



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Bachelor of Pharmacy

Course Name – Physical Pharmaceutics II

Course Code - BP403T

(Semester IV)

Time allotted : 1 Hrs.30 Min.

Full Marks : 75

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 75=75

Choose the correct alternative from the following :

- (1) How might solid sodium carbonate be obtained from sodium carbonate solution?
 - a) Centrifugation
 - b) Filtration
 - c) Evaporation
 - d) It cannot be extracted
- (2) What is the best description of blood?
 - a) Sol
 - b) Foam
 - c) Solution
 - d) Aerosol
- (3) Which one of the following systems has the smallest sized domains in its dispersed phase?
 - a) Nano emulsion
 - b) Coarse emulsion
 - c) Coarse suspension
 - d) Micro emulsion
- (4) The scattering of light by coarse and colloidal dispersed systems is known as?
 - a) Contrast matching
 - b) DLVO theory
 - c) Tyndall effect
 - d) Creaming
- (5) Which of the following is not a mechanism for the separation of a physically unstable suspension of magnesium hydroxide in water?
 - a) Flocculation
 - b) Aggregation
 - c) Ostwald ripening
 - d) Hydrolysis
- (6) EDTA is an example of one of the following ligand type:
 - a) Bidentate
 - b) Tetridentate
 - c) Unidentate
 - d) Hexadentate
- (7) Which of the following is a colloid?
 - a) Vinegar
 - b) Paint
 - c) Muddy water
 - d) Sugar solution
- (8) Which chemical aids in the clumping together of colloidal particles?

- a) Ion
c) Solvent
- b) Coagulant
d) Dispersed phase
- (9) In solutions particles are
a) invisible
c) visible by ordinary microscope
- b) visible by naked eye
d) visible by electron microscope
- (10) Particle size in suspension is
a) less than 10 to the power 3 nm
c) greater than 10 to the power 3 nm
- b) 10 to the power 2 nm
d) 10 nm
- (11) Colloids can:
a) scatter light
c) absorb heat
- b) not scatter light
d) evolve heat
- (12) Which of these terms is not used to describe a solid which remains behind during a separation process?
a) Gangue
c) Sediment
- b) Residue
d) Filtrate
- (13) Which of the following separations cannot be carried out using a centrifuge? The separation of ...
a) salt from sea water
c) cream from milk
- b) water from wet clothes
d) red blood cells from plasma
- (14) A separation technique which involves charging particles and then attracting them to oppositely charged metal plates is called _____ separation.
a) absorption
c) magnetic
- b) electrostatic
d) gravity
- (15) The principle method for measuring viscosity is;
a) Capillary viscometer
c) Falling or rolling sphere viscometer
- b) Concentric cylinder viscometer
d) All of these
- (16) Materials whose consistency depends on the duration of shear as well as on the rate of shear, exhibit;
a) Rheopexy
c) Viscoelasticity
- b) Thixotropy
d) Plasticity
- (17) Elastic deformation is described by;
a) Hook's law
c) Empirical power law
- b) Newton's law
d) Stock's law
- (18) The ratio of relaxation time of a material to the time scale of a deformation is called;
a) Reynolds number
c) Deborah number
- b) Weissenberg number
d) Mass number
- (19) The science of deformation and flow of matter is called _____
a) Welding
c) Tapping
- b) Bending
d) Rheology
- (20) Consistency can be described as _____
a) Viscosity
c) Breakability
- b) Elasticity
d) Viscosity and elasticity
- (21) Milk is a _____ fluid.
a) Viscous
c) Visco-elastic
- b) Elastic
d) Extraneous

- (22) Property of fluid that describes its internal resistance is known as _____
- a) Viscosity
b) Friction
c) Resistance
d) Internal energy
- (23) Stress strain relationship for a Newtonian fluid is _____
- a) Hyperbolic
b) Parabolic
c) Linear
d) Inverse type
- (24) For non-Newtonian fluids, apparent viscosity is a function of _____
- a) Shear rate
b) Flow rate
c) Viscous rate
d) Specific rate
- (25) Stokes is used for _____?
- a) Apparent viscosity
b) Dynamic viscosity
c) Shear viscosity
d) Kinematic viscosity
- (26) A type of flow in which viscosity increases when the substance agitated is:
- a) Plastic
b) Pseudoplastic
c) Dilatant
d) Thixotropy
- (27) Non-Newtonian flow can be described by using:
- a) Shear viscosity
b) True viscosity
c) Apparent viscosity
d) None of these
- (28) In plastic system, below yield value, the apparent viscosity is:
- a) Lower
b) Higher
c) Equal
d) Infinite
- (29) Relative viscosity can be determined by:
- a) Mac Michael viscometer
b) Stormer viscometer
c) Ostwald viscometer
d) All of these
- (30) Two solutions are said to be isotonic if they exert same.....
- a) Viscosity
b) Surface tension
c) Osmotic pressure
d) None of these
- (31) Heckel plot represents the following relationship:
- a) Apparent density vs compression pressure
b) Apparent mass vs compression pressure
c) Apparent density vs compression force
d) Apparent mass vs compression force
- (32) The unit of rate of shear is _____
- a) cm. 1/sec
b) 1/sec
c) sec.1/cm
d) cm.sec
- (33) For an ideal suspension the sedimentation value should be
- a) Equal to one
b) Less than one
c) More than one
d) Zero
- (34) Tween 80 means
- a) Polyoxyethylene sorbitan monolurate
b) Polyoxyethylene sorbitan monooleate
c) Sorbitan monooleate
d) Sorbitan monosetate
- (35) Anti foaming agent have HLB of
- a) 6-9
b) 1-3
c) 15-18
d) None of these
- (36) Flocculated suspensions have.....sedimentation value than that of deflocculated suspensions.

