Contents	
Preface	(v)
Part I	
Environmental Studies	
Chapter 1	
Multidisciplinary Nature of Environmental Studies	
 Introduction 	3
Definition of Environment	3
• Scope	4
Importance	4
Multidisciplinary Nature	5
• Summary	6
Review Questions	7
Chapter 2	
Natural Resources – Renewable and Non-renewable Resources	
 Introduction 	8
Natural Resources	8
 Renewable and Non-renewable Resources 	9
 Natural Resources and Associated Problems 	10
 Summary 	11
Review Questions	11
Chapter 3	
Forest Resources	
 Introduction 	12
 Importance 	12
Forests and Tribal Population	14
Use and Over exploitation of Forests	14
• Summary	15
Review Questions	15

Chapter 4	
Water Resources	
 Introduction 	16
Use and Utilization of Surface and Ground Water	16
Wastage of Irrigation Water	17
Preventing Groundwater Depletion	18
Floods and Droughts	18
Dams – Benefits and Problems	19
 Environmental Problems Associated with Dams 	20
 Summary 	21
Review Questions	22
Chapter 5	
Mineral Resources	
 Introduction 	23
 Importance 	23
 Mineral Resources of the Country 	24
Use of Minerals	24
 Extracting and Using Mineral Resources 	25
Mining	26
 Summary 	27
Review Questions	27
Chapter 6	
Energy Resources	
 Introduction 	28
 Uses of Energy 	28
 Sources of Energy 	29
 Coal 	30
 Petroleum and Natural Gas 	31
Nuclear Energy	31
 Hydroelectric Energy 	32
Solar Energy	32
Wind Energy	33
 Biomass 	33
 Summary 	33
Review Questions	34

Contents	(iv)

	Contents (ix)
Chapter 7	
Land Resources	
 Introduction 	35
 Land Degradation 	35
Soil Degradation	36
Soil Erosion	37
 Summary 	37
Review Questions	38
Chapter 8	
Ecology and Ecosystem	
 Introduction 	39
 Concept 	39
 Characteristics 	39
 Structure of an Ecosystem 	40
 Functions of an Ecosystem 	42
 Summary 	43
Review Questions	44
Chapter 9	
Environmental Pollution and Protection	
 Introduction 	45
 Definition of Pollution 	45
Air Pollution	46
 Water Pollution 	48
 Biochemical Oxygen Demand (BOD) 	49
 Chemical Oxygen Demand (COD) 	50
 Effluent Treatment Procedure 	51
 Noise Pollution 	52
 Soil Pollution 	54
 Thermal Pollution 	56
 Summary 	57
Review Questions	58

(X)	Contents	
Cha	apter 10	
;	Solid Waste Management	
	 Introduction 	59
	• Sources	59
	Municipal Solid Waste	60
	Biomedical Waste	60
	Radioactive Wastes	62
	Hazardous Waste	62
	 Disposal of Flammable Wastes 	64
	Assessment	65
	Waste Minimization	67
	Summary	67
	Review Questions	68
	Part II	
	Occupational Hazards and Safety	
Cha	apter 11	
	Accident Prevention and Workplace Safety	
	 Introduction 	71
	Causes of Accidents	71
	Safe Work Environment	74
	 Housekeeping 	79
	 Health and Safety Norms in Pharmaceuticals 	80
	 Job Safety Analysis 	83
	 Personal Protective Equipment (PPE) 	83
	Summary	86
	Review Questions	87
Cha	apter 12	
(Occupational Health Hazards and Risk Management	
	 Introduction 	88
	Hazard Identification	88
	Hazard Appraisal	89
	 Occupational Hazards 	91

-	Contents (xi)
 Recognition of Hazards 	96
 Threshold Limit Value (TLV) 	98
 Occupational Diseases 	98
 Risk Management 	102
 Risk Assessment 	104
 Hazard Analysis and Control Measures in Pharmaceuticals 	106
 International Conference on Harmonisation (ICH) Guidelines 	108
 Summary 	109
 Review Questions 	110
Chapter 13	
Chemical Hazards	
 Introduction 	111
 Causes of Chemical Hazards 	111
 Classification of Chemicals 	112
 Relief Valves 	113
 Chemical Exposure 	114
 Contamination 	116
 Summary 	118
 Review Questions 	119
Chapter 14	
Fire Prevention and Protection	
 Introduction 	120
 Chemistry of Fire 	120
 Classification of Fire 	121
 Methods of Fire Extinguishment 	121
 Fire Hazards 	123
 Fire Explosion 	125
Fire Inspection	127
Fire Safety	128
First Aid and Emergency Procedures	130
• Summary	131
 Review Questions 	132

1	(xii)) Contents
N	AH	Comens

Chapter 15	
Emergency Planning and Services	
 Introduction 	133
Emergency Planning	134
Emergency Control	136
Emergency Services	138
Contingency Plan	139
Bhopal Gas Disaster	140
 Summary 	141
Review Questions	142
Chapter 16	
The Factories Act, 1948 – (Health, Safety and Welfare)	
 Introduction 	143
Health	143
Safety	144
Welfare	148
 Obligations of Workers 	150
 Obligations of Employers 	151
Summary	151
Review Questions	152
Bibliography	.153