

Department of microbiology

Parasitology syllbus for third stage 2022-2023

Subject title	Medical parasitology
Course title (1st course)	Protozoology
Course code	MePRi:300004
Department	Microbiology
College	Medicine
Institution	Babylon university

Overall Aim of the Courses:

- To provide students with knowledge concerning biological, epidemiological and ecological aspects of parasites causing diseases to humans.
- To enable students to understand the pathogenesis, clinical presentations and complications of parasitic diseases.
- To enable students to reach diagnosis and know the general outline of treatment, prevention and control of parasitic infections
- To provide students with adequate knowledge about endemic parasites and national parasitic problems as well as re-emerging parasitic infection.

Protozoology

Lecture No. (week)	Title	Learning objectives The student should be able to	Suggested teaching learning method	Suggested assessment method
1	Introduction to medical parasitology	<ul style="list-style-type: none">• Identify organisms which parasitizes man• Define common terms used in Medical Parasitology• List the various environmental, cultural and socioeconomic factors that mode of transmission, source of infection, and portal of entry of parasites affect the distribution of parasites• Explain effect caused by parasites	Lecture	Written
2	Classification of parasitology	<ul style="list-style-type: none">• Discuss the various types of parasites and hosts.• Explain the relationship between a parasite and the host and their effects.• Discuss in detail the classification of medically important parasites.• Explain the difference between the Protozoa and helminths	Lecture	Written
3	Gastrointestinal protozoa Part one (pathogenic-flagellate)	<ul style="list-style-type: none">• Discuss the various types of intestinal protozoa• Explain the relationship between Giardia lamblia. Diaentamoeba fragilis and their effects on human body.• Discuss in detail the pathogenesis of	Lecture and Small group discussion, slides	Written, research work

		Giardia lamblia. Dientamoeba fragilis. • Explain the different method to diagnosis of these parasite		
4	Gastrointestinal protozoa Part one (non-pathogenic flagellate)	<ul style="list-style-type: none"> • Discuss the other types of flagellate (trichomonas hominis and chilomastix mesinili) • Explain the relationship between trichomonas and their effects on human body. • Discuss in detail the pathogenesis of T.hominis and T. tenax. • Explain the different method to diagnosis of these parasite 	Lecture and Small group discussion, Slides	Written, research work
5	Gastrointestinal protozoa Part two (pathogenic-ameba)	<ul style="list-style-type: none"> • Discuss the various types of intestinal pathogenic amoeba (Entamoeba histolytica) • Describe the causes and clinical pictures of amoebiasis • Make appropriate diagnosis of amoeba at individual and community level • Treat amoebiasis as recommended • Identify and name the different control measures for amoebiasis 	Lecture and Small group discussion, Slides, practical laboratory	Written, case study
6	Gastrointestinal protozoa Part two (non-pathogenic ameba)	<ul style="list-style-type: none"> • Describe the causes and clinical pictures of other type of amoeba (E. coli, E. dispar) • Make appropriate diagnosis of this parasite at individual and community level • Treat amoeba spp as recommended • Identify and name the different control measures for amoeba spp • Understand and identify the tasks and roles of the team members in a health Centre 	Lecture and Small group discussion Slides, practical laboratory	Written, case study
7	Gastrointestinal protozoa Cilita (Balantidium and cryptosporidium parvum isospora belli)	<ul style="list-style-type: none"> • Discuss the clinical evaluation and laboratory diagnosis of balantidiasis and cryptosporidiosis • describe the epidemiology of balantidium coli and cryptosporidium • describe the morphology and life cycle. 	Lecture and Small group discussion Slides, practical laboratory	Written, case study
8	Blood and tissue protozoa (plasmodium spp)	<ul style="list-style-type: none"> • List the common agent causes Malaria • discuss the clinical feature of plasmodium vivax and plasmodium malarie • how you can differentiate between them in blood film 	Lecture and Small group discussion, Slides, practical laboratory	Written, case study
9	Med examination			
10	Blood and tissue protozoa (plasmodium) other species	<ul style="list-style-type: none"> • discuss the clinical feature of plasmodium ovale and plasmodium falciparm • how you can differentiate between them in blood film • describe the epidemiology, pathogenesis and laboratory diagnosis 	Lecture and Small group discussion Slides, practical laboratory	Written, case study
11	Blood and tissue	describe the organisms causes toxoplasmosis	Lecture and	Written,

	<p>protozoa</p> <p>Toxoplasmosis</p>	<ul style="list-style-type: none"> •The vectors important for toxoplasmosis transmission and the commonest route of toxoplasmosis transmission •types of toxoplasmosis • epidemiology of toxoplasmosis in Iraq and People at high risk of developing toxoplasmosis •management of several forms of toxoplasmosis 	<p>Small group discussion</p> <p>Slides, practical laboratory</p>	<p>case study</p>
12	<p>Blood and tissue protozoa</p> <p>lieshmaniasis</p>	<p>Describe the causes and clinical pictures of leishmaniasis</p> <ul style="list-style-type: none"> • Make appropriate diagnosis of leishmaniasis at individual and community level •Treat leishmaniasis as recommended • Identify and name the different control measures for Leishmaniasis 	<p>Lecture and Small group discussion</p> <p>Slides, practical laboratory</p>	<p>Written, case study</p>
13	<p>Blood and tissue protozoa</p> <p>trypanosomiasis</p>	<ul style="list-style-type: none"> •Describe the causes and clinical pictures of trypanosomiasis •Make appropriate diagnosis of trypanosomiasis at individual and community level •Treat trypanosomiasis as recommended •Identify and name the different control measures for trypanosomiasis •Understand and identify the tasks and roles of the team members in a health Centre 	<p>Lecture and Small group discussion,</p> <p>Slides, practical laboratory</p>	<p>Written, case study</p>
14	<p>Genital tract protozoa</p> <p>trichomonas</p>	<ul style="list-style-type: none"> •Describe the causes and clinical pictures of trichomonas • Make appropriate diagnosis of trichomonas vaginalis at individual and community level •Treat trichomonas as recommended • Identify and name the different control measures for trichomonas 	<p>Lecture and Small group discussion,</p> <p>Slides, practical laboratory</p>	<p>Written, case study</p>

Final examination

Course Specification

Medical Microbiology-1

1- Course Title: Medical Microbiology-1

2- Number of units :...4

3- Total Hours...75...Theory ...45.....Practical ...30....

