Q.1 Application of orthodontic force elicits certain cellular chain reactions to bring about the tooth movement. What is the role of afferent nerve endings of periodontium in orthodontic tooth movement?

Q.2 A 10 year old boy has been diagnosed with Cleido-cranial dysplasia. He has been referred for the consultation. What features will be present in him to confirm the diagnosis?

Q.3 Enlist various teratogens with their effects that may affect dentofacial development.

Q.4 A girl age 9 years presents with class II/2 malocclusion. Her profile is hypo divergent or convex intraorally, she shows incisor retroclination and 100% overbite. Mandibular incisors are compressed and crowded. The mandibular intercanine width is significantly less and not compatible with the maxillary one. Maxillary arch form and the mandibular posterior arch form is otherwise normal.

a) Give reason for mandibular intercanine constriction.
b) Give management of this patient in brief.

Q.5 An eight years girl was referred to orthodontist for the management of anterior cross bite. Evaluation confirmed the case of developing pseudo-class-III.

a) Please enlist objectives of early correction of pseudo class-III
b) Give three simple treatment strategies for early correction of pseudo-class-III.
c) Briefly write down effects of inclined plan.

Q.6 An orthodontic patient during treatment develops TMD (Temporomandibular dysfunction). What measures will you take to manage this condition?
Q.7 Digital dental imaging is now acquired through one of two technologies: Charged Couple Device (CCD) and Photo-Stimulable Phosphor (PSP) plates. What might be the potential sources of error in these systems?

Q.8 What are the anchorage requirements of orthodontic patient before insertion of Jasper Jumper?

Q.9 What are the factors affecting the release of BPA from light-cured adhesive bonded to lingual fixed retainers and its possible oestrogenic effects?

Q.10 A 33 years old female comes to you with the chief complaints of chewing problem and anterior open bite. She has retrognathic hyper divergent profile with acute nasolabial angle. An overjet of 7 mm and a severe upper arch crowding along with severe gingival recession around upper left central incisor are observed. All third molars and lower right lateral incisor are congenitally missing. The molar relationship is angle class-II and the skeletal pattern is class-I with mandibular Retrusion. Incisors show bimaxillary prodination while upper and lower molars are significantly extruded. The patient has no TMJ problem and is not willing for surgical treatment.
Suggest single best treatment plan.
Q.11 A 13 year old female come to your clinic with bilateral palatal impacted canines.
How will you classify these palatally impacted canines to execute favorable treatment outcome?

Q.12 A 17-year-old male orthodontic patient was referred to the orthodontic department for the evaluation of an unerupted tooth 47. A panoramic radiograph revealed horizontally impacted teeth 47 and 48, complete root formation of tooth 47 and incomplete root formation of tooth 48. It was felt that orthodontic uprighting of tooth 47 was not possible and that it would be difficult to bring tooth 48 into an ideal position using an orthodontic approach.

a) What would be your choice of treatment in this case?
b) What are the various factors you have to keep in mind for the success of this procedure?

Q.13 An eight year old boy was referred to orthodontic clinic for correction of anterior cross bite. Complete clinical and cephalometric evaluation revealed SK-III due to short maxilla normal mandible, class III molar and incisor relation. A decision was made to provide 1st phase treatment with protraction face mask.
Please give a brief account of skeletal and clinical effects of protraction face mask therapy.

Q.14 a) What is PSAR “Patient specific anatomic reconstruction”? 
b) How can it help orthodontist in treating patient?

Q.15 A patient comes to your clinic and complains of smile arc flattering since she has got braces on her teeth.
What could be the obvious reasons of such orthodontic treatment sequelae?
Q.16 Enumerate the advantages and disadvantages of vacuum formed retainers. Are there any indications for combining them with fixed retainers?

Q.17 An 8-year-old girl presented with a chief concern of “my bite is not right.” Clinically, she had a concave facial profile, acute nasolabial angle, and a protrusive mandible Intraorally, she had an anterior crossbite and a low anterior tongue posture. The cephalometric radiograph and tracing showed a skeletal Class III malocclusion with maxillary deficiency, mandibular prognathism (ANB, −2.2), and a normal mandibular plane angle (FMA, 23). The maxillary incisors were proclined (U1 to FH, 109), and the mandibular incisors were retroclined (IMPA, 86), compensating for the skeletal malocclusion.
What could be the immediate and alternative treatment options for this patient?

Q.18 Orthodontic treatment has potential hazard for periodontal health, however few of therapeutic measures lead to resolve periodontal problems as well. What are the orthodontic solutions that can improve periodontal status of the patient?

Q.19 a) What is the rationale for achieving root parallelism as a radiographic objective during finishing?

b) Write unusual finishing situations encountered during orthodontic treatment.

Q.20 A 16 years old girl reported to orthodontic clinic for correction of her unaesthetic looks. On examination she has extended central incisors, high canines and rotated laterals. She desires to be treated with clear aligners.

a) What are the clinical situations in which clear aligners therapy will perform well or not?

b) What is a tracking and reasons for clear aligner therapy failure?