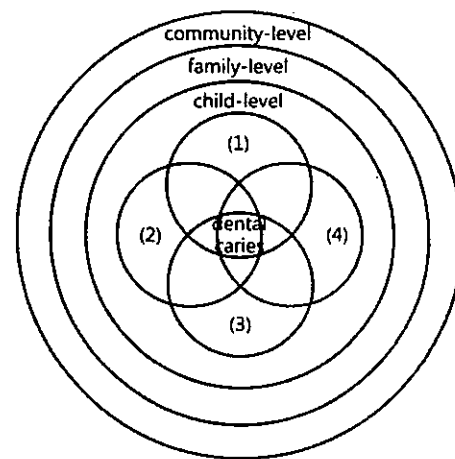


1. Pediatric dentistry triangle is a diagram depicting the treatment philosophy in pediatric dentistry. Please draw this treatment triangle and elaborate on the rationale behind it (5%). Furthermore, based upon current evidence, please discuss how different parenting styles (3 main categories) affect children's dental anxiety and behaviors (15%).

2. The prevalence of early child caries (ECC) remains high in Taiwan. The Keyes-Jordan diagram has long been used to delineate the etiology of dental caries. It has further been modified to include behavioral and socioeconomic factors that significantly affect individual's caries risk. Please describe, in detail: (a) the 4 etiological factors of dental caries (5%), (b) how they contribute specifically to ECC (10%), (c) what measures can be taken to target each of them and prevent ECC (10%), and (d) what behavioral and socioeconomic factors contribute to the development of ECC at child, family, and community levels respectively (15%).



3. Craniofacial growth is a complex developmental process under influences of many genetic and environmental factors. Two concepts have been proposed to explain the growth movement of craniofacial complex: remodeling and displacement. Please (a) explain these two concepts (5%), (b) use them to describe the normal growth of maxilla and mandible (10%), and (c) elaborate on how skeletal Class II and III malocclusions are established based on the concepts (5%).

4. Molar-incisor malformation (MIM) is a recently described dental abnormality with unknown etiology. The anomaly primarily involves permanent first molars and deciduous second molars, which exhibit normal crowns with a constricted cervical region and thin, narrow, and short roots. The maxillary central incisors may also be affected and show a hypoplastic enamel notch near the cervical third of the crown.

(a) Please describe how dental roots are formed during tooth development. (10%)

(b) Based upon the concepts of developmental biology, do you think genetic or environmental factors play more significant roles in the pathogenesis of MIM and why? (10%)

