Contents

1. Present Health Status **1-6**

- Disease Burden 1
- Reasons for High Disease Burden 1
- Communicable Diseases 2
- Chronic Noncommunicable Diseases and Conditions 2
  - ❒ Nutritional Deficiencies 2
- Maternal and Child Health 3
  - ❒ Burden of Occupational Diseases and Injuries 3
  - ❒ Clinical Diagnosis and Community Diagnosis 5
- Notifiable Diseases 5

2. Family **7-9**

- Family 7
  - ❒ Definition 7
  - ❒ Types of Family 7
  - ❒ Special Objectives 8
  - ❒ Method of Study 8
  - ❒ Family—A Dynamic Unit 8
- General Information for Students 9

3. Economics **10-15**

- Poverty Line 10
- Per Capita Income 10
- Overcrowding 10
  - ❒ Accepted Standards 11
  - ❒ Sex Separation 11
  - ❒ Housing 11
  - ❒ Social Classification 11

4. Communicable Diseases **16-75**

- Communicable Disease 16
  - ❒ Definition 16
- Tuberculosis 18
  - ❒ Sites Affected 18
  - ❒ Economic Burden of Tuberculosis 18
  - ❒ Epidemiological Indices 19
  - ❒ Communicability 19
  - ❒ Case Finding 20
  - ❒ Chemoprophylaxis 21
  - ❒ Treatment 21
  - ❒ Important Definitions 23

- **Pediatric Tuberculosis 25**
  - **Pediatrics DOTS 25**
  - **Directly Observed Therapy Short-course (DOTS) 27**
  - **Structure of the RNTCP 28**
  - **Reasons for Dropout of the Treatment 29**
  - **National TB Control Program 29**
  - **Objectives of NTCP (1962) 30**
  - **Disinfection of Sputum 30**
  - **DOTS-Plus Strategy 30**
  - **Green Light Committee Initiative 32**
  - **HIV Infection and Risk of Tuberculosis 32**
- **Leprosy 33**
  - **History 33**
  - **Burden of Leprosy 33**
  - **Essential Indicators for Leprosy 34**
  - **Epidemiology 35**
  - **Lepromatous Leprosy 37**
  - **Diagnosis 38**
  - **Bacteriological Examination 40**
  - **Treatment of Reversal Reaction 44**
  - **Treatment of ENL Reaction 46**
  - **Completion of Treatment and Cure 46**
- **Leprosy Control 47**
  - **Leprosy Control Programs 47**
  - **Health Education 48**
  - **Rehabilitation 49**
  - **Leprosy Organizations in India 49**
  - **National Leprosy Eradication Program (NLEP) 50**
  - **Modified Leprosy Elimination Campaigns 50**
  - **Special Action Projects for the Elimination of Leprosy 51**
  - **Global Leprosy Elimination Program 51**
- **Filariasis 52**
  - **Burden of Disease 52**
  - **Epidemiology 52**
  - **Clinical Manifestations 53**
  - **Control Measures 53**
  - **National Filaria Control Program 54**
- **Diarrhea and Dysentery 54**
  - **Definition 54**
  - **Dysentery 55**
  - **Problem of Diarrheal Disease 55**
- **Cholera 56**
  - **Epidemiology 56**
  - **Disinfection 62**
  - **Diarrheal Diseases Control Program 63**

- **Scabies 66**
  - ❒ **Epidemiology 66**
  - ❒ **Clinical Features 67**
  - ❒ **Complications 67**
  - ❒ **Variants 68**
  - ❒ **Control of Scabies 68**
- **Sexually Transmitted Diseases 68**
  - ❒ **What are Sexually Transmitted Diseases? 68**
  - ❒ **Why is STD Control an Important Component of HIV/AIDS Prevention? 68**
  - ❒ **What are the Symptoms of STDs? 69**
  - ❒ **How can One Protect Oneself from STDs? 69**
  - ❒ **How can Reinfection of STDs be prevented? 69**
  - ❒ **What are the Approaches to STD Management? 70**
  - ❒ **What is the Syndrome Approach? 70**
  - ❒ **The Steps Involved in Adopting a Syndromic Approach 71**
  - ❒ **Syndromic Case Management necessitates Clinical Examination of the Patient 71**
  - ❒ **Syndromic Case Management 72**
  - ❒ **Advantages of the Syndromic Case Management 72**
  - ❒ **Treatment for the Most Common STD Associated Syndromes 73**
  - ❒ **National STD Control Program 74**

