BRAINWARE UNIVERSITY

ODD Semester Examinations 2021- 22

Programme – Bachelor of Pharmacy - 2018 [B.Pharm]

Course Name – Novel Drug Delivery System

Course Code – BP704T

(Semester VII)

Time allotted : 1 Hour 30 Minutes | Full Marks : 75

(Multiple choise type question) | 75 x 1 = 75

Choose the correct alternative from the following

(I) Ketoconazole liposomes are given by_____

A) Lungs B) Oral

C) Transdermal D) Intravenous

(II) Which of the following characteristics is suitable for selection of a candidate for TDDS?

A) Large Dose. B) Larger molecular Size.

C) Higher first pass effect. D) Metabolism in Skin.

(III) Preparation of microspheres should satisfy certain criteria:

A) The nature of the core B) Coating materials

C) The microencapsulating methods D) All

(IV) The rate at which monolithic devices transfer drugs to the patient body is proportional to _____of time.

A) Square of time B) The square root of time

C) Twice the time D) Half the time

(V) The phenomenon of mucoadhesion can be used as a model for the

A) Immediate release product B) Targeted drug delivery

C) Controlled drug delivery D) All

(VI) Which one is a natural polymer?

A) Carbopol B) PVA

C) PVP D) Chitosan

(VII) Protein stability in the formulation is a major issue with Pulmonary Drug Delivery System, it can be addressed by adding “Surfactants” which act by,

A) Reducing protein aggregation. B) Forms protective complexes

C) Decreases their absorption D) Prevent coagulation

(VIII) Which of the following is a preferred carrier in Dry powder inhalers(DPI)?

A) Lactose B) Sucrose

C) Talc D) Boric Acid

(IX) Which of the following is not a part of Stomach?

A) Cardia B) Fundus

C) Pylorus D) Ramus

(X) FACTORS Consideration for CRDDS Design

A) Selection of drug candidate B) Biological Factors

C) Formulation optimization D) All

(XI) Which of the following system restrict drug distribution to target cells or tissue or organ?

A) Sustained release drug delivery system B) Controlled release drug delivery system

C) Prolong release drug delivery system D) Targeted drug delivery system

(XII) The primary barrier for the TDDS is,

A) Dermis
B) Hypodermis
C) Subcutaneous Tissue
D) Epidermis

(XIII) Which of the following is not involved in the physical method of microencapsulation?

A) Ionotropic gelation
B) Spray-drying
C) Vibrational nozzle
D) Centrifugal extrusion

(XIV) Which of the following is false in regarding reservoir devices?

A) These devices are used when the drug permeation rate is rapid
B) The release of the drug is controlled
C) Suitable for low therapeutic indices
D) The drug is contained in a powder form floating on liquid

(XV) What are the characteristics of the monolithic devices?

A) The drug has a large therapeutic index
B) Aqueous solutions
C) Control drug release by partitioning the drug from the oil
D) Administration of emulsions

(XVI) t1/2 = 0.693 is the value of half life of the following order of drug release:

A) Zero order
B) Pseudo zero order
C) First order
D) None

(XVII) Which of the following is not a matrix forming polymer?

A) Chitosan
B) Polystyrene
C) Polyacrylate
D) Polycarbonate

(XVIII) Mucoadhesive drug delivery systems can be delivered by various routes

A) Buccal delivery system
B) Oral delivery system
C) Rectal delivery system
D) All

(XIX) Silicone is used as _____ in the Transdermal patch.

A) A backing membrane
B) An adhesive.
C) A polymer
D) A permeation enhancer.

(XX) Identify the approach not useful to increase gastric retention time for GRDDS.

A) High density Systems
B) Floating Systems.
C) Swelling Systems.
D) Compressing Systems.

(XXI) Enzyme Induction/Inhibition upon multiple dosing is the:

A) Pharmacodynamic factor
B) Biological Factor
C) Physico-Chemical factor
D) All

(XXII) Chemically controlled drug delivery systems regulate the drug release rate:

A) By a chemical reaction with the polymer
B) By a magnet
C) By heat
D) By pressure

(XXIII) Which of the following is an criteria for selection of the drug candidate for GRDDS,

A) Low absorption window
B) Highly potent drug.
C) Smaller therapeutic window.
D) Faster onset of action.

(XXIV) Conventional hydrogels usually have porous size of 10µm hence require much time to reach equilibrium while their modified version “Superporous Hydrogels' ' reach equilibrium faster has an average pore size of …..

A) >100µm
B) > 100nm
C) 10µm
D) 10nm

(XXV) Floating Drug Delivery Systems are hydrodynamically balanced systems that have a bulk density -------.

