

Course No: PHRM 2219  
Course Title: Physical Pharmacy (2)  
Date: 30/11/2017  
No. of Questions: (4)  
Time: One hour  
Using Calculator (No)

University of Palestine



Second 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. Adsorption is generally an endothermic process, an increase in temperature normally leads to an increase in the amount adsorbed.  
.....  
.....
2. The ampholytic surfactants possess both positively and negatively charged groups and can exist as either an anionic or a cationic surfactant independent to the pH of the solution.  
.....  
.....
3. Van der Waals forces lead to repulsive but electrostatic forces lead to attractive interaction between two particles.  
.....  
.....
4. In Micellisation, if the hydrophilic chain length is increased then the molecule becomes more hydrophilic and the CMC will increase.  
.....  
.....
5. An increase of the length of hydrophilic chain of non-ionic surfactant results in a decrease of surface activity but an increase in the length of the hydrocarbon chain increases the surface activity.  
.....  
.....  
.....
6. In general, water-soluble surfactants stabilise w/o emulsions and water-insoluble surfactants stabilize o/w emulsions.  
.....  
.....
7. The incorporation of insoluble compounds within micelles of the surfactant can lead to the production of turbid solutions.  
.....  
.....
8. The site of solubilisation within the micelle is closely related to the chemical nature of the solubiliser.  
.....  
.....

Course No: PHRM 2219  
Course Title: Physical Pharmacy (2)  
Date: 30/11/2017  
No. of Questions: (4)  
Time: One hour  
Using Calculator (No)

University of Palestine



Second Midterm Exam

2017/2018  
Total Grade:

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

9. Microemulsions are thermodynamically stable clear isotropic solution of oil, water and emulsifying agent.

.....  
.....

10. Concerning the structure of micelles, micelles formed by non-ionic surfactants are generally much larger than those formed by ionic surfactants.

.....  
.....

**Question Two:**

**What are the differences between:**

1. **Creaming and Cracking in pharmaceutical emulsions;**
  
  
  
  
  
  
  
  
  
  
2. **Critical micelle concentration (CMC) and HLB system;**
  
  
  
  
  
  
  
  
  
  
3. **Poloxamers and Sorbitan esters;**

Course No: PHRM 2219  
Course Title: Physical Pharmacy (2)  
Date: 30/11/2017  
No. of Questions: (4)  
Time: One hour  
Using Calculator (No)

University of Palestine



Second Midterm Exam

2017/2018  
Total Grade:

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

### Question Three:

**Mention the pharmaceutical applications of the followings:**

1. Micellisation

2. Pharmaceutical emulsions

### Question Four:

**1. Mention the importance of surfactants in pharmacy and briefly explain the reason for the reduction in the surface tension by surfactants.**

Course No: PHRM 2219  
Course Title: Physical Pharmacy (2)  
Date: 30/11/2017  
No. of Questions: (4)  
Time: One hour  
Using Calculator (No)

University of Palestine



Second Midterm Exam

2017/2018  
Total Grade:

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

---

**2. Explain the experimental determination of optimum HLB**

End of Questions  
*Good Luck*