

Final Year B.Pharm.(Sem VIII) 2020-21

BPH_E_811_T–Novel Drug Delivery Systems

Practice Question Bank

1. A non-ionic surfactant based multilamellar or unilamellar vesicular structure

- A. Microspheres
- B. Liposome
- C. Niosome
- D. Nanoparticle

2. This particulate system is also known as “bodies of water”.

- A. Aquasome
- B. Liposome
- C. Niosome
- D. Dendrimer

3. Which of the following is a non- erodible insert?

- A. Ocusert
- B. Collagen shield
- C. NODS
- D. SODI

4. An ocular device that has the shape of a flag

- A. Ocusert
- B. Lacrisert
- C. NODS
- D. SODI

5. Which of the following does not constitute an appendageal route?

- A. Sweat glands

- B. Hair follicle
- C. Sebaceous gland
- D. Stratum corneum

6. A Polymer used for colonic systems is

- A. carboxymethyl cellulose
- B. cellulose acetate phthalate
- C. gelatin
- D. acacia

7. Drug release from osmotic drug delivery systems depends on

- A. osmotic pressure
- B. ionic strength
- C. osmotic pressure & ionic strength
- D. osmotic pressure & environment in git

8. _____ is a dispersed matrix system

- A. nanospheres
- B. nanoparticles
- C. nanocapsules
- D. nanopolymers

9. Chitosan is a _____ mucoadhesive polymer

- A. cationic
- B. anionic
- C. synthetic
- D. non-ionic

10. _____ is a drug unsuitable for GRDDS

- A. ciprofloxacin
- B. diazepam
- C. furosemide
- D. aspirin

11. A microcapsule has _____

- A. Drug dispersed in matrix
- B. Dug core surrounded by distinct wall
- C. Drug adsorbed on the surface
- D. Drug distributed in polymeric matrix

12. An advantage of Novel Drug Delivery Systems is

- A. it causes fluctuation of blood levels
- B. it cannot be target specific
- C. it increases toxicity of the drug
- D. it reduces side effects of the drug

13. Stealth liposomes

- A. have short half-life
- B. are taken up by macrophages
- C. have very large size
- D. are sterically stabilized

14. An example of a polymer incorporated into dendrimers is

- A. propylene glycol
- B. polyethyleneimine
- C. polyurethane
- D. styrene copolymers

15. Hydrogen bonds in mucoadhesion are formed by

- A. dipole moment
- B. non polar groups
- C. dispersion forces
- D. electronegative atoms

16. Ideal glass transition temperature for a pressure sensitive adhesive used in transdermal system should be

- A. - 20° C to - 40° C
- B. - 2° C to - 4° C
- C. 20° C to 40° C
- D. 2° C to 4° C

17. Ocusert is an example of

- A. Feedback regulated system
- B. Activation modulated system

- C. Bio -responsive system
- D. Membrane permeation system

18. _____ is an advanced method of determining size of nano particles

- A. Atomic force microscopy
- B. Ultrasound scattering
- C. Compound microscopy
- D. Molecular microscopy

19. Chimeric peptides have

- A. chylomicrons
- B. polymeric micelles
- C. peptidomimetic antibodies
- D. polymeric nanoparticles

20. _____ is an example of a synthetic biodegradable polymer

- A. acrolein
- B. polyethylene glycol
- C. LDPE
- D. polystyrene

21. Carbopols are:

- a. Synthetic vinyl polymers with ionizable carbonyl group
- b. Polyoxyethylene ethers with carboxy groups
- c. Mineral waxes with hydrocarbon content ranging from C35 to C55
- d. Polyoxyethylene derivatives of polyoxypropylene

22. Which amongst the following are the smallest liposomes?

- A Large unilamellar vesicles
- B Oligolamellar vesicles
- C Multilamellar vesicles
- D Multivesicular vesicles

23. Which of the following is used as chemical cross-linking agent in preparation of nanoparticles?

- A Glutaraldehyde
- B 2,2, di-methyl propane
- C Lactides and glycolides
- d Poly (acryl) starch**