5. Noncommunicable Diseases 76-100

- **Coronary Heart Disease 76**
  - ❒ **Definition 76**
  - ❒ **Measurement the Burden of Disease 77**
  - ❒ **Epidemiology 77**
  - ❒ **Risk Factors for CHD 77**
  - ❒ **Medical Treatment 78**
  - ❒ **Prevention and Control 79**
  - ❒ **Population Strategy 79**
- **Hypertension 80**
  - ❒ **Prevalence 80**
  - ❒ **Risk Stratification 80**
  - ❒ **Pharmacologic Treatment Initiation 81**
- **Obesity 82**
  - ❒ **Prevalence 82**
  - ❒ **Assessment of Obesity 83**
  - ❒ **Clinical Features of Obesity 85**
  - ❒ **Complications 85**
  - ❒ **Treatment 85**
  - ❒ **Prevention and Control 86**
- **Rheumatic Heart Disease 86**
  - ❒ **Prevalence 87**
  - ❒ **Clinical Features 87**

- ❒ Diagnosis 87
- ❒ Prevention and Control 88

• Mental Health 88
- ❒ Prevalence 88
- ❒ Classification 89
- ❒ Etiology 89
- ❒ Organic Conditions 89
- ❒ Social Pathological Causes 90
- ❒ Environmental Factors 90
- ❒ Warning Signals of Poor Mental Health 90
- ❒ Prevention and Control 90
- ❒ National Mental Health Program 91
- ❒ Aims 91
- ❒ Objectives 91
- ❒ Strategies 91

• Diabetes Mellitus 92
- ❒ Latent Diabetic 92
- ❒ Black Zone 92
- ❒ Clinical Classification of Diabetes Mellitus as Adopted by WHO 92
- ❒ Epidemiology 93
- ❒ Environmental Factors 93
- ❒ Social Factors 93
- ❒ Clinical Features 93
- ❒ Complications 93
- ❒ Investigations 94
- ❒ Prevention and Care 94
- ❒ National Diabetes Control Program 95
- ❒ Objectives 95

• Cancer 96
- ❒ Prevalence 96

• Causes of Cancer 98
- ❒ Environment 98
- ❒ Genetic 98
- ❒ Primary Prevention 98
- ❒ Health Education Regarding "Danger Signals" 99
- ❒ Secondary Prevention 99
- ❒ Treatment for Cancer 99

• National Cancer Control Program (NCCP) 99
- ❒ Basic Steps 99
- ❒ Goals of NCCP 99
- ❒ District Cancer Control Program 99
- ❒ Carcinoma of Breast 99
- ❒ Carcinoma of Lung 100

6. Maternity and Child Health 101-133

- ❒ In Developing Countries 101
- ❒ Causes of Maternal Death 101

- ❒ **Conceptual Framework of Safe Motherhood 102**
- ❒ **Risk Approach 102**

- **Reproductive and Child Health Program 103**
  - ❒ **Definition of RCH 103**
- **Major Elements of RCH Program 104**
  - ❒ **Reproductive Health Elements 104**
  - ❒ **Child Survival Elements 104**
  - ❒ **State Committee on Voluntary Action 105**
  - ❒ **Contents of Kits Supplied to Subcenter and First Referral Unit (FRU) 105**
  - ❒ **Under RCH Program 106**
  - ❒ **Methods to Estimate Requirements for MCH Services 107**
- **Antenatal Care 107**
  - ❒ **Objectives of Antenatal Visit 107**
  - ❒ **Specific Protection 108**
- **Maternal and Child Health 108**
  - ❒ **RCH-II and Family Planning 108**
  - ❒ **Program Implementation Plan (PIP) 109**
  - ❒ **Janani Suraksha Yojana 109**
  - ❒ **Mamta Scheme—An Example of Public Private Partnership in Health Care 111**
  - ❒ **Health Care Services for the Beneficiaries under the Scheme 112**
  - ❒ **Eligibility Criteria for Beneficiaries under the Scheme 112**
  - ❒ **Registration of Beneficiaries under the Scheme 112**
  - ❒ **Prevention of Patient to Child Transmission (PPTCT) 112**
  - ❒ **Role of Maternal and Child Health Services in the Prevention of HIV Infection in Infants and Young Children Program. 113**
  - ❒ **Integration of PPTCT within Postnatal MCH Services 114**
  - ❒ **Key Points 114**
  - ❒ **Infant Feeding Formula 115**
- **Intranatal Care 116**
  - ❒ **Care at Birth 116**
- **Postnatal Care 116**
  - ❒ **Objectives of Postnatal Care 116**
  - ❒ **Warm Chain 117**
  - ❒ **High-Risk Infants 117**
- **Malnutrition 117**
  - ❒ **Definition 117**
  - ❒ **Classification 117**
  - ❒ **Nutritional Problems 118**
  - ❒ **Epidemiology 118**
- **Protein-Energy Malnutrition 119**
  - ❒ **Definition 119**
  - ❒ **Types of PEM 119**
  - ❒ **Clinical Features 119**
  - ❒ **Clinical Features 120**
  - ❒ **Signs 120**

