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

BPH_E_811_T–Novel Drug Delivery Systems

'Answer key for Sample questions - Novel Drug Delivery Systems

SET 1

Q. No.	Correct Option	Q. No.	Correct Option	Q. No.	Correct Option
1	A	21	D	41	a
2	D	22	B	42	a
3	D	23	D	43	a
4	C	24	D	44	a
5	D	25	B	45	a
6	C	26	B	46	a
7	B	27	D	47	a
8	C	28	B	48	a
9	A	29	A	49	a
10	A	30	D	50	a
11	D	31	A	51	a
12	A	32	C	52	a
13	A	33	A	53	a
14	A	34	B		
15	C	35	A		
16	B	36	a		
17	C	37	a		
18	B	38	a		
19	C	39	a		
20	D	40	a		

FINAL YEAR NDDS SET 2

Q. No.	Correct Option	Q. No.	Correct Option
1	A	13	D
2	B	14	B
3	A	15	C
4	D	16	D
5	A	17	D
6	D	18	C
7	C	19	A
8	B	20	B
9	A	21	D
10	C	22	D
11	B	23	D
12	B	24	B

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

BPH_E_811_T–Novel Drug Delivery Systems

Sample questions for practice- Novel Drug Delivery system

SET 1

1. A spherical solid lipid particle prepared from physiological lipid, dispersed in water or in aqueous surfactant solution.

A. Solid lipid nanoparticle

B. Liposome

C. Niosome

D. Nanoparticle

2. A prominent structure for ocular absorption of drugs

A. Conjunctiva

B. Choroid

C. Sclera

D. Cornea

3. The polymer used in "Lacriset"

A. Hydoxy ethyl cellulose

B. Hydoxy Methyl cellulose

C. Methyl cellulose

D. Hydroxy propyl cellulose

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. "Transderm-Scop" is used in the treatment of

