College of Science كلية العلوم

Department of Botany & Microbiology قسم النبات والاحياء الدقيقة

Second Midterm Exam
Academic Year 1447 Hijri- SecondSemester

Exam Information معلومات الامتحان			
Course Name	**Antibiotics**	مضادات حيوية	اسم المقرر
Course Code	**463 MBIO**	463 حدق	رمز المقرر
Exam Date	**2026-04-29**	1447-11-13	تاريخ الامتحان
Exam Time	**02 00 PM**		وقت الامتحان
Exam Duration	**1 hour**	ساعة واحدة	مدة الامتحان
Classroom No.	**1B 13 B. 5**	١ب ١٣ م ٥	رقم قاعة الاختبار
Instructor Name	**Dr. Naiyf S Alharbi**	د. نايف بن سلطان الحربي	اسم أستاذ المقرر

Student Information معلومات الطالب		
Student's Name		اسم الطالب
ID number		الرقم الجامعي
Section No.	**911**	رقم الشعبة
Serial Number		الرقم التسلسلي

General Instructions:

- Your Exam consists of **1** PAGES (Except this page). صفحات الامتحان ١ صفحة. (باستثناء هذه الورقة).
- Keep your mobile and smart watch out of the classroom. يجب إبقاء الهواتف والساعات الذكية خارج قاعة الامتحان.

هذا الجزء خاص بأستاذ المادة

This section is ONLY for instructor

#	Course Learning Outcomes (CLOs)	Related Question (s)	Points	Points earned	Final Score Actual Point
1	**CLO 1:** Initial concepts of antibiotics			____	
2	**CLO 2:** Comprehension of extracting and measuring the rate of reaction of antibiotics and antibiotic biosynthesis	**Q1** (1) **Q2** (4,6) **Q3** (5)	1+0.5+0.5+0.5	____ 2.5	
3	**CLO 3:** How to use antibiotic treatment and methods of use in the prevention	**Q1** (3) **Q2** (1,2) **Q3** (4,6)	1+0.5+0.5+0.5+0.5	____ 3	
4	**CLO 4:** Learn how to detect the activity of antibiotics	**Q1** (2) **Q3** (3)	1+0.5	____ 1.5	**10**
5	**CLO 5:** Discuss where antibiotics come from.	**Q2** (3,5)	0.5+0.5	____ 1	
6	**CLO 6:** Discuss the causes of the development of antibiotic resistance			____	
7	**CLO 7:** How to use antibiotics in the treatment and side effects.	**Q1** (4) **Q3** (1,2)	1+0.5+0.5	____ 2	

EXAM COVER BAGE

Q1: Mention and discuss as required: (4 Marks)

1- Antibiotics can be given for two main purposes. What are they? **(1 Mark)**

2- Describe the mechanism of action of tetracyclines (such as doxycycline) on bacterial cells. **(1 Mark)**

3- What is the function of RNA polymerase? **(1 Mark)**

4- What is the definition of angioedema? **(1 Mark)**

Q2: Put a check (√) mark if the statement is correct and (×) mark if incorrect. (3 Marks)		
1	Synergism in antibiotics refers to an effect stronger than either drug alone.	
2	3ed Stage of cell wall synthesis. precursors bind to a lipid carrier, transported to the outer membrane surface.	
3	The classification based on microbial source is problematic due to overlap among natural, semisynthetic, and synthetic antibiotics.	
4	Extraction and purification of antibiotics are carried out after fermentation.	
5	Rifampicin inhibits DNA gyrase in the bacterial cell.	
6	Polyenes are effective against most fungi and yeast.	

Q3: Select the correct answer for the following Multiple-Choice Questions. (3 Marks)			
1. What is a common hypersensitivity reaction to penicillin therapy?			
A. Hypertension	**B.** Anaphylaxis	**C.** Liver toxicity	**D.** Vomiting
2. Which enzyme do β-lactam antibiotics inhibit during cell wall synthesis?			
A. DNA gyrase	**B.** RNA polymerase	**C.** Peptidyl transferase	**D.** Transpeptidase
3. Which of the following is a physicochemical test?			
A. Measuring cell size	**B.** Counting colonies	**C.** Observing color changes	**D.** Assessing pH and solubility
4. Which method of antibiotic administration is given directly into the muscle?			
A. IV	**B.** IM	**C.** Oral	**D.** Topical
5. The effect of the antibiotics group (less<) effect of a more active antibiotic in the same group.			
A. Indifference	**B.** Addition	**C.** Antagonism	**D.** Synergism
6. CLSI guidelines help determine:			
A. Quality of medium	**B.** Color of colonies	**C.** Susceptibility of bacteria	**D.** Packaging material

With best wishes
Dr. Naiyf S. Alharbi