# Contents


## Section I: Basic Tissues

**1. Gingiva** **3**

*Marginal gingiva or free gingiva or unattached gingiva 4*
*Attached gingiva 4*
*Papillary gingiva, interdental gingiva 4*
*Gingival epithelium 5*
*Gingival connective tissue 6*

**2. Cementum** **10**

*Chemical composition 10*
*Acellular cementum 11*
*Cellular cementum 11*

**3. Periodontal Ligament** **14**

*Ground substance 14*

**4. Alveolar Bone** **18**

*Alveolar bone proper/cribriform plate/lamina dura 18*
*Supporting alveolar bone 19*
*Cortical plates 19*

## Section II: Defence Mechanism

**5. Immune Response** **27**

*Macrophages (mononuclear cells) 28*

**6. Saliva** **31**

*Saliva 31*

**7. Gingival Crevicular Fluid** **33**

*Properties of gingival crevicular fluid 33*
*Methods of estimating gingival crevicular fluid 34*

**8. Classification of Periodontal Disease** **38**

*1999 classification of periodontal disease and conditions 38*

**9. Epidemiology** **40**

*Classification of index systems 40*
*Gingival index 40*

## Section III: Etiopathogenesis

**10. Dental Plaque** **47**
*Composition of plaque 47*
*Formation of dental plaque 48*
*Nonspecific plaque hypothesis 49*

**11. Calculus and other Plaque Retentive Factors** **51**
*Classification of calculus 51*
*Composition of calculus 52*

**12. Risk Factors** **54**
*Risk factors 54*
*Risk determinants 54*
*Risk indicators 54*
*Risk markers 55*
*Mechanism of stress 57*

## Section IV: Gingival Diseases

**13. Plaque-induced Gingival Inflammation** **61**
*Stage I: Gingivitis—the initial lesion 61*
*Stage II: Gingivitis—the early lesion 61*
*Stage III: Gingivitis—the established lesion 62*
*Stage IV: Gingivitis—the advanced lesion 62*

**14. Nonplaque-induced Gingivitis (Acute Conditions of Gingiva)** **64**
*Bacterial origin 64*
*Gingival diseases of viral origin 66*
*Physical, chemical and thermal injury 67*

**15. Gingival Enlargement** **68**
*Classification of gingival enlargement 68*

**16. Desquamative Gingivitis** **73**
*Etiology 73*
*Diagnosis 74*
*Treatment plan 74*

**17. Transition from Gingivitis to Periodontitis** **75**
*Transition from gingivitis to periodontitis 75*

## Section V: Periodontal Diseases

**18. Periodontal Pocket** **79**
*Terminologies 79*
*Classification of periodontal pocket 80*

**19. Bone Loss and Patterns of Bone Destruction** **83**

**20. Trauma from Occlusion** **87**
*Acute and chronic trauma from occlusion 87*
*Primary and secondary trauma from occlusion 87*
*Treatment considerations 90*

**21. Chronic Periodontitis** **92**
*Etiology 92*
*Radiographic features in chronic periodontitis 93*
*Progression of chronic periodontitits 94*
*Treatment considerations 94*

**22. Aggressive Periodontitis** **96**
*Etiology 96*
*Diagnosis 97*
*Localized aggressive periodontitis 97*
*Generalized aggressive periodontitis 98*

**23. Periodontitis as a Manifestation of Systemic Disease** **101**
*Associated with hematological disorders 101*
*Associated with genetic disorders 101*
*Not otherwise specified 102*

**24. Necrotizing Periodontal Disease** **103**
*Definition 103*
*Classification of necrotizing periodontal disease 103*
*Necrotizing ulcerative periodontitis 103*

**25. Periodontal Manifestation of HIV Infection** **105**
*Gingivitis in HIV patients 105*
*HIV-associated periodontitis 105*

**26. Abscesses of the Periodontium** **106**
*Gingival abscess 106*
*Periodontal abscess 106*

**27. Periodontitis Associated with Endodontic Lesions** **108**
*Ways of communication 108*

**Section VI: Diagnosis**

**28. Clinical Diagnosis of Periodontal Disease** **115**
*Recording the history 115*
*Clinical examination 115*
*Additional diagnostic techniques 117*

**29. Advanced Diagnostic Techniques** **119**
*Periodontal probing 119*
*Microbial diagnostic aids 121*
*Diagonstic aids-host response 122*

**30. Determination of Prognosis** **123**
*Factors affecting the overall prognosis 123*
*Factors affecting individual teeth prognosis 124*

**31. Rationale of Periodontal Therapy and Treatment Planning** **126**
*Phases of periodontal therapy 127*

**Section VII: Nonsurgical Treatment**

**32. Periodontal Instrumentation** **131**
*Classification of periodontal instrument 131*
*Power driven instruments 137*

**33. Mechanical Plaque Control** **141**
*Home care dental cleansing aids 142*
*Dentifrices 144*
*Composition 144*

**34. Chemical Plaque Control** **147**
*Chlorhexidine 148*

**35. Systemic and Local Antimicrobials in Periodontal Therapy** **151**
*Flouroquinolones 153*
*Macrolides 154*
*Local drug delivery 154*

**36. Host Modulation Therapy** **155**
*Inflammatory mediators 156*
*Anti-MMPS 157*

**Section VIII: Surgical Treatment**

**37. Gingivectomy** **161**
*Indications 161*
*Contraindications 161*
*Healing after gingivectomy 162*

**38. Access Flap Surgery** **163**
*Classification of periodontal flaps 163*

**39. Resective Osseous Surgery** **167**
*Rationale and objective 168*

**40. Reconstructive Osseous Surgery** **171**
*Classification of bone grafts 171*
*Autogenous grafts 172*

**41. Root Biomodification** **176**
*Mechanical biomodification 176*
*Chemical biomodification 177*

**42. Management of Furcation Involvement** **179**
*Classification of furcation 179*
*Therapeutic objectives 180*
*Furcation odontoplasty 180*
*Furcation involvement in periodontal-endodontal therapy 183*

**43. Mucogingival Surgery** **185**
*Classification of gingival recession 185*
*Free grafts 190*

**44. Supportive Periodontal Therapy** **193**
*Therapeutic goals 193*

**45. Periodontal Medicine** **196**
*Periodontal medicine 196*

**46. Periodontal Management of Medically Compromised Patients** **198**
*Infective endocarditis/rheumatic heart disease 198*
*Bleeding disorders 200*

**47. Splinting** **201**
*Rationale of splinting 201*

**48. Symptoms of Periodontal Disease** **203**
*Causes of halitosis 203*
*Hypersensitivity 204*
*Mobility 205*
*Food impaction 205*

**49. Dental Implants: Diagnosis and Treatment Planning** **207**
*Types of dental implant 207*
*Implant design 207*
*Patient evaluation 208*
*Diagnostic aids 209*
*Treatment planning 209*
*Peri-implant disease 209*

**50. Recent Advances in Periodontal Therapy** **211**
*Lasers in periodontics 211*
*Microsurgery 212*
*Piezosurgery 213*

*Index* *215*