24. What type of protein binding characteristics of a drug are desirable to be formulated into an ocular system?

- a. Low
- B Medium
- C High
- D It has no bearing

25. A positive temperature-sensitive hydrogel has ----- critical solution temperature

- a. Upper
- b. Lower
- c. Hybrid
- d. Mixed

26. The stratum corneum consists of -----layers of keratinized cells

- A 10 to 25
- B 0 to 10
- C 25 to 50
- D Above 50

27. Peel adhesion is tested by measuring the force required to pull a single coated tape, applied to a substrate at a° angle

- a.180
- b.360
- c 45
- d 90

28. Which of the following is the Noyes – Whitney equation?

- a. $\frac{dC}{dt} = -k(c_r - c)$
- b. $\frac{dC}{dt} = \frac{DAk_{o/w}(c_s - c_b)}{Vh}$
- c. $M_0^{1/3} - M^{1/3} = Kt$
- d. $\frac{M_t}{M_0} = k\sqrt{t}$

29. Which among the following can be used as a hydrophobic matrix to formulate SRDDS?

- a. Ethyl cellulose
- b. Hydroxypropyl methylcellulose
- c. Hydroxypropylcellulose
- d. Sodium carboxymethylcellulose

30. Which amongst this is a physicochemical factor of the drug that should be considered while formulating a controlled drug delivery system?

- a. Diffusivity
- b. Half life
- c. Side effects
- d. Absorption

31. Based on their half-lives, which drug would you select to make a sustained release tablet?

- a. Metformin (6 hr)
- b. Heroin (2 – 6 min)
- c. Cocaine (50 mins)
- d. Amlodipine (20 hrs)

32. Which of the following is an effective barrier for drug?

- a. Tight junctions
- b. Pinocytes
- c. Glucose transporters
- d. Protein carriers

33. To prevent the loss of drug that has migrated into the adhesive layer during storage, this is used

- a. Release liner
- b. Rate controlling membrane
- c. Adhesive layer
- d. Backing membrane

34. These noninvasive techniques have been used for drug delivery to brain

- a. Nanogels
- b. Bradykinin administration
- c. Onmaya reservoir
- d. Microgel

35. OROSCT Approach is used in

- a. Colon targeting
- b. Lymphatic targeting
- c. Brain targeting
- d. Mucoadhesive delivery

36. The dissolution study of colon targeted drugs is carried by

- a. Bio Dis III apparatus
- b. Beaker Method
- c. Flow through cell
- d. USP Type I AND II Apparatus

37. Super critical fluid technology is used to prepare:

- a. Nanoparticle
- b. Neosome
- c. Aquasomes
- d. Liposomes

38. These are a unique class of synthetic macromolecules having highly branched, three dimensional, nanoscale architecture with very low polydispersity index and high functionality

- a. Dendrimers
- b. Neosomes
- c. Auasomes
- d. Nanoparticles

39. _____ is carrier for Haemoglobin

- a. Neosome
- b. Nanoparticle
- c. Aquasomes
- d. Phytosomes

40. Following is the example of invasive brain targeting

- a. Osmogens
- b. Colloidal carriers
- c. Amino acid transporters
- d. Neosomes

41. The force required to remove an adhesion coating from test substrate is determined by

- a. Peel adhesion test
- b. Shear adhesion test

- c. Rolling ball tack test
- d. Probe tack test

FINAL YEAR NDDS - SET 2

1. Hydrogen bonding capacity is related to which type of factor affecting mucoadhesion

- A) physiological
- B) polymer
- C) environment
- D) physicochemical

2. What type of process does the liposomes undergoes?

- A) Oxidation
- B) Acetylation
- C) Reduction
- D) Isomerization

3. Find out the odd type of ocular inserts

- A) Lacrisert
- B) Occusert
- C) SODI
- D) Minidisc

4. What is extrusion?

- A) pushing the heated material through an orifice
- B) producing a hole by a punch

- C) making cup shaped parts from the sheet
- D) process of mixing the ingredient

5. Which from the following factor does not affect Osmotic systems

- A) Osmotic pressure gradient
- B) Delivery orifice
- C) Membrane - permeability, Surface area, thickness
- D) Change in pH of environment

6. Which of the following drugs cannot be given as transdermal DDS

- A) Drugs with very short half life
- B) Drugs with narrow therapeutic indices
- C) Easy removal & termination
- D) Drugs against peptic ulcer

