CONTENTS

UNIT I REVIEW OF DENTAL STRUCTURES, 1

- 1 Face and Neck Regions, 1
 Study of the Face and Neck, 1
 Regions of the Face, 2
 Regions of the Neck, 6
- 2 Oral Cavity and Pharynx, 9
 Study of the Oral Cavity, 10
 Divisions of the Oral Cavity, 10
 Divisions of the Pharynx, 18

UNIT II DENTAL EMBRYOLOGY, 19

- Overview of Prenatal Development, 19
 Prenatal Development, 20
 Preimplantation Period, 21
 Embryonic Period, 23
 Fetal Period, 29
- 4 Development of the Face and Neck, 32
 Development of the Face, 32
 Development of the Neck, 38
- Development of Orofacial Structures, 41
 Orofacial Development, 41
 Palatal Development, 41
 Nasal Cavity and Septum Development, 43
 Tongue Development, 44
- Tooth Development and Eruption, 49
 Tooth Development, 50
 Root Development, 65
 Periodontal Ligament and Alveolar Bone
 Development, 68
 Primary Tooth Eruption and Shedding, 69
 Permanent Tooth Eruption, 69

UNIT III DENTAL HISTOLOGY, 77

7 Overview of the Cell, 77
The Cell, 77
Cell Division, 81
Extracellular Materials, 83
Intercellular Junctions, 83

Basic Tissue, 85
Basic Tissue, 86
Epithelium, 86
Basement Membrane, 89
Connective Tissue, 90
Aging and the Skin, 93
Specialized Connective Tissue, 93
Muscle, 100
Nerve Tissue, 101

- Oral Mucosa, 104
 Oral Mucosa, 105
 Regional Differences in Oral
 Mucosa, 110
 Tongue and Lingual Papillae, 114
 Pigmentation of the Oral Mucosa, 118
 Turnover Time, Repair, and Aging
 of the Oral Mucosa, 118
- 10 Gingival and Dentogingival Junctional Tissue, 122
 Gingival Tissue, 122
 Dentogingival Junctional Tissue, 124
 11 Head and Neck Structures, 131
- Head and Neck Structures, 131
 Head and Neck Structures, 132
 Glands, 132
 Lymphatics, 138
 Nasal Cavity, 140
 Paranasal Sinuses, 141
- 12 Enamel, 145
 Enamel, 145
 Apposition of Enamel Matrix, 147
 Maturation of Enamel Matrix, 148
 Microscopic Features of Mature
 Enamel, 150

13

Dentin and Pulp, 155

Dentin-Pulp Complex, 155

Dentin, 156

Pulp, 163

Future Concerns with Dentin-Pulp

Complex, 167

14 Periodontium: Cementum, Alveolar Bone, and Periodontal Ligament, 168
Periodontium, 169
Components of the Periodontium, 169

UNIT IV DENTAL ANATOMY, 188

- The Dentitions, 188
 Dentition Periods, 191
 Dental Anatomy Terminology, 192
 Considerations For Tooth Study, 199
- Permanent Anterior Teeth, 200
 Permanent Anterior Teeth, 200
 Permanent Incisors, 202
 Permanent Canines, 213
- 17 Permanent Posterior Teeth, 222
 Permanent Posterior Teeth, 222
 Permanent Premolars, 224
 Permanent Molars, 237
- Primary Dentition, 255
 Primary Teeth, 255
- Temporomandibular Joint, 265
 Temporomandibular Joint, 265
 Bones of the Joint, 265
 Joint Capsule, 266

Joint Disc, 267
Movements of the Joint, 267
Disorders of the Joint, 268

Occlusion, 273
Occlusion, 274
Normal Occlusion, 274
Centric Occlusion, 274
Primary Occlusion, 281
Malocclusion, 282

BIBLIOGRAPHY, 292
GLOSSARY, 293
APPENDIX A: ANATOMICAL POSITION, 306
APPENDIX B: UNITS OF MEASURE, 307
APPENDIX C: TOOTH MEASUREMENTS, 308
APPENDIX D: TOOTH DEVELOPMENT, 311
INDEX, 313

Development of the Neck, 38

Development of Orghadial Structures, 41