

Course No: PHRM 2219  
Course Title: Physical Pharmacy (2)  
Date: 26/10/2017  
No. of Questions: (4)  
Time: One hour  
Using Calculator (No)

University of Palestine



First Midterm Exam

2017/2018  
Total Grade:

Instructor Name: Nahed Hegazy, PhD  
Student No.: \_\_\_\_\_  
Student Name: \_\_\_\_\_  
College Name: Pharmacy  
Dep. / Specialist: \_\_\_\_ - \_\_\_\_\_  
Using Dictionary (No)

**Question One:**

Put True or False and Correct the false answer if any:

1. Isomerisation is the process by which two or more identical drug molecules combine together to form a complex molecule.  
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.....
2. It is often possible to predict which drugs are likely to decompose by looking for specific chemical groups in their structures.  
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.....
3. To calculate the shelf-life it is necessary to know the rate constant at the storage temperature.  
.....
4. Experimentally we can monitor the rate of breakdown of the drug either by its decrease in concentration with time or alternatively by the rate of appearance of one of the breakdown products.  
.....  
.....  
.....
5. Steroids, sterols and the ether group in drugs such as econazole nitrate and miconazole nitrate is susceptible to oxidation.  
.....  
.....
6. The chemical stability of active ingredients incorporated into ointments or creams is frequently independent on the nature of the ointment or cream base used in the formulation.  
.....  
.....
7. Many decomposition reactions in the solid phase or in suspensions apparently follow first-order kinetics.  
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8. The oxidative degradation of some drugs in solution may be pH dependent but the photo degradation of all drugs is pH independent.  
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9. The method that is used for accelerated storage testing is based on the Brønsted–Bjerrum equation.  
.....
10. In a second-order reaction the half-life is independent of the initial concentration of the reactants.  
.....

### Question Two:

1. Explain how we can determine the order kinetics of chemical breakdown reaction of drugs.
2. In the pharmaceutical dosage forms, how we can stabilize the drugs against;
- A. photochemical decomposition?
- B. Oxidation?

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### **Question Three:**

**What are the differences between;**

**1. Long-term stability test and accelerated stability test?**

**2. First - order reaction and second - order reaction?**

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**Question Four:**

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**1. Mention the factors influencing drug stability of liquid dosage forms.**

**2. What are the significant changes at the accelerated stability condition in the case of drug products?**

End of Questions  
*Good Luck*