1. In most class I cases the soft tissue environment is favorable and is not an aetiological factor. The major exception to this is bimaxillary dental proclination.
   a. First statement is true and the second statement is false.
   b. First statement is false and the second statement is true.
   c. Both statements are true.
   d. Both statements are false.

2. Dental factors are the main aetiological agent in class I malocclusions. However, tooth / arch size discrepancies are not among the aetiological dental factors.
   a. First statement is true and the second statement is false.
   b. First statement is false and the second statement is true.
   c. Both statements are true.
   d. Both statements are false.

3. The intercanine width in most individuals:
   1. Increases up to around nine years.
   2. This is followed by a very gradual decrease throughout mid teens and adult life.
   3. Orthodontic treatment insure the prevention of future lower anterior recrowding.
      a. 1 and 2
      b. 1 and 3
      c. 2 and 3
      d. all of the above
      e. none of the above

4. The third permanent lower molars have statistical strong association with the late lower incisors crowding. Thus lower third molars are the main cause for lower anterior crowding.
   a. First statement is true and the second statement is false.
   b. First statement is false and the second statement is true.
   c. Both statements are true.
   d. Both statements are false.
5. The median diastema is either due to:

1) a normal physiological state in the early mixed dentition.
2) Abnormal fraenral attachment involvement
3) The presence of a supernumerary tooth
4) Severe periodontal bone loss.

a. 1, 2 and 3
b. 1, 2 and 4
c. 1, 3 and 4
d. 2, 3 and 4
e. all of the above
f. none of the above

KEY ANSWERES:

1. c
2. a
3. a
4. d
5. e
1. The British standards incisor classification, defines class II division 1 as:
   a. The lower incisor edges lie posterior to the cingulum plateau of the upper incisors, decreased overjet and retroclined upper laterals.
   b. The lower incisor edges lie posterior to the cingulum plateau of the upper incisors, decreased overjet, as proclined upper central incisors.
   c. The lower incisor edges lie posterior to the cingulum plateau of the upper incisors, increased overjet and proclined upper central incisors.

2. The habit of “persistent digit sucking” most likely will cause:
   2) proclination of the upper incisors
   3) retroclination of the lower incisors
   4) complete over bite or deep bite
   5) narrowing of the upper arch
   a. 1, 2 and 3
   b. 1, 2 and 4
   c. 1, 3 and 4
   d. 2, 3 and 4
   e. all of the above
   f. none of the above

3. Management of class II division 1 can be accomplished by three possible approaches: (1) Growth modification; (2) Orthodontic camouflage; (3) Surgical corrections.

   This is dependent on the severity of the malocclusion, the age of the patient and cooperation of the patient.

   a. First statement is true and the second statement is false.
   b. First statement is false and the second statement is true.
   c. Both statements are true.
   d. Both statements are false.
4. In class II division 1 with incompetent lips, the patient will try to achieve an anterior oral seal by:

1. Circumoral muscular activity to achieve lip to lip seal
2. The mandible is postured forward.
3. The lower lip is drawn up in front of the upper incisors
4. The tongue is placed forward.

   a. 1, 2, and 3
   b. 1, 2 and 4
   c. 1, 3 and 4
   d. 2, 3 and 4
   e. all of the above

KEY ANSWERS:

1. c
2. b
3. c
4. b
1. Class II division 2 malocclusion is commonly associated with mild class II skeletal pattern. However, it may also occur in association with class I or even class II dental base relationship.
   a. First statement is true and the second statement is false.
   b. First statement is false and the second statement is true.
   c. Both statements are true.
   d. Both statements are false.

2. An important step in treating class II division 2 malocclusion is the correction of deep bite. This is accomplished by eruption of molars, proclination of lower incisors, intrusion of incisors or surgery.
   a. First statement is true and the second statement is false.
   b. First statement is false and the second statement is true.
   c. Both statements are true.
   d. Both statements are false.

3. Treatment of class II division 2 patients with unfavorable skeletal growth pattern are simple to treat. However, surgical intervention is required if growth is completed.
   a. First statement is true and the second statement is false.
   b. First statement is false and the second statement is true.
   c. Both statements are true.
   d. Both statements are false.

4. The inter-incisal angle in class II division 2 malocclusion can be reduced by:
   1. Torquing the incisor roots palatally with a fixed appliance
   2. Proclination of the lower labial segment
   3. Proclination of the upper labial segment
   a. 1 and 2
   b. 1 and 3
   c. 2 and 3
   d. all of the above
   e. none of the above

**KEY ANSWERS:**

1. c
2. c
3. b
4. d
1. Class III malocclusion exhibit the following:

   1. Increased mandibular length
   2. A more anteriorly placed glenoid fossa ultimately leading to mandibular
      prognathism.
   3. Retruded and/or reduced length of maxilla
      a. 1 and 2
      b. 1 and 3
      c. 2 and 3
      d. all of the above
      e. none of the above

2. In the majority of class II malocclusions, the soft tissues surrounding the
dentition play a major role in increasing the severity of the malocclusion.

   a. True
   b. False

3. When planning for treatment of class III malocclusion several factors should be
considered among them:

   1) The severity of the skeletal pattern.
   2) The patient’s opinion regarding their need in treating the malocclusion.
   3) The expected pattern of future growth
   4) The degree of crowding.
      a. 1, 2 and 3
      b. 1, 2 and 4
      c. 1, 3 and 4
      d. all of the above
      e. none of the above

4. Reverse pull headgear is also known as face mask. It is useful in the treatment of
class II more than class III malocclusion

   a. First statement is true and the second statement is false.
   b. First statement is false and the second statement is true.
   c. Both statements are true.
   d. Both statements are false.