4- Academic Year/Level: 2022-2023 Year: 3rd

Overall Aim of the Course:

- 1-To Discuss the bacteriological, immunologic, and serologic techniques necessary for professional practice in the field of medical microbiology.
- 2-To Establish the basic medical knowledge of medical microbiology and bacteriology.
- 3-To Explain the use and limitations of laboratory investigations in medical microbiology.
- 4-To Discuss the use and application of relevant techniques within the field of medical microbiology.
- 5-To Develop the tools necessary to successfully conduct research in medical microbiology.
- 6-To Improve understanding the clinical specimens handling.
- 7-To Develop the decision-making skills appropriate for laboratory research.
- 8-To Enhance of skills in effective interpersonal and professional communication, both oral and written.
- 9-To Develop skills in performing experiments on patient's clinical samples.
- 10- To Improve the research ability of medical students.
- 11-To Prepare medical students for work in medical fields.

Lecture No.	Lecture Topics
1 st week	<p>-Introduction of Microbial world</p> <p>Structure and function of bacteria</p> <p>Bacterial pathogenesis & infection</p> <p>-Introduction to Virology</p> <p>Pathogenesis of virus</p> <p>Replication of viruses</p> <p>- Principles of Mycology (Mycosis)</p>
2 nd week	<p>Gram positive facultative cocci:</p> <ul style="list-style-type: none"> - Staphylococci, MRSA, CoNS. - Streptococci, <i>Strept. pneumoniae</i>. - Other Streptococci, <i>S. agalactiae</i>, <i>S. pneumoniae</i>, <i>S. mutans</i> <p>Gram negative cocci</p> <ul style="list-style-type: none"> - Neisseria gonorrhoeae, Neisseria meningitides, Moraxella catarrhalis <p>Gram positive aerobic rods</p> <p>Bacillus anthracis, Bacillus cereus, Corynebacterium diphtheria, Listeria monocytogenes (Listeriosis, etc..).</p> <p>Gram positive anaerobic rods:</p> <p>Pathogenic Clostridia: <i>C. perfringens</i> (gas gangrene, food poisoning, etc.), <i>C. tetani</i> (tetanus), <i>C. botulinum</i> (botulism), <i>C. difficile</i> (gastroenteritis)</p>
3 rd week	<p>Enterobacteriaceae:</p> <ul style="list-style-type: none"> -Pathogenic <i>Escherichia coli</i>, <i>Klebsiella</i>, - <i>Salmonella</i> (gastroenteritis, enteric fever). - <i>Proteus</i> spp. (<i>P. vulgaris</i>; <i>P. mirabilis</i>). - Shigella (shigellosis): - <i>Yersinia</i> spp. (bubonic plague, enterocolitis) <p>Vibionaceae:</p>

	<p><i>Vibrio</i> (cholera, gastroenteritis, etc.),</p> <p><i>Campylobacter</i> (gastroenteritis), <i>Helicobacter pylori</i> (gastritis, gastric & duodenal ulcers)</p> <p>The Gram-Negative Aerobic Bacilli:</p> <p>- <i>Pseudomonas aeruginosa</i> (pulmonary, skin & urinary infections, etc.),</p> <p>(<i>Acinetobacter baumannii</i>), <i>Haemophilus</i> (meningitis, otitis, chancroid, arthritis, etc.),</p> <p><i>Legionella pneumophila</i> (Legionnaires' Disease, Pontiac fever).</p> <p>The Non-enteric Gram- Negative rods: <i>Bordetella pertussis</i> (whooping cough), <i>Brucella</i> spp. (undulant fever, etc.),</p>
4th week	<p><i>Mycobacterium:</i></p> <p><i>Mycobacterium</i> spp. (tuberculosis, leprosy, etc.),</p> <p>Miscellaneous bacterial pathogens:</p> <p>- Mycoplasma spp.: <i>M. hominis</i>, <i>M. pneumoniae</i>. (atypical pneumonia, etc.</p> <p>- Chlamydial Pathogens: <i>Chlamydia trachomatis</i> (trachoma, urogenital infections, etc.), <i>Chlamydia pneumoniae</i> (pneumonia), <i>Chlamydia psittaci</i> (ornithosis).</p> <p>- Spirochete Pathogens: <i>Treponema pallidum</i> (syphilis), <i>Borrelia</i> (relapsing fever, Lyme disease).</p> <p>- Rickettsial Pathogens : <i>R. rickettsiae</i> (Rocky Mountain spotted fever), <i>R. prowazekii</i> (epidemic typhus), <i>R. typhi</i> (endemic typhus), <i>Coxiella burnetii</i> (Q fever),</p>
5th week	<p><i>Systematic Virology</i></p>
6th week	<p><i>Systematic Virology</i></p>
7th week	<p><i>Immunology</i></p>
8 th week	<p>Mid Examination</p>

9 th week	Systemic Microbiology
10 th week	Systemic Microbiology
11 th week	Systemic Microbiology
12 th week	<i>Immunology</i>
13 th week	Systemic Microbiology
14 th week	<i>Immunology</i>
15 th week	Final Examination

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