

Objectives of microbiology department

Microbiology branch takes care of many of the scientific activities:

1- Training all students of the 1st year and 3rd year with all experiments included in the syllabus with direct supervision of specified teachers.

2- The teaching of theoretical and practical sides of clinical and basic sciences such as medical biology for first stage and parasitology and microbiology for third stage of medicine student.

3- The establishment of courses in the diagnosis of bacterial, fungal and parasitic diseases.

4- The Contribution to work in the field of laboratory diagnosis, through the placement of the branch employees to work in the laboratories of governorate hospitals.

5- Enrollment of some branch members to complete their higher studies in the precise sub specialty to get master's and doctorate degrees.

6- Participation in many scientific and medical conferences in the field of clinical and pure sciences inside and outside the country.

7- Seeking to establish a specialized center for the early diagnosis of cancer diseases and prenatal congenital deformities.

8- The contribution with other researchers in the completion of scientific research that desperately needed in the upgrading of health in our geographical region.

أهداف وواجبات مختبرات فرع الأحياء المجهرية

- 1- تدريب طلبة المرحلة الأولى والمرحلة الثالثة بكافة التجارب العملية المدرجة في منهاج الدراسة الأولية بأشراف الأساتذة المتخصصين.
- 2- تدريس محاضرات المختبرات العملية التالية لطلبة الدراسة الأولية في كلية الطب
أ- تدريس مادة الأحياء الطبية لطلبة المرحلة الأولى
ب- تدريس مادتي الأحياء المجهرية والطفيليات لطلبة المرحلة الثالثة
- 3- أعداد مشاريع عمل تعالج المشاكل الصحية المحلية ضمن خط الأمراض المختلفة بشكل عام بالإضافة إلى مشاريع الخطة البحثية للتدريسيين في الفرع والتي تجرى بشكل انفرادي أو من خلال المجموعة البحثية ضمن الاختصاصات التي يتطلبها العمل.
- 4- إقامة الدورات في مجال تشخيص الامراض البكتيرية والفايروسية والفطرية والطفيلية.
- 5- الاسهام بالعمل في مجال التشخيص المختبري وذلك من خلال تنسيب منتسبي الفرع للعمل في مختبرات مستشفيات المحافظة.
- 6- التحاق العديد من التدريسيين في القسم لاكمال دراساتهم العليا في اختصاصات دقيقة للحصول على شهادتي الماجستير والدكتوراه في فروع الطب السريرية.
- 7- الاسهام في العديد من المؤتمرات العلمية والطبية السريرية في مجال العلوم الصرفة او التشخيص المختبري لمختلف الامراض.
- 8- السعي في اقامة مختبر مركزي للدراسات العليا بالإضافة الى مختبر متخصص لتشخيص المبكر للامراض السرطانية والتشوهات ما قبل الولادة

1) practical sessions: Medical Immunology include all the following experiments: (3rd year)

1. Introduction to Immunology laboratory
2. Antibody-Antigen (Ab-Ag) reaction (hemagglutination)
3. (Ab-Ag) reaction (precipitation)
4. Electrophoretic Techniques (Immunoelectrophoresis)
5. Ab-Ag reaction (complement fixation)
6. Ab-Ag reaction (ELISA) and Immunoblot.
7. Ab-Ag reaction (Immunofluorescence test and Radio immune assay)
8. Cell isolation, Cell counting and functional assessment.

2) practical sessions: Medical Virology include all the following experiments: (3rd year)

To understanding of the followings :

- 1- What is the virus ??, Methods of Diagnosing Viral Infections, Surface protein of the virus.
- 2- of the Isolation of the virus using three living systems, Lab Animals, Chick embryo, tissue culture.
- 3- Primary tissue culture, advantages, disadvantages, Semi-continuous cell cultures, Continuous (Cell line), advantages, disadvantages, examples of isolated viruses.
- 4- Preparation of primary tissue culture, procedure, Counting of cells.
- 5- Inoculation of clinical sample in tissue culture, how to harvest Rabbit kidney for tissue culture, procedure, Inoculation of clinical sample in tissue culture, Recognition of virus growth.

