anemia)	3 hours

4-Teaching methods:

4.1: Lectures

4.2: Power point presentation

4.3: Seminar one hour duration done every 4 weeks about the recent advances in this field

4.4Lab classes

(5) Assessment methods:

Written exam for assessment of knowledge and intellectual ILOs
MCQ for assessment of knowledge and intellectual ILOs
Oral for assessment of knowledge , intellectual and transferable ILOs
OSPE for assessment of knowledge , intellectual , practical and transferable ILOs

Percentage of each Assessment to the total mark:
Other assessment without marks: seminars as described above included in the log book.

Tools	Marks	Percentage of the total mark
Written exam	72	60%
MCQ	18	
Structured Oral exam	30	20%
OSPE Practical exam	30	20%
Total	150	

(6) References of the course:

Essentials in hematology and clinical pathology, 2012

Course coordinator: Dr. Manar Sobh azab

Head of the department: Dr. **Hala Ahmed El Nahas**

Date: 6/2016