## I. Elaborate on:

<table>
<thead>
<tr>
<th>Q.</th>
<th>Pages</th>
<th>Time</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mention about the essential diagnostic aids and write about the role orthodontic study models to aid in treatment planning?</td>
<td>19</td>
<td>30</td>
<td>20</td>
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<tr>
<td>2. Define anchorage? Classify anchorage and discuss in detail about the different types of anchorage.</td>
<td>19</td>
<td>30</td>
<td>20</td>
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## II. Write notes on:

<table>
<thead>
<tr>
<th>Q.</th>
<th>Pages</th>
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</thead>
<tbody>
<tr>
<td>1. Cephalic index.</td>
<td>3</td>
<td>10</td>
<td>5</td>
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<tr>
<td>2. Methods of gaining space.</td>
<td>3</td>
<td>10</td>
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<td>3. Role of Adenoids in malocclusion.</td>
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<td>4. Ugly ducking stage.</td>
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<td>5. Drift Vs Displacement.</td>
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<td>6. Mode of action of Activator.</td>
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<tr>
<td>7. Twin Study.</td>
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<td>8. Sicher’s theory.</td>
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<tr>
<td>9. Different types of springs and their uses.</td>
<td>3</td>
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<tr>
<td>10. Definition, indication and contraindications of fixed appliance.</td>
<td>3</td>
<td>10</td>
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<tr>
<td>11. Normal and abnormal function of stomatognathic system.</td>
<td>3</td>
<td>10</td>
<td>5</td>
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<tr>
<td>12. Nickel titanium wires.</td>
<td>3</td>
<td>10</td>
<td>5</td>
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</tbody>
</table>
I. Elaborate on: (2x10=20)

1. Define Growth and explain Functional matrix theory in detail.
2. What are Removal orthodontic appliances? Explain in detail the various parts of it and add a note on Adam’s clasp.

II. Write notes on: (10x5=50)

1. Growth spurt.
4. 18/8 Stainless steel.
5. Prenatal ethiology of malocclusion.
7. Crossbite correction.
8. Speech sounds.
10. Genetics in Orthodontics.

*******
I. Elaborate on: (2x10=20)

1. Enumerate the various Theories of Growth. Discuss in detail the post natal growth of Mandible.
2. Classify and enumerate the various Diagnostic Aids in Orthodontics. Explain in detail about Carey’s Analysis.

II. Write notes on: (10x5=50)

1. Reciprocal Anchorage
2. Oral Screen
3. Overjet, Overbite.
4. Hawley Retainer.
5. Growth spurts
6. Welding in Orthodontics
7. Factors affecting Growth
8. Curve of Spee
9. Tweed Triangle
10. Ideal Occlusion.

*******
I. Elaborate on: (2X10=20)

1. Tissue response to orthodontic force application.

2. Define cephalometrics. Describe the cephalostat and write in detail about Steiner’s analysis.

II. Write Notes on: (10X5=50)

1. Direct ossification
2. Bionator
3. Adams clasp
4. Spacing in deciduous dentition
5. Stress trajectories
6. Merits and demerits of Angel’s classification
7. Bolton’s ratio
8. Headgears
9. Functional examination in orthodontics
10. Fixed retainers

******
I. Elaborate on: (2 x 10 = 20)

1. Define retention and relapse. What are the causes for relapse and methods to prevent relapse?

2. Write about the etiology, clinical features, diagnosis and management of class II division 1 malocclusion in a growing child.

II. Write Notes on: (10 x 5 = 50)

1. Safety valve mechanism.
2. Functional matrix.
3. Resorption patterns following orthodontic force application.
5. Incisal liability.
6. Chin cup.
7. Dewel’s technique.
10. Extra oral examination.

******
I. Elaborate on: 

1. What is a “Cephaolstat”? 
   - Write 4 difference between a lateral view skull radiograph and a cephalogram. 
   - Write about the need for a cephalometric analysis. 
   - Write about any 4 cephalometric parameters and their clinical inference.

2. Define a “Growth Spurt”. 
   - Write the types of growth spurts and significance of each spurt. 
   - List the different methods of assessing skeletal growth status and describe any one method.

II. Write notes on: 

1. Adam’s Clasp.

2. Classify upper expansion appliances and write the difference between Slow and Rapid Maxillary Expansion Appliances. Explain about any one expansion appliance.

3. Head Gears.

4. Types of orthodontic tooth movement.

5. Arch perimeter analysis.

6. Correction of Anterior Open Bites.

7. Methods of gaining space.

8. Reinforced anchorage.

9. Classification of Cleft palate and Lip.

10. What is Retention? Write briefly theorems involved.
I. Elaborate on: (2 x 10 = 20)

1. What is an Ideal Orthodontic Force? Name the types of orthodontic forces. Name the theories of tooth movement. Write the histological changes in periodontium following application of different magnitudes of orthodontic forces.

2. An eight year old boy was diagnosed to be having a Skeletal Class II discrepancy with Angle’s Dentoalveolar Cl II division 1 subdivision Malocclusion. Describe the extra oral clinical features, probable intra oral clinical features. Write the various skeletal combinations and cephalometric findings contributing to such a skeletal discrepancy. Write the treatment for each of such skeletal situation.

II. Write Notes on: (10 x 5 = 50)

1. Infantile swallowing.

2. Reciprocal Anchorage.


4. Systemic diseases that cause Malocclusion.

5. Mixed dentition analysis.

6. Correction of Anterior cross bite.

7. Reverse Pull Head Gear.

8. Any three local etiological factors for malocclusion.


10. Cephalocaudal growth gradient.