

Time: 3 Hours

Marks: 75

Q. 1 Attempt all multiple-choice questions (MCQ)

20M

| Sr No | Questions   |   | Options   |
|-------|---|---|---|
| 1     | What is the primary purpose of targeting in drug delivery systems?  | a | To increase the volume of drug administration       |
|       |   | b | To decrease drug efficacy                           |
|       |   | c | To enhance drug specificity and reduce side effects |
|       |   | d | To prolong drug half life                           |
| 2     | Which targeting strategy involves the use of external stimuli, such as heat or light, to release drugs at specific sites? | a | Active targeting                                    |
|       |   | b | Passive targeting                                   |
|       |   | c | Stimuli-responsive targeting                        |
|       |   | d | Ligand-targeted delivery                            |
| 3     | Which of the following methods is commonly used to bypass the blood-brain barrier (BBB) for brain-targeted drug delivery? | a | Intramuscular injection                             |
|       |   | b | Intravenous injection                               |
|       |   | c | Intrathecal injection                               |
|       |   | d | Intradermal injection                               |
| 4     | What is the main challenge associated with passive tumor targeting in drug delivery systems?                              | a | Limited drug specificity                            |
|       |   | b | Rapid drug degradation                              |
|       |   | c | Inefficient drug release                            |
|       |   | d | High cost of production                             |
| 5     | What are Liposomes primarily composed of?   | a | Carbohydrates                                       |
|       |   | b | Lipids  |
|       |   | c | Nucleic acids                                       |
|       |   | d | Proteins  |
| 6     | Emulsion polymerization is a method of preparation for:   | a | Nanoparticles                                       |
|       |   | b | Liposomes   |
|       |   | c | Niosomes  |
|       |   | d | Pellets   |
| 7     | Which of the following is a biodegradable polymer?  | a | Poly vinyl chloride                                 |
|       |   | b | Polypropylene                                       |
|       |   | c | Poly lactic-co-glycolic acid                        |
|       |   | d | Polyethylene  |

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| 8  | P-NMR is used to determine _____ of liposomes  | a | Particle size                       |
|    |  | b | Drug loading                        |
|    |  | c | Solubility                          |
|    |  | d | Lamellarity                         |
| 9  | The following method is employed to prepare Niosomes:  | a | Ether injection                     |
|    |  | b | Interfacial complexation            |
|    |  | c | Spray drying                        |
|    |  | d | Emulsion chemical dehydration       |
| 10 | The following is a polymer of proteins origin natural material:  | a | Starch                              |
|    |  | b | Gelatin                             |
|    |  | c | Agarose                             |
|    |  | d | Chitosan                            |
| 11 | The antibody which contains Fc region of human IgG but Fab regions of murine origin is termed as:  | a | Humanized antibody                  |
|    |  | b | Human antibody                      |
|    |  | c | Chimeric antibody                   |
|    |  | d | Murine antibody                     |
| 12 | Matrix systems in which the drug is homogeneously dispersed, either dissolved or homogenously suspended are:   | a | Nanocapsules                        |
|    |  | b | Phytosomes                          |
|    |  | c | Aquasomes                           |
|    |  | d | Microspheres                        |
| 13 | Following is the factor governed by Aerosol design which affects particle deposition of lungs:   | a | Presence of particulates            |
|    |  | b | Lung surface                        |
|    |  | c | Impairment of mucociliary clearance |
|    |  | d | Airway obstructions                 |
| 14 | A nebulizer operating on the principle of rupturing a thin film of water by gas and producing a continuous dispersion of fine liquid particles is termed as: | a | Jet nebulizer                       |
|    |  | b | Hydrodynamic nebulizer              |
|    |  | c | Ultrasonic nebulizer                |
|    |  | d | Electric nebulizer                  |

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| 15 | Following is the factor related to physiological aspect affecting the pharmacokinetics and bioavailability of intranasal administration: | a | concentration of active drug                          |
|    |  | b | volume administered                                   |
|    |  | c | presence of infection                                 |
|    |  | d | molarity of formulation                               |
| 16 | Following is the bile salt used as permeation enhancer for intranasal delivery:  | a | glycyrrhizinate                                       |
|    |  | b | citric acid   |
|    |  | c | lauric acid   |
|    |  | d | deoxycholate  |
| 17 | Which of the following is a common vector used in gene delivery systems?   | a | Antibodies  |
|    |  | b | Enzymes   |
|    |  | c | Viruses   |
|    |  | d | Lipids  |
| 18 | What is the primary advantage of liposomal gene delivery systems?  | a | High immunogenicity                                   |
|    |  | b | Limited cargo capacity                                |
|    |  | c | Enhanced stability and protection of genetic material |
|    |  | d | Inability to target specific cell types               |
| 19 | The translation phase of protein production is interrupted by:   | a | Aptamers  |
|    |  | b | Antisense molecules                                   |
|    |  | c | Aquasomes   |
|    |  | d | Lipoplexes  |
| 20 | Identify the property of Aptamers:   | a | They can be deactivated                               |
|    |  | b | They are non-specific                                 |
|    |  | c | They are polysaccharides                              |
|    |  | d | They cannot be modified                               |

