



Department of Pharmacy

Paitaxt Technical Institute

Subject: Medical Microbiology

Course Book: First Year

Lecturer's name:— Pshtewan Dhahir majeed (theoretical)

Assist. Lec. Muzhda Sabir Haidar (practical)

Academic Year: 2020-2021

Course Book

2020-2021

College/ Institute	Paytaxt Technical Institute-Private	
Department	Pharmacy dept	
Module Name	Medical Microbiology	
Module Code		
Semester	1	
Credits		
Module type	Prerequisite <input type="checkbox"/>	Core <input type="checkbox"/> Assist. <input type="checkbox"/>
Weekly hours		
Weekly hours (Theory)	(2)hr Class	
Weekly hours (Practical)	(2)hr Lab	
Lecturer (Theory)	Pshtewan Dhahir majeed	
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Course Book

<p>Course Description</p>	<p>This course is designed to meet the requirements of students interested in careers in nursing.</p> <p>Clinical Microbiology for pharmacy is a one-semester course that emphasizes the interaction of microorganisms with humans and the diseases they cause. Topics include microscopy, survey of various microbes, the immune system, food microbiology, microbial pathogens and mechanisms of disease transmission.</p> <p>The course is complimented by laboratory exercises in which students acquire hands-on experience in studying various aspects of microbiological applications.</p>
<p>Course objectives</p>	<p>The main objectives of the course include:</p> <ol style="list-style-type: none"> 1- Enabling nursing students to understand disease-causing representatives of different groups of microorganisms. 2- Learning how disease causing microbes are transmitted and controlled. 3- Learning how to avoid the spread of infectious microorganisms in the hospital environment. 4- Students will learn how to use technology to access information necessary for identifying trends used in decision making, promoting quality improvement, and preserving safety, to provide patient care, collaborate with inter-professional teams, and to continuously advance the nursing profession.
<p>Student's obligation</p>	<ol style="list-style-type: none"> 1- Attendance: This is mandatory and a daily official class attendance record will be maintained. 2- Tests: There will be tests and quizzes covering lectures as well as textbook reading assignments, plus a mid-term and final examination. There will be four announced tests and four unannounced quizzes per semester. 3- Laboratory exercises: Students taking this course are also to take the laboratory class. Students will be required to wear protective clothing during laboratory exercises. Laboratory reports must be typed and submitted no later than seven (7) days after completion of the exercise. 4- Assignments: There will be one assignment each before and after mid-term. No late submissions will be accepted without prior consultation and approval of the instructor. 5- Oral and poster presentations may be necessary.
<p>Required Learning Materials</p>	<ol style="list-style-type: none"> 1- Materials for the laboratory will be provided by the university 2- Note books for lectures and laboratory reports. 3- Laboratory coats must be worn during laboratory exercises. 4- A hall with data-show device 5- Handouts

Assessment scheme	40% Mid Term (Theory and practical) 10% Assignment (report, paper, homework, seminar..) 30% final practical 20% final theory
Specific learning outcome:	Upon completion of the course, students should be able to: 1- To demonstrate the ubiquity and diversity of microorganisms in the human body and the environment. 2- To illustrate the characteristics features of microorganisms and the diseases they cause. 3- To explore mechanisms by which microorganisms cause disease. 4- To show how the human immune system counteracts infection by specific and non- specific mechanisms. 5- To explore the routes of transmission of infection in hospitals, communities and populations and the methods used to control the spread of infection. 6- To demonstrate the principles of vaccine preparation and the use of vaccines in immunization. 7- To show the reasons for, and the methods for sterilization of equipment and medical preparations from the microbiological point of view. 8- To show the antimicrobial activity of disinfectants in the context of the patient and the environment. 9- To illustrate the microbiological reasons for, and the importance of aseptic techniques in patient management. 10- To demonstrate the contribution of the microbiologist and the microbiology laboratory to the diagnosis of infection including specimen collection and the role of the nurse in carrying this out.
Course References:	Text book for theory sessions: Cowan, M. Kelly. Herzog, Jennifer, Microbiology fundamentals: a clinical approach New York, NY: McGraw-Hill (2015). Text book for Practical sessions: -Josephine A Morello_ Helen Eckel Mizer_ Marion E Wilson - Laboratory manual and workbook in microbiology _ applications to patient care-McGraw-Hill (2003) -Cappuccino James, Sherman Natalie - Microbiology. A Laboratory Manual- Pearson Education (2014)
<p>Questions Example Design</p> <p>Theoretical Part:</p> <p>Q1/ Write short notes about the following: (20 Marks)</p> <p>For example: Bacterial cell wall</p>	

