BPharm Semester IV - End Semester Examination, July 2021

PCE-BP403T: Physical Pharmaceutics II (Theory)

Date:	Duration:	Max. Marks: 50

I Multiple Choice Questions (MCQs)

1. _____ is mainly measured by Nephelometer for the determination of turbidity
   A. Absorbed light
   B. Transmitted light
   C. Scattered light
   D. Incident light

2. Peptization method is mainly used to prepare _____ colloid.
   A. Lyophilic
   B. Lyophobic
   C. Association
   D. Lyophilic and Association

3. _____ is the particle size range of colloidal dispersions
   A. Less than 1 nm
   B. Between 1nm to 500 nm
   C. More than 500 nm
   D. Between 1000 to 2000 nm

4. Elastic deformation of solids is governed by _____
   A. Newton's law
   B. Stokes law
   C. Hooke's law
   D. Fick's law

5. Ostwald viscometer is mainly used to determine viscosity of _____ liquids
   A. Newtonian
   B. Plastic
   C. Pseudoplastic
   D. Dilatant

6. _____ is a multi-point viscometer that can operate at different rates of shear:
   A. Capillary viscometer
   B. Falling sphere viscometer
   C. Ostwald viscometer

15. During storage, crystal growth is observed in suspension due to ....

A. Absorption of water

B. Fluctuation in the ambient temperature

C. Presence of suspending agent

D. Volatilization of solids

16. Catalyst is a substance ....

A. Which controls the rate of reaction with partial change

B. Which changes the rate of reaction with itself completely undergoing a permanent chemical change

C. Which controls the rate of reaction without itself undergoing a permanent chemical change

D. None of the above

17. Arrhenius equation is used to explain:

A. Potential energy

B. Kinetic energy

C. Activation energy

D. Surface free energy

18. Boyle's law expresses the effect of .... on rate of reaction.

A. Pressure

B. Catalyst

C. Temperature

D. Light

19. The specific rate constant (K) determined for aspirin hydrolysis in pH 1.0 buffer at 1 mg/mL concentration is 5.0×10^{-3} min^{-1} at 25 °C. The shelf-life (in min) of the product is:

A. 20

B. 21

C. 100

D. 139

20. Degradation of drugs due to exposure of light is known as ......

A. Racemization

B. Solvolysis

C. Photolysis

D. Pyrolysis

II Short Answers Question

1. Explain DLVO theory with potential energy versus particle distance curve.

2. Compare and contrast pseudoplastic and dilatant flow of liquids.

Ans: Each point carries ONE marks.

3. Discuss the theories of emulsification.

Ans: Details of various theories of emulsification carries FIVE marks.

4. Explain the differences between flocculated and deflocculated suspensions.

Ans: Each difference carries ONE mark.

5. Discuss in detail the optical microscopy method for the determination of particle size.

6. Explain effect of hydrolysis on the stability of drugs with their preventive methods.