Seat No: _____ Enrollment No: _____

PARUL UNIVERSITY
FACULTY OF PHARMACY
B. Pharm. Summer 2018 - 19 Examination

Semester: 04 **Date: 05/04/2019**
Subject Code: BP403T **Time: 2:00 PM to 5:00 PM**
Subject Name: Physical Pharmaceutics-II **Total Marks: 75**

Instructions:
1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Multiple Choice Questions (MCQs) (1 Mark Each) **(20)**

1. _____ is defined as the temperature at which the solubility of surfactant is equal to CMC.
   a) Association point b) Colloid point
   c) Kraft point d) Krystallization point
2. In the determination of gold number of a protective colloid, the endpoint is indicated by_____.
   a) weight of precipitate b) color change
   c) change in particle size d) none of above
3. Under ultramicroscope, colloid particles appear as _____.
   a) bright specks against dark background b) concentric rings
   c) dark specks against bright background d) fluorescent specks
4. Protective colloids do not_____.
   a) aid in dispersion b) decrease zeta potential
   c) lower the interfacial tension d) offer a mechanical barrier
5. The ratio of specific viscosity to concentration is termed as _____.
   a) Reduced viscosity b) Relative viscosity
   c) Intrinsic viscosity d) Kinematic viscosity
6. The ratio of viscosity to density is termed as _____.
   a) Reduced viscosity b) Relative viscosity
   c) Intrinsic viscosity d) Kinematic viscosity
7. Thixotropy indicates _____ transformation.
   a) gel-sol-gel b) sol-gel-sol
   c) gel-sol d) sol-gel
8. Brookfield viscometer is an example of _____ type viscometer.
   a) cone and plate b) extrusion
   c) rotating sphere d) rotating spindle
9. Which of the following properties is applicable to suspension?
   a) Brownian motion b) Tyndall effect
   c) Laminar flow d) Stoke's law
10. For an ideal suspension, sedimentation volume should be _____.
    a) equal to zero b) equal to one
    c) less than one d) more than one
11. Emulsion within emulsion is _____.
    a) w/o b) o/w
    c) w/o/w d) none of above
12. Porosity of porous powder is defined as_____
    a) ratio of void volume to bulk volume b) ratio of bulk volume to void volume
    c) ratio of bulk density to true density d) none of above
13. The unit for rate constant of first order reaction is _____.
    a) sec b) sec^{-1}
    c) mol/litre.sec d) sec/mol.litre
14. In suspension degradation of drug follows_____ order reaction.
    a) First b) pseudo first
    c) pseudo zero d) second

15. Which of the following is useful to prevent oxidation catalyzed by heavy metals?
    a) EDTA b) Citric acid
    c) Tartaric acid d) all of them
16. The accelerated stability studies are primarily used to determine:
    a) energy of activation of the reaction b) shelf life
    c) k value at room temperature d) k value at elevated temperature
17. The type of diameter obtained in optical microscopy is_____ diameter.
    a) stokes' b) projected
    c) volume d) volume surface
18. Angle of repose of a powder is 20. The powder flow will be _____.
    a) Good b) Passable
    c) Excellent d) Poor
19. Accelarated stability studies of emulsion can be carried out using _____.
    a) sedimentation b) centrifugation
    c) Dilution d) None of above
20. On commercial scale, emulsions are prepared by _____.
    a) dialysis b) freezing
    c) homogenization d) centrifugation

Q.2 Long Answers (any 2 out of 3) (10 Mark Each) **(20)**

1. Explain flocculated suspension and flocculation in structured vehicle.
2. Discuss Newtonian and Non-Newtonian Flow of fluids with rheogram and suitable examples.
3. Discuss physical degradation of pharmaceutical products and effect of temperature on drug decomposition in detail.

Q.3 Short Answers (any 7 out of 9) (5 Mark Each) **(35)**

1. Discuss methods for determining order of reaction.
2. Explain sedimentation method for particle size determination.
3. Explain conductivity method for particle size determination.
4. Discuss factors affecting particle flow property.
5. Write the principle and working of Ostwald viscometer.
6. Discuss optical properties of colloids.
7. Explain Association colloids.
8. Explain DLVO theory for stability of colloids.
9. Describe physical instability markers of emulsion.