**KEY ANSWERS:**

1. d
2. b
3. d
4. a
1. Treatment of cleft lip and palate:
   a. The treatment is usually started for lip closure at 2 months of age.
   b. Surgical closure of the palate is started at around 18 months – 2 years
   c. Orthodontics usually started after permanent teeth erupt and is of long duration.
   d. The entire treatment is stared at 3 ½ of age
   e. All of the above
   f. (a), (b) and (c) are true

2. Cells responsible for bone resorption during orthodontic movement of teeth are:
   a. Osteoblasts
   b. Odontoclasts
   c. Osteoclasts
   d. Pleuripotentional cells of the periodontal ligament

3. “Reciprocal Anchorage” is a term applied to:
   a. High levels of forces between molar and central incisors
   b. Reciprocal movement of two teeth with the same periodontal area
   c. A force differential between cortical and medullary bone
   d. None of the above

4. Thumb sucking is considered normal till:
   a. 2 months
   b. 2 years
   c. 3 ½ - 4 years
   d. 6 years or till permanent teeth erupt

5. The term “incompetent lips” refers to:
   a. Lips which do not seal when relaxed with the mandible in its rest position
   b. Lips against which tongue thrusts during swallowing
   c. Lips that contract during swallowing
   d. Lips which have some dryness

6. Maxillary incisor cross-bites should be treated:
   a. After 12 years
   b. 10 – 12 years
   c. As soon as possible
   d. They will correct automatically
The optimum force values to move an incisor are:

- a. 100 – 150 grams
- b. 300 – 400 grams
- c. 50 – 70 grams
- d. 20 – 50 grams

In a severe class II division 1 malocclusion. We would expect to find:

- a. ANB angle of +8°
- b. ANB angle of -8°
- c. An ANB of +2°
- d. ANB of 0°

“Scissor Bite” is a term used to describe:

- a. Anteroposterior crowding with deep bite.
- b. All posterior crossbite
- c. A type of posterior crossbite where the maxillary segments are completely contained in the mandibular segments
- d. A type of anterior reverse bite

Key answers

1. f
2. a
3. b
4. c
5. a
6. c
7. d
8. a
9. c
Question # 1.

Individual with a tendency to vertical rather than horizontal; facial growth exhibit decreased vertical skeletal proportions. Where the lower face height is decreased there will be an increased interocclusal distance between the maxilla and mandible.

a) First statement is correct, second statement is not correct
b) First statement is not correct, second statement is correct
c) First statement is correct, second statement is correct
d) First statement is not correct, second statement is not correct

Question # 2.

The effects of a habit depend upon its duration and intensity. If a persistent digit-sucking habit continues into the mixed and permanent dentitions, this can result in an anterior open bite due to restriction of development of the incisors by the finger or thumb.

a) First statement is correct, second statement is not correct
b) First statement is not correct, second statement is correct
c) First statement is correct, second statement is correct
d) First statement is not correct, second statement is not correct

Question # 3.

Extracting molars in cases with increased vertical skeletal proportions would help to ‘close down the bite’.

(a) True  (b) False.

Question # 4.

Extrusion of the incisors to close an anterior open bite is inadvisable, as the condition will relapse once the appliances are removed. Rather, treatment should aim to try and intrude the molars or at least control their vertical development.

a) First statement is correct, second statement is not correct
b) First statement is not correct, second statement is correct
c) First statement is correct, second statement is correct
d) First statement is not correct, second statement is not correct
Question # 5.

The surgical correction of open bite is considered for severe skeletal problems where dental compensation will not give an aesthetic or stable result once the growth is completed. The surgical correction is also considered for patients with anterior open bite associated with a ‘gummy’ smile that is difficult to reduce by orthodontics alone.

a) First statement is correct, second statement is not correct
b) First statement is not correct, second statement is correct
c) First statement is correct, second statement is correct
d) First statement is not correct, second statement is not correct

Key answers

Question # 1. d
Question # 2. b
Question # 3. b
Question # 4. c
Question # 5. c
Question # 1.
A cross bite of an upper lateral incisor often arises due to lack of space between the upper central incisor and the deciduous canine which forces the lateral incisor to erupt palatally and in linguo-occlusion with the opposing teeth. Whereas posteriorly the early loss of a second deciduous molar in a crowded mouth may result in forward movement of the first permanent molar, forcing the second premolar to erupt palatally.

a) First statement is correct, second statement is not correct
b) First statement is not correct, second statement is correct
c) First statement is correct, second statement is correct
d) First statement is not correct, second statement is not correct

Question # 2.
The most common local cause of cross bite is crowding where one or two teeth are displaced from the arch.

(a) True (b) False.

Question # 3.
A posterior crossbite is often associated with a digit-sucking habit. The position of the tongue is lowered and a positive pressure is generated intra-oraly.

a) First statement is correct, second statement is not correct
b) First statement is not correct, second statement is correct
c) First statement is correct, second statement is correct
d) First statement is not correct, second statement is not correct

Question # 4.
Unilateral buccal crossbite with displacement can affect only one or two teeth per quadrant, or the whole of the buccal segment.

(a) True (b) False.

Question # 5.
Treatment of posterior crossbite with expansion of the upper buccal segment teeth will result in some tipping down of the palatal cusps. This has the effect of hinging the mandible downwards leading to an increase in lower face height, which may be undesirable in patients who already have an increased lower facial height and anterior openbite.

a) First statement is correct, second statement is not correct
b) First statement is not correct, second statement is correct
c) First statement is correct, second statement is correct
d) First statement is not correct, second statement is not correct
Key answers

Question # 1. c
Question # 2. a
Question # 3. a
Question # 4. a
Question # 5. c