- ❒ Classification of PEM 120
- ❒ Epidemiology of Malnutrition 122
- ❒ Examination of the Case 124
- ❒ Weighing Procedure 124
- ❒ Height or Length 126
- ❒ Midarm Circumference 128
- ❒ Head and Chest Circumference 129
- ❒ General Procedures for Treatment of Severe PEM 129
- ❒ Calculation of Expected Weight of the Child 131
- ❒ Calculation of Expected Height of the Child 132
- ❒ Surface Area According to Weight 132
- ❒ Calculation of Pediatrics Doses 132

• Breastfeeding 132
- ❒ A to Z Benefits for Baby 132
- ❒ Advantages to Mother 132

7. Reproductive and Child Health 134-154

- ❒ Qualities of Good Contraceptives 134
- ❒ Methods of Family Planning 136
- ❒ Emerging Oral Contraception 142
- ❒ Give Specific Instructions 143
- ❒ Important 144
- ❒ Give Advice on Common Problems 144
- ❒ Explain Specific Reasons to Return to the Health Care Provider 144
- ❒ Introduction to Injectable Contraceptives 145
- ❒ Mechanism of Action 145
- ❒ Advantages and Disadvantages of Injectable Contraceptives 145

• Subcutaneous DMPA and Home Injection 147
- ❒ Centchroman 147
- ❒ Family Planning Insurance Scheme 148
- ❒ Medical Methods of Abortion 149
- ❒ Mifepristone and Misoprostol 149
- ❒ Future Fertility 150

• Manual Vacuum Aspiration (MVA) 150
- ❒ Methods of Uterine Evacuation 150

• Calculation of the Effective Couple Protection Rate (ECPR) 152
- ❒ Effective Protection 152
- ❒ Pearl Index 153
- ❒ Important Facts about Contraceptives 153

8. Immunization 155-187

• National Immunization Schedule 155
- ❒ Immunization of Pregnant Woman 155
- ❒ Determine Needs and Requirement 156
- ❒ Difference between EPI and UIP 157
- ❒ National Immunization Schedule 157
- ❒ Estimation of Requirements of Syringes and Needles 158

- ❒ **Estimation of Requirements of Sterilization Equipment 159**
- ❒ **Estimation of Vaccine Needs 159**
- ❒ **Estimation of Cold Chain Requirements 160**
- ❒ **Determine Training Needs 161**
- ❒ **Estimation of Requirements of Immunization Cards 162**
- ❒ **Estimation of Vaccine Requirements 162**
- ❒ **Maintain Vaccines 164**
- ❒ **Maintain Equipment 165**
- ❒ **Vaccine 166**
- ❒ **Oral Polio 168**
- ❒ **National Immunization Schedule 168**
- ❒ **Development of Immunity 168**
- ❒ **Strategies for Polio Eradication 170**
- ❒ **Current Four Basic Strategies to Eradicate Polio 170**
- ❒ **National Immunization Days 171**
- ❒ **Intensive Pulse Polio Immunization (IPPI) 175**
- ❒ **Vaccine Vial Monitoring 176**
- ❒ **Measles Vaccine 176**
- ❒ **Adverse Effects of Vaccine 177**
- ❒ **Combined Vaccine 178**
- ❒ **Urban Measles Campaign 178**
- ❒ **Diphtheria Immunization 178**
- ❒ **Composition of DPT Vaccines 179**
- ❒ **Tetanus Toxoid 180**
- ❒ **Active and Passive Immunization 182**
- ❒ **Elimination of Neonatal Tetanus 182**
- ❒ **Anti-Rabies Vaccine 182**
- ❒ **Anti-Snake Venom 184**
- ❒ **Newer Vaccines 185**

