

Course No: BIPH 1308
Course Title: Physical Pharmacy (2)
Date: 20/05/2018
No. of Questions: (4)
Time: 2 hours
Using Calculator (Yes)

University of Palestine

Final Exam For 2nd
Semester
2017/2018
Total Grade:50 Marks

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

Question One: (15M)

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

1. Caking of the suspension is usually prevented by including a protective colloid in the formulation.
.....
2. Oil-soluble surfactants have high HLB values and can be used as emulsifiers to produce water-in-oil emulsions.
.....
.....
3. Suspending agents are surfactants that reduce the surface tension of an aqueous medium, coat the surface of suspension particles, and thereby facilitate the wetting of each particle.
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4. In an emulsion, adsorption of charged surfactants will lead to an increase in zeta potential and will thus help to maintain stability by increasing electrostatic repulsive energy.
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5. Micelles formed in non-aqueous solution have a core composed of the hydrophilic groups surrounded by a shell of the hydrocarbon chains.
.....
.....
6. Water-in-oil emulsions in which a water-soluble drug is dissolved in the aqueous phase may be injected by the subcutaneous or intramuscular routes to produce a sustained action preparation.
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7. The drug surfaces in pharmaceutical suspensions can be either hydrophilic or hydrophobic, most organic drugs form particles with a hydrophobic surface and are difficult to disperse in an aqueous medium.
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8. Flocculation, like coalescence, can be a reversible process and partial or controlled flocculation is attempted in formulation.
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9. Aqueous emulsions can be useful as topical vehicles or reservoirs for the delivery of hydrolytically unstable drugs.
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10. The particle surface of suspensions, after adsorption of a suspending agent, will be hydrophobic and either neutral or negatively charged.
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11. Concerning the stability of suspensions; in the absence of charge on the particles, flocculation may be controlled using non-ionic polymeric material.
.....
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12. Stabilisation of oil-in-water (o/w) emulsions by surfactants arises because of a reduction of the oil-water interfacial tension and these emulsions are usually more effective when more than one surfactant is used.
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13. Besides enhanced dissolution rates, and thereby, improved bioavailability, suspensions of nanoparticles can also provide targeting capabilities when injected intravenously.
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.....
14. To calculate the shelf-life it is necessary to know the rate constant at the storage temperature.
.....
15. An increase of the length of the ethylene oxide chain (hydrophilic) of a polyoxyethylated non-ionic surfactant results in an increase of surface activity.
.....
.....

Question Two: (10M)

Complete the followings:

1. In pharmaceutical suspensions, the rate of sedimentation of particles depends on;

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2. An acceptable suspension has the following characteristics;

3. The factors influencing drug stability of solid dosage forms include;

4. Emulsions are more complex than suspensions, because;

5. The factors affecting solubilisation capacity include;

Question Three:

(16M)

Write about the followings:

1. The problems that arise in the preparations of pharmaceutical emulsion and suspension.

