

Contents

Preface (v)

CHAPTER - 1

Targeted Drug Delivery Systems

Concepts	1
Biological Processes Involved in Drug Targeting	3
Tumour Targeting	17
Brain Specific Drug Delivery	20
<i>References</i>	24
<i>Multiple Choice Questions</i>	28
<i>Answers</i>	33

CHAPTER - 2

Targeting Methods

Introduction	34
Nanoparticles	40
Types	42
Preparation	46
Evaluation	52
Liposomes	58
Types	60
Preparation	60
Evaluation	65
<i>References</i>	68
<i>Multiple Choice Questions</i>	72
<i>Answers</i>	77

CHAPTER - 3

Microcapsules/Microspheres

Introduction	78
Types	80

(viii) Contents

Preparation	83
Evaluation	86
Physicochemical Evaluation	86
Applications	90
Monoclonal Antibodies	91
Preparation	92
Application	93
Niosomes	93
Application of Niosomes	99
Aquasomes	102
Application of Aquasomes	103
Phytosomes	106
Application of Phytosomes	110
Electrosomes	113
Application of Electrosomes	117
<i>References</i>	117
<i>Multiple Choice Questions</i>	122
<i>Answers</i>	127

CHAPTER - 4

Pulmonary Drug Delivery Systems

Introduction	128
Aerosols	133
Propellants	136
Containers	140
Preparation of Aerosol	149
Evaluation of Aerosol	152
Intra Nasal Route Delivery Systems	158
Types of Intra Nasal Delivery System	162
Preparation of Intra Nasal Delivery System	169
Evaluation of Intra Nasal Delivery System	177
<i>References</i>	182
<i>Multiple Choice Questions</i>	186
<i>Answers</i>	191

CHAPTER - 5

Nucleic Acid Based Therapeutic Delivery System

Introduction	192
Gene Therapy	198
Introduction to <i>Ex-Vivo</i> and <i>In-Vivo</i> Gene Therapy	208
Potential Target Diseases for Gene Therapy	215
<i>References</i>	217
<i>Multiple Choice Questions</i>	221
<i>Answers</i>	226

CHAPTER - 6

Inherited Disorder and Cancer

Introduction	227
Gene Expression Systems	230
Viral and Nonviral Gene Transfer	235
Nonviral Delivery Systems	241
Liposomal Gene Delivery Systems	243
Biodistribution and Pharmacokinetics	248
ADME	249
Knowledge of Therapeutic Antisense Molecules	259
Aptamers as Drugs of Future	264
<i>References</i>	270
<i>Multiple Choice Questions</i>	276
<i>Answers</i>	280