3) practical sessions: Medical Bacteriology include all the following experiments: (3rd year)

- 1-Tools and biosafety
- 2-Sterilization
- 3-Antibiotic susceptibility test
- 4-Methods of bacterial counting and measuring bacterial growth
- 5-Bacterial staining
- 6-Culturing media
- 7-Growth characteristics
- 8-General urine examination
- 9-Biochemical tests

- 10-Staphylococci
- 11-Streptococci
- 12-Neisseriae
- 13-Aerobic spore-forming bacilli
- 14-Anaerobic spore-forming bacilli
- 15-Enterobacteriaceae
- 16-Non-Lactose Fermentors
- 17-Pseudomonas aeruginosa
- 18-Vibrio
- 19-Listeria
- 20-Legeonella
- 21-Helicobacter and Corynebacterium and Mycobacterium.

practical sessions: Medical Parasitology include all the following experiments: (3rd year)

- 1- Type of sample and General stool examination .
- 2- Slide show the parasite in different stages with description for each one (Protozoology : Class : sarcodina , Entamoeba histolytica (amoebic dysentery)
- 3- Slide show the parasite in different stages with description for each one Class : sarcodina, other amoebae.
- 4- Slide show the parasite in different stages with description for each one Class; flagellata : Giardia lamblia and trichomonas species .
- 5- Slide show the parasite different stages with description for each one Class; flagellate, leishmania sp.
- 6- Slide show the parasite different stages with description for each one Class; flagellate, Trypanosoma sp.
- 7- Slide show the parasite different stages with description for each one Class; ciliata; Balantidium coli With examination for previous lectures .
- 8- Slide show the parasite different stages with description for each one Class; sporozoa ; intestinal coccidian.
- 9- Slide show the parasite different stages with description for each one Class; sporozoa; toxoplasma sp.
- 10- Slide show the parasite different stages with description for each one Class; sporozoa; plasmodium sp(malaria).
- 11- Slide show the parasite different stages with description for each one class: trematoda Schistosoma sp.

- 12- Slide show the parasite different stages with description for each one class: trematoda ; Fasciola sp (liver root).
- 13- Slide show the parasite different stages with description for each one class: trematoda ; Fasciolopsis and clonorchis sp.
- 14- Slide show the parasite different stages with description for each one class: trematoda ; Heterophyes heterophyes , metagonimus sp.
- 15- Slide show the parasite different stages with description for each one class: trematoda ; Lung fluke ; paragonimus sp.
- 16- Slide show the parasite different stages with description for each one class, cestoda, echinococcus sp (hydatid cyst).
- 17- Slide show the parasite different stages with description for each one class, cestoda ; taenia sp.
- 18- Slide show the parasite different stages with description for each one class; cestoda , H.nana
- 19- Slide show the parasite different stages with description for each one class, nematode , Intestinal species, Ascaris lumricoides.
- 20- Slide show the parasite different stages with description for each one class, nematode , Intestinal species; Enterubius and Trichuris sp.
- 21- Slide show the parasite different stages with description for each one class, nematode , Intestinal species, hook worm
- 22- Slide show the parasite different stages with description for each one class, nematode , Tissue species; wuchereria sp and onchocerca volvolus .
- 23- Slide show the parasite different stages with description for each one and dipylidium sp , D. latum.
- 24- Slide show the parasite different stages with description for each one metagonimus sp.
- 25- Slide show the parasite different stages with description for each one hook worm
- 26- Slide show the parasite different stages with description for each one Trichuris sp.
- 27- Slide show the parasite different stages with description for each one and onchocerca volvolus .

28- Slide show the parasite different stages with description for each one metagonimus sp.

29- Slide show the parasite different stages with description for each one Entomology , insect or ectoparasite, scabei and lice

30- Slide show the parasite different stages with description for each one Entomology , insect or ectoparasite, scabei and lice

practical sessions: Medical Biology include all the following experiments: (3rd year)

1- Laboratory Safety.

2- Tools for cell biology: Microscope.

3- The cell..anatomy of the cell.

4- Cell components.

5- Cell organelles.

6- Active transport

7- Passive transport

8- Prokaryote and Euokaryote cells

9- Classes of Protozoa.

10- Preparation of Smear.

11- Types of staining techniques.

12- Osmosis

13- Tonicity and procedure.

14- Cell division.

15- Mitosis: slides for stages of Mitotic figures in animal cell.

16- Meiosis: Slides for stages of meiotic figures in animal cell.

17- Difference between Mitosis and Meiosis.