9. Nutrition 188-214

- ❒ **Dietetics 188**
- ❒ **Balanced Diet 188**
- ❒ **Assessment of Nutritional Status 190**
- ❒ **Assessment of the Energy Requirement for Family 191**
- ❒ **Cereals and Millets 191**
- ❒ **Pulses (Legumes) 192**
- ❒ **Fruits 194**
- ❒ **Nuts and Oil Seeds 195**
- ❒ **Nutrient Requirements during Pregnancy 196**
- ❒ **Rich Sources of Essential Nutrients 199**
- ❒ **Protein Requirements 200**
- ❒ **Principles in Calculating Balanced Diet 200**

• **Balanced Diets 200**

- ❒ **Balanced Diet for Children 201**
- ❒ **Average Weight of Vegetables 204**

- ❒ Approximate Weight of Foods Equal to 1 Level Katori (Bowl) of 150 ml Volume 205
- ❒ Average Weight of Nuts and Spices 205

10. Medical Entomology and Worm Infestations 215-227

- Arthropods 215
  - ❒ Arthropods of Medical Importance 215
  - ❒ Mosquito 217
  - ❒ Mosquito-borne Diseases 217
  - ❒ Mosquito Control Measures 220
  - ❒ Ticks 220
  - ❒ Houseflies 221
- Public Health Importance of Worm Infestation 224
  - ❒ *Ascariasis* 224
  - ❒ *Enterobius vermicularis* 225
  - ❒ *Trichuris trichiura* 225

11. Disinfection 228-233

- Definitions (Disinfectant or Germicide) 228
  - ❒ Disinfectant 228
  - ❒ Antiseptic 228
  - ❒ Deodorant 228
  - ❒ Detergent 228
  - ❒ Sterilization 228
  - ❒ Disinfection 228
  - ❒ Types of Disinfection 229
  - ❒ Disinfecting Agents 229
  - ❒ Natural Agents 230
  - ❒ Physical Agents 230
  - ❒ Chemical Disinfectants 231

12. Insecticides and Rodenticides 234-237

- Insecticides and Pesticides 234
  - ❒ Classification 235
  - ❒ DDT (Dichloro-diphenyl-trichloroethane) 235
  - ❒ HCH (BHC) Hexachlorocyclohexane 236
  - ❒ Malathion 236
  - ❒ Mineral Oil 236
  - ❒ Paris Green (Copper aceto-arsenite) 237

13. Environmental Models 238-245

- Chloroscope/Chlorinometer 238
  - ❒ Procedure 238
- Dry and Wet Bulb Thermometer (Hygrometer) 238
  - ❒ Procedure 239
- Maximum and Minimum Thermometer 239
  - ❒ Procedure 239
- Kata Thermometer 240

- ❒ Used for Measuring 240
- ❒ Procedure 240

- Globe Thermometer 240
  - ❒ Procedure 240
  - ❒ Sling Psychrometer 241
  - ❒ Procedure 241
  - ❒ Gully Trap 242
- Soak Pit 242
- Slow Sand Filter 244
  - ❒ Rapid Sand Filter 245

14. Water Analysis **246-252**

- Determination of Total Hardness 246
  - ❒ Theory 246
  - ❒ Procedure 246
- Bacteriology of Water 247
  - ❒ Bacteriological Examination of Water 247
- Steps in Well Disinfection 250
  - ❒ Find the Volume of Water in a Well 250
  - ❒ Find the Amount of Bleaching Powder Required for Disinfection 250
  - ❒ Procedure 251
  - ❒ Dissolve Bleaching Powder in Water 251
  - ❒ Delivery of Chlorine Solution into the Well 251
  - ❒ Contact Period 251
  - ❒ Orthotolidine Arsenite Test 252

15. Bacteriology of Milk **253-254**

- Bacteria in Milk 253
  - ❒ Types of Bacteria in Milk 253
  - ❒ Bacteriological Examination 253