A) Same that of Gastric fluids
B) Lesser than that of Gastric Fluid
C) More than that of Gastric Fluid
D) Same that of Gastric Acid

(XXVI) Well developed “intercellular lipid lamellae” is a feature of which layer of the epithelium

A) Stratum basale
B) Stratum spinosum
C) Stratum lucidum
D) Stratum corneum

(XXVII) Which of the following is used to produce effervescence in Floating drug delivery systems.

A) Sodium Bi Carbonate. B) Magnesium Stearate.
C) Sorbitol. D) Talc.

(XXVIII) Which of the following characteristics is suitable for transdermal drug?
A) Large drug dose B) Large molecular size
C) Drugs with narrow therapeutic indices D) Drugs which are metabolized in the skin

(XXIX) Which of the following statements is true with effect of “Skin Thickness” on rate of permeation.
A) Rate of permeation is not dependent on thickness of the skin. B) Rate of permeation increases with an increase in skin thickness
C) Rate of permeation decreases with an increase in skin thickness D) Rate of permeation increases skin thickness.

(XXX) Solvent vaporization is also known as_____
A) Ether injection B) Ethanol injection
C) Double emulsification D) Reverse-phase evaporation

(XXXI) Which one is a soluble polymer?
A) Carbopol B) Sodium CMC
C) Polyacrylic acid D) PEG

(XXXII) The mechanism of chemical permeation enhancer is,
A) Cause deposition of penetrant in the stratum corneum. B) Alters physicochemical properties of stratum corneum
C) Causes reversible damage to the stratum corneum D) Both b & c

(XXXIII) Hollow microspheres are a non effervescent approach for GRDDS are also known as,
A) Microballs B) Microballoons
C) Floating Beads D) Alginate beads

(XXXIV) Which of the following is used to increase the density
A) Potassium permanganate. B) Boric Acid.
C) Iron Powder. D) Glucose Powder.

(XXXV) Ideal requirements of implantable drug delivery systems
A) Biocompatible. B) Easy to Sterilize
C) Rate controlled release of drug D) All

(XXXVI) The drug is released either by passing through the pores or between polymer chains, is called:
A) Reservoir diffusion system B) Matrix diffusion system
C) Degradation D) All

(XXXVII) In Passive targeting, we make use of and modify the physiochemical properties of the drug carrier complex, so that it escapes body defense system and accumulate in the target tissue.
A) False B) True
C) Don't know D) May be false

(XXXVIII) The surface morphologies of microspheres are examined by:
A) UV Spectrophotometry B) HPLC
C) FTIR D) SEM (scanning electron microscope)

(XXXIX) Composition of coating materials in Microencapsulation include inert polymer, Colouring agent and ---------
A) Diluent B) Binder
C) Plasticizer D) Glidant

(XL) Which of the following is a disadvantage of Nasopulmonary Drug Delivery Systems
A) Large drug loss. B) Contact Dermatitis.
C) Gastritis. D) Increased first pass effect.

(XLI) Which one of the following is the advantage of Controlled Drug Delivery?
A) Total dose is high B) More GI side effects
C) Reduced dosing frequency D) Less uniform drug effect

(XLII) In ancient Ayurvedic time the preparations and dosage forms for nasal drug delivery were called,

A) Basti
B) Nasya
C) Churna
D) Avaleha

(XLIII) The fabrication of the formulation depends on the :
A) Physicochemical properties of the drug
B) Pharmacokinetic behavior of the drug
C) Both
D) None

(XLIV) Patient compliance is a factor included in:
A) Biological Factors
B) Medical rationale
C) Physico-Chemical Properties
D) Manufacturing factor

(XLV) Which of the following is not an advantage of the Pulmonary drug delivery system.
A) Noninvasive
B) Dose required is lower than oral dose
C) Faster onset of action
D) Can target CNS transport by avoiding Blood Brain Barrier

(XLVI) Which is the disadvantage for implant?
A) More effective
B) More prolonged action
C) Significantly small dose
D) Need of microsurgery

(XLVII) Polymers are classified based on
A) Source
B) Structure
C) Polymerization
D) All

(XLVIII) The curve of Controlled drug delivery remains at:
A) Toxic level
B) Therapeutic level
C) Subtherapeutic level
D) All levels

(XLIX) Which of the following should not be a property of implants?
A) Environmental stable
B) Biostable
C) Non-toxic
D) Nonremovable

(L) The primary mechanisms of drug release from polymers:
A) Diffusion
B) Degradation
C) Swelling
D) All

(LI) Metered Dose Inhalers (MDI) has a following known drawback,
A) Lesser dose accuracy.
B) Can not deliver higher doses
C) Only single dose dispensers are available
D) Only useful for potent drugs.