7. Which of the following is the example of Physical theory of mucoadhesion

- A) Wetting
- B) Electronic
- C) Adsorption
- D) Adhesion

8. Niosomes are prepared from which of the following

- A) Phospholipids
- B) Lecithin
- C) Spingolipid
- D) Surfactants

9. Select the physical mechanism by which in situ gelling system is formed

- A) Change in pH
- B) Change in glucose level
- C) Change in electric field
- D) Change in ion concentration

10. What are the characteristics of matrix diffusion controlled release system?

- A) Release the drug along the entire length of GIT
- B) Drug disperse in an insoluble matrix of rigid hydrophobic material
- C) Employ waxes to control the rate dissolution
- D) Release only at specific site

11. Which of the following is not the advantage of Transmucosal DDS?

- A) Drugs sensitive to pH change can be administered via this route
- B) Drug having poor bioavailability through oral route can be administered via this route
- C) Various hormone, steroids, enzymes can be administered by this route
- D) Ease of administration

12. Ocular iontophoresis is a process which does not involve

- A) Electrical potential driving charged ions into eyes
- B) Delivers high concentration to specific sight
- C) Good bioavailability
- D) Disadvantage of epithelial on conjunctival edema

13. Which of the following is not a component of dendrimer?

- A) Central core
- B) Stem
- C) Interior dendritic structure

D) Exterior surface

14. Which of the following is incorrect about Transdermal DDS?

- A) A stable and controlled blood level can be attained
- B) All potent drugs can be administered as TDDS
- C) Drugs with narrow therapeutic window can be administered as TDDS
- D) Self- medication is possible

15. Which of the following is not a disadvantage of conventional dosage form?

- A) Poor patient compliance
- B) Change in concentration may lead to under or over medication
- C) Attainment of steady state condition difficult.
- D) have high cost

16. Which polymers occur naturally?

- A) Starch and Nylon
- B) Starch and Cellulose
- C) Proteins and Nylon
- D) Proteins and PVC

17. Which of the following is a thermosetting polymer?

- A) polystyrene
- B) polyolefins
- C) nylons
- D) phenolic resins

18. Which of the following characteristics is suitable for transdermal drug?

- A) Large drug dose
- B) Large molecular size

- C) Drug with narrow therapeutic indices
- D) Drugs which are metabolized in the skin

19. Which among the following polymers have lowest solubility?

- A) polyethylene
- B) polystyrene
- C) nylon 6
- D) epoxy resin

20. Which of the following is not a component of buccal patch?

- A) Polymer
- B) Active substance
- C) Flavouring agent
- D) Counter irritant

21. Example of hydrophobic polymer used in nanoparticles is

- A) Gelatin
- B) Alginate
- C) Acrylate
- D) Lectin

22. Which of the method is not used for preparation of nanoparticle?

- A) Imersion polymerization
- B) Dispersion polymerization
- C) Interfacial polymerization
- D) Emulsion polymerization

23. What are the characteristics of continuous release systems?

- A) Release the drug along the entire length of GIT
- B) Prolonged their residence in the GIT and release
- C) Release only at a specific drug
- D) Release as soon as comes in contact to the saliva

24. What is the characteristic of dissolution controlled release systems?

- A) Release the drug along the entire length of GIT
- B) Prolonged their residence in the GIT and release
- C) Release only at a specific drug
- D) Very slow dissolution rate

25. The absorption of the ophthalmic drug does not depend on which of the following?

- A) Physicochemical properties of the permeating molecule
- B) Drainage of tears
- C) Output of tears
- D) Size of the eyeball

26. Which of the following is not a property of Bio-adhesive microspheres?

- A) Achieved by making use of adhesive properties of water soluble polymers
- B) Adhesion of drug delivery device to the mucosal membrane such as buccal, ocular, rectal, nasal.
- C) Exhibit a prolonged residence time at the site of application and causes intimate contact with the absorption site and produces better therapeutic action.
- D) They contain radioisotope i.e. either α , β or γ emitters.

27. What are the characteristics of the reservoir or membrane devices?

- A) The drug has a large therapeutic index
- B) Drug permeation rate is high
- C) Control drug release by partitioning the drug from the oil
- D) Administration of emulsions