16. Staining, Culture Media and Microscopy of Slides of Public Health Importance **255-263**

- Gram Stain 255
  - ❒ Aim 255
  - ❒ Requirement 255
  - ❒ Procedure 255
  - ❒ Result 255
- Ziehl-Neelsen Stain 256
  - ❒ Aim 256
  - ❒ Procedure 256
  - ❒ Result 256
- Albert Stain 256
  - ❒ Aim 256
  - ❒ Requirement 256
  - ❒ Procedure 257
  - ❒ Result 257

- Culture Media 257
  - ❐ Types of Media 257
- Microscopic Slides 258
  - ❐ *Mycobacterium tuberculosis* 259
  - ❐ *Mycobacterium leprae* 259
  - ❐ *Treponema pallidum* 259
  - ❐ *Neisseria meningitidis* 260
  - ❐ *Corynebacterium diphtheriae* 261
  - ❐ *Neisseria gonorrhoeae* 261
  - ❐ *Clostridium tetani* 261
  - ❐ *Leptospira* 262

17. Hospital Waste Management 264-279

- ❐ Type of Hospital Waste 265
- ❐ Hazards and Risks from Hospital Waste Exposure 266
- Hospital Waste Disposal 266
  - ❐ Categories of Biomedical Waste 267
  - ❐ Objectives of Plan 268
- Planning and Organization 268
  - ❐ Organization 269
  - ❐ Staff Appraisal on Hospital Waste Management 269
  - ❐ Waste Disposal Strategy 270
- Incinerators 272
  - ❐ Site for Incinerator 272
  - ❐ Standards for Incinerators 272
  - ❐ Inertization 276
  - ❐ Legislative Framework 276
  - ❐ Summary of Biomedical Waste Rules 276
  - ❐ What You should Know and Do 277

18. National Rural Health Mission (2005-2012) 280-296

- Goals 281
- Strategies 281
  - ❐ Core Strategies 281
  - ❐ Supplementary Strategies 282
- Plan of Action 282
  - ❐ Component (A): Accredited Social Health Activists 282
  - ❐ Component (B): Strengthening Sub-Centers 283
  - ❐ Component (C): Strengthening Primary Health Centers 283
  - ❐ Component (D): Strengthening CHCs for First Referral Care 284
  - ❐ Component (E): District Health Plan 284
  - ❐ Component (F): Converging Sanitation and Hygiene under NRHM 284
  - ❐ Component (G): Strengthening Disease Control Programs 285
  - ❐ Component (H): Public-Private Partnership for Public Health Goals, including Regulation of Private Sector 285
  - ❐ Component (I): New Health Financing Mechanisms 285
  - ❐ Component (J): Reorienting Health/Medical Education to support Rural Health Issues 286

- Institutional Mechanisms 286
- Technical Support 287
  - ❒ Program Management Support Center 287
  - ❒ Health Trust of India 287
- Role of State Governments Under NRHM 288
- Focus on the North-Eastern States 288
- Role of Panchayati Raj Institutions 288
- Role of NGOs in the Mission 289
- Mainstreaming Ayush 289
- Funding Arrangements 289
- Timelines (for Major Components) 290
- Outcomes 290
- National Level 290
  - ❒ Community Level 291
- Monitoring and Evaluation 291
  - ❒ Is NRHM a New Program of the Government of India? 292
  - ❒ What is the Institutional Setup at National, State and District Levels? 292
- National Urban Health Mission 292
  - ❒ Goal 293
  - ❒ Core Strategies 293
  - ❒ Components of Urban Health Mission (UHM) 293
  - ❒ Targets 294
  - ❒ Urban Health Delivery Model 294
  - ❒ At Community Level (Urban Social Health Activist, USHA) 294
  - ❒ Essential Service to be Rendered by the USHA 294
  - ❒ Primary Urban Health Center 295

19. Sanitation of Camps 297-301

- Camp Site 297
- Accommodation and Equipment 298
  - ❒ Water 298
- Food and Cooking Arrangements 298
- Disposal of Refuse and Excreta 299
  - ❒ Dry Camp and Kitchen Refuse 299
  - ❒ Liquid Waste 299
  - ❒ Disposal of Feces 300
- Disposal of Stable Litter 301

20. Indian Systems of Medicine 302-307

- Ayurveda System of Medicine 302
- Siddha System of Medicine 303
  - ❒ Introduction and Origin 303
  - ❒ Basic Concepts 303
  - ❒ Diagnosis and Treatment 303
- Unani System of Medicine 304
  - ❒ Origin and Development 304
  - ❒ Fundamental Principles 304
- Diagnosis and Treatment 304
- Homeopathy 305