A. Hypertension

B. Angina

C. Motion sickness

D. Antidote for smoking

7. The size of particles in a a parenteral suspension should be

A. 10 to 20 µm

B. Less than 10 µm

C 100 to 200 µm

D.50 to 100 µm

8. The anterior part of the nasal cavity opening towards the face.

A. Nasopharynx

B. Nasal septum

C. Nasal vestibule

D. Nasal turbinate

9. Monolithic devices

A. have drugs with large therapeutic indices

B. have rapid drug permeation

C. only hydrophilic polymers are used

D. release is through a polymer membrane

10. 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

11. One method to prepare nanoparticles is

A. pan coating
B. filtration
C. solubilisation
D. precipitation

12. Excipient to increase density of GRDDS is

A**. zinc oxide**
B. talc
C. sodium bicarbonate
D. calcium carbonate

13. _____ is a dispersed matrix system

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

14. Chitosan is a _____ mucoadhesive polymer

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

15. Which of the following is a natural polymer used in nanoparticles.

A.Polycaprolactone

B. Polylactic acid

C. Alginate

D. Polystyrene

16. 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

17. A polymeric implant that is biodegradable

A. Prepared from silicone

B. Prepared from Polyurethane

C. Prepared from Polylactic acid

D. Prepared from polyacrylate

18. Paracellular route for nasal drug delivery is

A. Slow and passive lipodial pathway

B. Slow and passive aqueous pathway

C. Fast and active aqueous pathway

D. Fast and active lipodial pathway

19. Sodium taurocholate used as penetration enhancer is

A. A Surfactant

B. Fatty acid with surfactant property

C. Bile salt with surfactant property

D. Bile salt but no surfactant property

20. pH of nasal formulation in the physiological range

A. Keeps the drug in ionized state

B. Alters physiological ciliary movements

C. Increases mucosal irritation

D. Keeps the drug in unionized state and sustains physiological ciliary movements

21. Mucocilliary clearance is

A. A barrier to nasal absorption

B. Not a barrier to nasal absorption

C. It is protective in function

D. It is a barrier to nasal absorption but also protective in function

22. Reservoir systems

A. do not depend on area

B. have a rate controlling membrane

C. follow any order of kinetics

D. are highly porous

23. Factors affecting lymphatic uptake include

A. larger aqueous phase

B. greater hydrophilicity of nanoparticles

C. low concentration of surfactant

D. longer chain length of lipid

24. Stealth liposomes

A. have short half-life

B. are taken up by macrophages

C. have very large size

D. are sterically stabilized

25. An example of a polymer incorporated into dendrimers is

A. propylene glycol

B. polyethyleneimine

C. polyurethane

D. styrene copolymers

26. Modified balance method is used to evaluate

A. particle size

B. adhesive strength

C. drug release

D. swelling

27. Eudragit L100 is a type of

A. cellulose polymer

B. vinyl co-polymer

C. methacetic acid co-polymer

D. methacrylic acid co-polymer

28. A Primary Irritation index of <2 for a transdermal patch indicates that patch is

A.Non-irritant

B.Slightly irritant

C.Moderately irritant

D.Severely irritant

29.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

30. Ocusert is an example of

A. Feedback regulated system

B. Activation modulated system

C. Bio -responsive system

D. Membrane permeation system

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

A. Atomic force microscopy

B. Ultrasound scattering

C. Compound microscopy

D. Molecular microscopy

32. Chimeric peptides have

A. chylomicrons

B. polymeric micelles

C. peptidomimetic antibodies

D. polymeric nanoparticles

33. Use of monoclonal antibodies for drug delivery to tumors is

A. active targeting

B. passive targeting

C. triggered drug targeting

D. vector targeting

34. _____ is an example of a synthetic biodegradable polymer

A. acrolein

B. polyethylene glycol

C. LDPE

D. polystyrene

35. _____is an example of a bioerodible polymer

A. polyorthoesters

B. polycarbonate

C. fluorocarbon

D.polystyrene

36. Which amongst this is a limitation associated with conventional drug delivery systems?

a. Lower effectiveness

b. Ease of manufacturing

c. Decreased side effects

d. Spatial and temporal control

37. Carbopols are:

a. Synthetic vinyl polymers with ionizable carbonyl group

b. Polyoxythylene ethers with carboxy groups

c. Mineral waxes with hydrocarbon content ranging from C35 to C55

d. Polyoxyethylene derivatives of plyoxypropylene

38. Which amongst the following are the smallest liposomes?

a. Large unilamellar vesicles
b. Oligolamellar vesicles
c. Multilamellar vesicles
d. Multivesicular vesicles

39. 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

40. 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

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

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

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

a. 10 to 25
b. 0 to 10
c. 25 to 50
d. Above 50

43. 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

44. 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. $\frac{M_t}{M_0} = k\sqrt{t}$

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

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

46. 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

47. Webels model is used for evaluation of

a.**Pulmonary Targeting**

b.Nasal Targeting

c. Hepatic Targeting

d. Ocular targeting

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

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

49. In Pulmonary Drug Delivery the drug absorption is achieved due to

a. High lipophilicity and large surface area

b. Low lipophilicity and small surface area

c. High hydrophilicity and large surface area

d. Low hydrophilicity and Small surface area

50. 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

51. 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

52. _____ is carrier for Haemoglobin

a. Neosome

b. Nanoparticle

c. Aquasomes

d. Phytosomes

53. Following is the example of invasive brain targeting

a. Osmogens

b. Colloidal carriers

c. Amino acid transporters

d. Neosomes

FINAL YEAR NDDS - SET 2

1. What type of process does the Liposomes undergoes?

A) **Oxidation**

B) Acetylation

C) Reduction

D) Isomerization

2. Find out the odd type of ocular inserts

A) Lacrisert

B) Occusert

C) SODI

D) Minidisc

3. 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

4. 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

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

A) Wetting

B) Electronic

C) Adsorption

D) Adhesion

6. Niosomes are prepared from which of the following

A) Phospholipids

B) Lecithin

C) Spingolipid

D) Surfactants

7. 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

8. 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

9. 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

10. 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

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

A) Central core

B) Stem

C) Interior dendritic structure

D) Exterior surface

12. 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

13. 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

14. Which polymers occur naturally?

A) Starch and Nylon

B) Starch and Cellulose

C) Proteins and Nylon

D) Proteins and PVC

15. 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

16. Which among the following polymers have lowest solubillty?

A) polyethylene

B) polystyrene

C) nylon 6

D) epoxy resin

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

A) Polymer

B) Active substance

C) Flavouring agent

D) Counter irritant

18. Example of hydrophobic polymer used in nanoparticles is

A) Gelatin

B) Alginate

C) Acrylate

D) Lectin

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

A) Imersion polymerization

B) Dispersion polymerization

C) Interfacial polymerization

D) Emulsion polymerization

20. 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

21. 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

22. 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

23. 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.

24. 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