- a) Higher
c) Equal
- b) Lower
d) Zero
- (37) Creep test is used to measure the viscoelastic properties of :
- a) Ointment
c) Emulsion
- b) Suspension
d) Lotion
- (38) As per I.P room temperature means
- a) 10 to 15°C
c) 15 to 25°C
- b) 15 to 20°C
d) 37°C
- (39) In an Emulsion complete separation of two phases is known as
- a) Cracking
c) Phase separation
- b) Creaming
d) Sedimentation.
- (40) What is the percentage strength of a 4 in 10,000 solution?
- a) 0.40%
c) 0.004%
- b) 0.04%
d) 4%
- (41) When fixed oils are used in emulsion (dry gum method) the ratio of oil : water : gum is
- a) 2:2:1
c) 4:2:1
- b) 3:2:1
d) 1:2:1
- (42) Cold cream is..... type of emulsion.
- a) w/o type
c) both (a) and (b)
- b) o/w type
d) none of these
- (43) Hygroscopic powders
- a) Liberate water
c) both (a) and (b)
- b) Absorb moisture
d) None of these
- (44) 'Shake well before use' is to be mentioned on the label of
- a) Mouth washes
c) Elixirs
- b) Suspension
d) Tablet triturate
- (45) O/W and W/O type of emulsion can be differentiated by.
- a) Miscibility test
c) Dye test
- b) Staining test
d) All of these
- (46) The type of emulsion depends on :
- a) Emulsifying agent
c) Method of preparation
- b) Ratio of oil and water
d) Nature of oil
- (47) Naturally occurring emulsion is :
- a) Egg yolk
c) Milk
- b) Latex
d) Sugar solution
- (48) Turpentine liniment is a
- a) W/O type of emulsion
c) Solution
- b) O/W type emulsion
d) None of these.
- (49) Which one of these substances is suspending agent in calamine lotion
- a) ZnO
c) Sodium citrate
- b) Bentonite
d) Glycerol
- (50) Flocculated suspension follows
- a) Plastic flow
c) Diallel flow
- b) Pseudoplastic flow
d) Newtonian flow

- (51) Emulsion have a shelf life
- a) Short
b) No
c) Large
d) None of these
- (52) Creaming is a..... process
- a) Reversible
b) Irreversible
c) A & B
d) Difficult to predict
- (53) Downward creaming means..... rate of sedimentation
- a) Negative
b) Positive
c) Same
d) No change
- (54) A mixture of span 20 and tween 20 forms..... type of emulsion
- a) W/O
b) O/W
c) Milky
d) Hard
- (55) Near CMC, micelles of the surfactant molecules assume the shape of
- a) Spherical
b) Layered
c) Rod shape
d) Cylindrical
- (56) Creaming in emulsion can be controlled by regulating
- a) Density of dispersed phase
b) Density of dispersion medium
c) Globule size
d) Volume of dispersion medium
- (57) On commercial scale, emulsions are prepared by
- a) Freezing
b) Homogenization
c) Centrifugation
d) Dialysis
- (58) The HLB system is used classify
- a) Flavours
b) Colors
c) Surfactants
d) Perfumes
- (59) Brownian movement of particle sedimentation
- a) Assist
b) Promote
c) Prevent
d) Increase
- (60) Pycnometer is used to determine
- a) Density
b) Refractive index
c) Angle of repose
d) Porosity
- (61) Carr's compressibility index gives an idea about
- a) Flow property of powders
b) Cohesiveness of powder
c) Both
d) d.None
- (62) Scattering of light is shown by
- a) Emulsion
b) Colloidal particles
c) Suspension
d) Homogenous solutions
- (63) Following is not used as a measure of flow property of powder
- a) Compressibility index
b) Hausner's ratio
c) Angle of repose
d) Bulk density
- (64) Micronization leads to increase in solubility of drug due to
- a) Increased porosity
b) Increased surface area
c) Increased angle of repose
d) Increased surface texture
- (65) Solubility of drug depends on following factors except....
- a) Dielectric constant
b) Pka of drug

- c) pH of solution
- (66) Electrophoresis refers to
- a) Settlemnt of particles
c) Sedimentation of particles
- (67) The instrument used to measure particle volume is:
- a) Microscope
c) Hempel Burette
- (68) Mercury displacement methods is used to determine:
- a) Granule density
c) Granule volume
- (69) Porosity of a porous powder can be defined as :
- a) Void volume/Bulk volume
c) True volume/Bulk volume
- (70) Following is not the method for determining the surface area of particles
- a) Adsorption method
c) BET method
- (71) Which of the following apparatus is used to determine the particle size by gravity sedimentation method?
- a) Anderson pipette
c) Coulter counter
- (72) The type of particle diameter obtained by microscopic method of evaluation is:
- a) Projected diameter
c) Stoke's diameter
- (73) Dilatent flow is also known as:
- a) Shear thickening system
c) Yield value
- (74) Particle size distribution is important for-
- a) Derived property
c) property Fundamental
- (75) The biological half-life of a drug following first order kinetics is represented by-
- a) $1/k$
c) $0.693/k$
- d) Valency
- b) Migration of particles to opposite electrode
d) Zig-Zag motion of particles
- b) Helium Densitometer
d) Coulter counter
- b) Surface area
d) Granule size
- b) Bulk volume / Void volume
d) Bulk volume / True volume
- b) Mercury displacement method
d) Air permeability method
- b) Pycnometer
d) Hempel burette
- b) Surface volume diameter
d) Anti-Stoke's diameter
- b) Shear thinning system
d) Rheopaxy
- b) Bulk property
d) Chemical property
- b) $\log k$
d) $2.303/k$