- Yoga 306
- Naturopathy 307
- Allopathy 307
  - Methods 307

21. Adolescent Health 308-315

  - Population Profile: Ages 10 to 24 Years in India 308
  - Characteristics 308
- Physical Changes during Adolescent 309
- Puberty Changes in Adolescent 310
  - Puberty in Girls 310
  - Psychological and Behavioral Changes 310
  - Impact of Adolescence 310
  - Adolescent Health Problems 311
- Emotional Problems 311
- Educational Problems 311
  - Reasons for Adolescent Reluctant to seek Help 312
  - Prevention 312
  - Syllabus for Adolescent Health Education 312
  - Life Skills 312
  - Adolescent Friendly Health Center Services 313
  - Criteria for Adolescent Friendly Health Worker 313
  - Criteria for Adolescent Friendly Health Center 313
  - Adolescent Girls Scheme 314
- Beneficiaries 314
  - Scheme I: Girl-to-Girl Approach 314
  - Scheme II: Balika Mandal 314
  - Interventions 315
  - Training 315

22. Integrated Disease Surveillance Project 2004-2009 316-334

- Project Objectives 316
- Specific Objectives 316
- Phasing of IDSP Covering the States of India 316
  - Project Activities 317
- Sentinal Surveillance under IDSP 317
- Regular Periodic Survey 317
- National Surveillance Unit 318
- State Surveillance Unit 318
- District Level Unit 318
- District Surveillance Unit 318
  - Functions of the District Surveillance Unit 318
- District Epidemiological Cell 320
- Levels of Response to Different Triggers 321
  - Malaria Triggers 322
  - Cholera Triggers 322
  - Typhoid Fever Triggers 322

Polio Trigger 322
Plague Triggers 323
Japanese Encephalitis Triggers 323
Dengue Triggers 323
Triggers for Syndromic Surveillance 323
- Surveillance of Noncommunicable Diseases 332
  - ❒ Aims 332
  - ❒ NCD Risk Factors 332
  - ❒ Program for Control and Treatment of Occupational Diseases 332
  - ❒ List 332
  - ❒ Etiological Classification of Occupational Disorders 332
  - ❒ Proposed Projects for Occupational Diseases under National Program for Control and Treatment of Occupational Diseases 333
  - ❒ Global Strategy of Occupational Health 333
  - ❒ Monitoring and Evaluation 334

23. Integrated Management of Neonatal and Childhood Illnesses 335-338
- Components of IMNCI in India 335
- IMNCI Strategy in India 335
  - ❒ Timeline of IMNCI 337
  - ❒ The IMNCI-PLUS 338

24. Community-Based Rehabilitation 339-345
- Hard Facts 339
- Need of Rehabilitation Service 340
  - ❒ Seven National Levels Institutes 340
  - ❒ Government Rehabilitation Services 340
  - ❒ Objectives 340
  - ❒ District Rehabilitation Center (DRC) Project 340
  - ❒ Regional Rehabilitation Training Center (RRTC) 341
  - ❒ National Information Center on Disability and Rehabilitation (NICDR) 341
  - ❒ Role of Primary Health Centers for Disability Rehabilitation 342
  - ❒ Model Method of Implementation of CBR Using Primary Health Centers 343
  - ❒ Orientation of Medical Officers Working in Primary Health Centers to Disability Management 344
  - ❒ Expected Benefits of the Program 345

25. Social Security 346-349
- Workforce in India 346
  - ❒ Organized and Unorganized Sectors 346
- Functions of Social Security Division 347
  - ❒ List of Subjects 347
  - ❒ New Initiative in Social Security 349

26. Swine Flu 350-352

- Transmission 350
- Signs and Symptoms 351
  - ❐ Cause of Death 351
  - ❐ Facility Management 351
  - ❐ Herd Management 351

27. Hospital Statistics 353-355

- Daily Analysis 353
- Monthly Reports 353
- Census 353
- Death Rate 353

28. Biostatistics 356-377

- ❐ Definitions of Statistics 356
- ❐ Use of Biostatistics 357
- Collection and Presentation of Data 357
  - ❐ Frequency Table 358
- Graphical Representation of Data 358
  - ❐ Graphs 358
  - ❐ Bar Diagram 358
  - ❐ Histogram 359
  - ❐ Frequency Polygon 360
  - ❐ Pie Diagram 360
  - ❐ The Ogive 360
- Centering Constants (Measures of Central Tendency) 361
  - ❐ Arithmetic Mean 361
  - ❐ Median 362
  - ❐ Mode 362
- Measures of Variation 362
  - ❐ Range 362
  - ❐ Mean Deviation (MD) 363
  - ❐ Standard Deviation (SD) 363
  - ❐ Coefficient of Variation (CV) 363
  - ❐ Quartile Deviation (QD) 363
  - ❐ Percentile 364
  - ❐ Tests of Statistical Comparison of Two Groups 364
  - ❐ Test of Significance (for Large Size) 364
  - ❐ Test of Significance (for Small Sample Size) 366
  - ❐ t-tests for Unpaired Data 366
  - ❐ t-tests for Paired Data 367
  - ❐ Steps for Paired t-test 367
  - ❐ Standard Error of Proportion (Large Sample Size) 367
  - ❐ Standard Error of Difference between Two Proportions (Large Sample) 368
  - ❐ Probability of a Larger Value of '*t*' 369
  - ❐ Normal Distribution 370

- ❒ Table of the Unit Normal Distribution 371
- ❒ Chi-square Test (χ^2-Test) 372
- ❒ Table of Chi-square 372
- ❒ Formula 373
- ❒ Fallacies in Biostatistics 373
- ❒ Vital Statistics 374
- ❒ Geometrical Progression Method 374
- ❒ Measures of Vital Statistics 374

• International Death Certificate—Cause of Death 377

29. Problems 378-407

• Environmental Problems 378
- ❒ Problems 378

• Biostatistics 381
- ❒ Limitations of the Mean 384

• Correlation and Regression 387
- ❒ Problems 389

• Demography 392
• Epidemiological and Nutritional Exercises 399
- ❒ Miscellaneous Problems 404

30. Visits 408-434

• Integrated Counseling and Testing Center (ICTC) 408
• Visit to Blind School 409
- ❒ Admission Criteria 409
- ❒ Government Authority 409
- ❒ National and International Agencies 410

• A Visit to Deaf and Dumb School 410
- ❒ Staffing Pattern 411
- ❒ Rules and Regulations 411

• Visit to District Health Laboratory 411
- ❒ Staffing Pattern 411
- ❒ Functions 411

• Visit to Primary Health Center (PHC) 412
- ❒ Functions of the PHC 412
- ❒ Staffing Pattern 412

• Postpartum Center 413
- ❒ Functions of Postpartum Unit 414
- ❒ Department of Obstetrics and Gynecology 415
- ❒ Monitoring and Evaluation Aspects 415
- ❒ Broad Functions 416

• Delivery of Integrated Services for Maternal and Child Health, Family Planning, Nutrition and Immunization 416
• The Baby Friendly Hospital Initiative 417
- ❒ What is BFHI? 417
- ❒ Why this Program? 417
- ❒ What is New About it? 417

- ❒ What is this Program All About? Can it be Simply Described in a Few Words? 418
- ❒ What are the Benefits of Making My Hospital Baby Friendly? 418
- ❒ What are the Investments Needed and What is the Cost Involved? 419
- ❒ What should I do to get My Hospital Recognized as Baby Friendly Hospital? 419

• World Breastfeeding Week 419
- ❒ What are Our Problems? 419

• Anganwadi 421
• Integrated Child Development Scheme 421
- ❒ Objectives 422
- ❒ Organizational Set-up 422

• Visit to District Tuberculosis Center 425
- ❒ National Tuberculosis Program (NTP) 425

• Visit to District Rehabilitation Center 426
- ❒ Services Provided 426
- ❒ National Program for Rehabilitation of Persons with Disabilities 427

• Visit to Places of Natural Calamities 427
- ❒ Disasters 427

• School Health Service 430
- ❒ Benefits of School Health Programs 430
- ❒ Objectives of School Health Service 431
- ❒ School Health Program in India 431
- ❒ Aspects of School Health Service 431

• Visit to District Leprosy Center 432
- ❒ District Infrastructure 432
- ❒ Goal of National Health Policy 2002—Elimination of Leprosy by 2005 433

Appendix *435*

Index *447*