(LII) Drugs are encased in a partially soluble membrane and pores are created due to dissolution of parts of membrane in:
A) Dissolution controlled release system
B) Diffusion controlled release system
C) Dissolution and diffusion controlled release system
D) None

(LIII) In matrix-controlled devices the drug is uniformly distributed (dissolved or dispersed) throughout the polymer and hence these are known as :
A) Heterogenous devices
B) Irregular devices
C) Homogeneous devices
D) All

(LIV) Diffusion controlled mechanism of drug release from various implantable drug delivery systems are:
A) Membrane-permeation controlled
B) Matrix-controlled
C) Micro reservoir-dissolution controlled
D) All

(LV) In the microencapsulation process the particulate core material, which is solid, is dispersed into the supporting air stream and these suspended particles are coated with polymers in a volatile solvent leaving a very thin layer of polymer on them, is termed as:
A) Centrifugal extrusion processes
B) Air suspension coating
C) Spray drying
D) Coacervation

(LVI) Which ofthe following is not a type of Floating Drug Delivery System
A) Effervescent Systems.
B) Non Effervescent Systems.
C) Raft Forming Systems.
D) Metered Dosing Systems.

(LVII) What are the characteristics of the monolithic devices
A) The drug has large therapeutic index
B) Aqueous solution

C) Control drug release by partitioning the drug from oil D) Administration of emulsion

(LVIII) The time for which the floating dosage form floats on dissolution medium is called,

A) Floating Time B) Buoyancy Lag Time.

C) Lead Time D) Transit Time.

(LIX) The example of permeation enhencer used in mucoadhesive drug delivery systems:

A) Lactose B) Hydrochloric acid

C) Sodium EDTA D) Sodium hydroxide

(LX) Normal pH of the nasal secretions in adult is,

A) 7.5-8.5 B) 5.5-6.5

C) 7-8 D) 5-6

(LXI) Amphotericin B liposomes are given_____

A) lungs B) oral

C) transdermal D) Intravenous

(LXII) The diameter of small unilamellar vesicle is ----------

A) 20-100nm B) 20-1000nm

C) 10-100nm D) 100-400nm

(LXIII) Erosion of polymers basically takes place by

A) Hydrolytic mechanism B) Enzymatic mechanism

C) Both D) None

(LXIV) Nasal drops is considered as one of the most simple and convenient systems has a significant disadvantage,

A) Lacks precision. B) Dose dumping.

C) Erythema. D) Thrombophlebitis.

(LXV) From which of the following mechanisms most of the drugs get absorbed via skin.

A) Active transport B) Passive Transport

C) Facilitated transport D) Osmosis

(LXVI) Nylon is:

A) Natural polymer B) Synthetic polymer

C) Semisynthetic polymer D) None

(LXVII) Which of the following drugs cannot be given as transdermal administration?

A) Drugs with very short half-lives B) Drugs with narrow therapeutic indexe

C) Easy removal and termination D) Drugs against peptic ulcer

(LXVIII) Which of the following USP Dissolution Test Apparatuses is used to study drug release from TDDS ?

A) Paddle over Disc (Type 5) B) Rotating Cylinder

C) Basket Apparatus. D) Both A & B.

(LXIX) Which of the following is not a mucoadhesive polymer

A) Methylcellulose B) Ethyl cellulose

C) Xanthum gum D) Bakelite

(LXX) Which of the following molecular weights is considered an ideal for the candidate of TDDS ?

A) Not More Than 400 Dalton B) Not More Than 600 Dalton

C) Not More Than 800 Dalton D) Not More Than 1000 Dalton

(LXXI) Erosion-controlled drug delivery systems are alternatively called stimuli-induced systems which are:

A) Temperature B) PH

C) Enzymes D) All

(LXXII) Which of the following equation follows Zero Order Release:

A) dMt/dt = k(M0 - Mt) B) dMt/dt = k

C) dMt/dt = k t1/2 D) All

(LXXIII) Natural polymer is:

A) Nylon B) Teflon

C) Polyethylene D) Alginate

(LXXIV) Which glands in the stomach produces gastric acid?

A) Parietal Cells B) Chief Cells

C) Surface Cells D) Mucous Neck Cells

(LXXV) Which of the following drug candidates does not suits for Nasopulmonary drug delivery system,

A) Drug showing extensive first pass metabolism. B) Drug with irritant action.

C) Drug with poor gastrointestinal stability D) Drugs need to be targeted for CNS by avoiding Blood Brain Barrier