(The students should explain shortly the structure of the cell of bacteria, and Differentiate between gram positive and negative bacterial cell wall).

Q2/ Choose the correct answer for of the following: (20 Marks)

For example: 1- The scientific name of pine worm is:

- a- Taenia saginata
- b- Echinococcus granulosus
- c- Enterobius vermicularis**
- d- Schistosoma mansoni

Q3/ True OR False and correct the false ones: (20 Marks)

For example:

- 1- The main structure of cell wall of gram positive bacteria is peptidoglycan. (True)
- 2- The parasite that causes malaria called *Toxoplasma gondii*. (False) (plasmodium)

Q4/ Match column A with column B: (20 Marks)

For example:

Column A		Column B	
1-	Parasite	a.	Bacterial growth
2-	Pelvic inflammatory disease	b.	<i>Staphylococcus aureus</i>
3-	True nucleus	c.	<i>Neisseria meningitis</i>
4-	Flagella	d.	Chlamydia
5-	Mesosome	e.	Gummatous syphilis

Column A	1	2	3	4	5
Column B					

Q5/ Enumerate the following: (20 Marks)

1. Diseases that caused by *Helicobacter pylori* are:

- 1- _____
- 2- _____
- 3- _____
- 4- _____

2. Sign and symptoms of enterocolitis that caused by *Campylobacter jejuni* are:

- 1- _____
- 2- _____
- 3- _____
- 4- _____

Practical Part:

Q1/ Write the differences between the following: (20 marks)

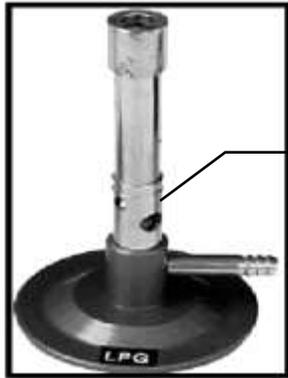
- | | | | |
|----|-----------------|---|-----------------------|
| 1- | Blood agar | X | Chocolate agar |
| 2- | Simple staining | X | Differential staining |

Q2/ Enumerate the following: (20 marks)

1- Expected pathogens that may be present in urine are:-

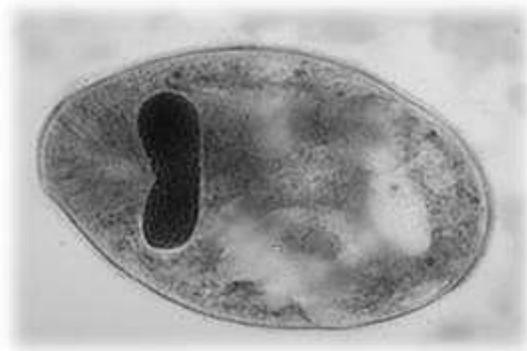
- 1-
- 2-
- 3-
- 4-

Q3/ Label the following:- (20 marks)



Name:

Used for:



Stage name:

Related to the organism:

Causative agent of:

Diagnosis:

Commonly found in:

Q5/ write the procedure of the following: (20 marks)

1. Gram stain

2. Media preparation

Extra notes:

<https://textbooks.opensuny.org/browse-oer/>

External Evaluator

I confirmed that the contents of this syllabus are commonly more explicit and follows the principles and rules in medical microbiology subjects.

Lecturer: