Contents

1. Musculoskeletal System 1

Patterns of Fracture 1
Healing of Fracture 4
Fall on Outstretched Hand 5
Rickets 8
Osteoporosis and Osteomalacia 10
Colle's Fracture 12
Acute Osteomyelitis 14
Chronic Osteomyelitis 15
Sequestrum 17
Septic Arthritis 18
Periosteal Reaction (Periostitis) 18
Tuberculosis or Caries Spine 20
Benign and Malignant Bone Tumor 22
Unicameral or Simple Bone Cyst 22
Osteoid Osteoma 23
Osteochondroma 24
Osteochondroma Rib 25
Adamantinoma 25
Giant Cell Tumor 26
Skeletal Metastasis 28
Diaphyseal Aclasis 29
Preaxial and Postaxial Polydactyly 30
Ectrodactyly Ectodermal Dysplasia Cleft Lip (EEC) Syndrome 31
Madelung's Deformity 32
Congenital Hip Dislocation 32

Multiple Epiphyseal Dysplasia 33
Macrodystrophia Lipomatosa 33
Holt-Oram Syndrome 35
Osteonecrosis of Hip (Legg-Calve-Perthes Disease) 35

2. Chest 37

Anatomy of Chest and Mediastinum 37
Consolidation 41
Pleural Effusion 43
Pulmonary Tuberculosis 45
Miliary Tuberculosis 46
Pneumoconiosis 47
Pneumothorax 49
Aspergilloma/Fungal Ball 51
Hydatid Cyst 53
Flail Chest 54
Kartagener's Syndrome 55
Tumors of the Lung 56
Pancoast Tumor 57
Solitary Pulmonary Nodule or Coin Lesion 59
Hamartoma 60
Multiple Pulmonary Nodules 60

3. Heart 62

Pericardial Effusion 62
Tetralogy of Fallot 64
Mitral Stenosis 65
Atrial Septal Defect 67

4. Vascular System 69

Redundant and Tortuous Aorta 69
Coarctation of Aorta 72
Vascular Calcifications 74

5. Gastrointestinal Tract and Abdomen 77

Tracheoesophageal Fistula 77
Achalasia Cardia 78
Esophageal Webs 80
Duodenal Esophageal Atresia 81

Esophageal Diverticulum 82
Epigastric Hernia 83
Gastroschisis 84
Eventration with Malrotation of Midgut 85
Meckel's Diverticulum 85
Hirschsprung's Disease 86
Imperforate Anus/Anorectal Malformation 87
Tertiary Contractions (Abnormal Motility) in Esophagus 89
Roundworm Infestation 90
Trichobezoar 91
Intussusception 92
Appendicitis 94
Richter's Hernia 96
Colonic Diverticulosis 96
Illeocecal Tuberculosis 97
Anal Fissure 99
Gastric Ulcer 100
Duodenal Ulcer 101
Carcinoma Esophagus 102
Malignancy Stomach 104
Bowel Ischemia 105

6. Hepatobiliary System, Pancreas and Spleen 107
Simple Hepatic Cyst 107
Amebic Liver Abscess 107
Hepatic Cirrhosis 109
Hepatic Trauma 110
Hepatic Hemangioma 112
Hepatocellular Carcinoma 113
Hepatoblastoma 115
Hepatic Metastases 115
Ultrasonography in Cholecystitis (Acute and Chronic) 116
Cholelithiasis 117
Gallbladder in Hepatitis 118
Choledochal Cyst 119
Pancreatitis 121
Splenunculus 123
Splenectomy 123

7. Urogenital System 125

Intravenous Urography 125
Duplication of Ureter 127
Horseshoe Kidney 128
Left Renal Aplasia 129
Staghorn Calculus 130
Multicystic Dysplastic Kidney Disease 131
Polycystic Kidney Disease 132
Obstructive Uropathy 132
Retrocaval Ureter 135
Ureterocele 136
Müllerian Duct Cyst 137
Bladder Diverticula 137
Posterior Urethral Valves with Cystitis 138
Hydrocele 139
Undescended Testicle (Cryptorchidism) 140
Extracorporeal Shock-Wave Lithotripsy 141
Wilm's Tumor 141
Renal Cell Carcinoma or Grawitz Tumor 143

8. Obstetrics and Gynecology 145

Hysterosalpingogram 145
Uterine Malformations 148
Hypoplastic Uterus 149
Ultrasound in First Trimester of Pregnancy 150
Follicular Cyst 152
Corpus Luteum Cyst 153
Fibroid Uterus 153
Broad Ligament Fibroid 155
Pyometra 156
Ovarian Cyst 157
Carcinoma Ovary 158
Ovarian Vein Thrombosis 160
Carcinoma of Endometrium 160
Carcinoma Cervix 162
Imaging in Assisted Reproduction 164

9. Central Nervous System 166

Extradural Hematoma 166
Meningomyelocele 167

Neurogenic Tumors 169
Cold Abscess 170
Thyroglossal Cyst 172
Dental and Dentigerous Cyst 172

10. Soft Tissues 174
Costal Cartilage Calcification 174
Dermoid Cysts 174
Guinea Worm 177
Sarcoidosis 178
Seminal Vesicle Calcification 179
Soft Tissue Calcification 181
Breast Screening 186
Carcinoma in Situ 186
Lipoma 187

11. Interventional Imaging 188
Interventional Radiology 188
CT Guided Precision Biopsy 191

12. Miscellaneous 193
Production of X-rays 193
Radiotherapy 195
Physical Principle of CT Scan Imaging 196
Radiation Safety Measures 201
Endoscopic Ultrasonography 208
Physical Principle of Magnetic Resonance Imaging 209
Picture Archiving and Communication System 213
Computed Radiography and Digital or Direct Radiography 215
Ossification Centers 216

13. PCPNDT Act 222
Pre-birth Sex Selection 222
Search and Seize 224

14. Syllabus 225
Syllabus in Radiology for Undergraduates 225

Index 229