

S.J.M. Vidyapeetha (R.)

# S.J.M. Dental College & Hospital Chitradurga - 577 501

*Affiliated to Rajiv Gandhi University of Health Sciences  
(Recognised by Dental Council of India, New Delhi)*



## INTERNAL ASSESSMENT RECORD

I.A. NO 111<sup>th</sup>  
YEAR 2020 -2021

Name: Harshitha Tanadi  
Reg. No. : 17D2110  
Subject : Prosthodontics  
B.D.S. : 1<sup>st</sup> 301

S.J.M. Vidyapeetha (R.)

# S.J.M. Dental College & Hospital

## Chitradurga - 577 501

### INTERNAL ASSESSMENT THEORY RECORD

I.A. NO. 111<sup>rd</sup>

SUBJECT Prosthodontics

Name: Harshitha Janadri Reg.No. 1202110

Year: 2020-21 Batch: 17D

Please ( ✓ ) Tick the Answered Question Numbers in the appropriate boxes.

Question Nos.		Question Nos.		Question Nos.	
1		11		21	
2		12		22	
3		13		23	
4		14		24	
5		15		25	
6		16		26	
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Date: 09-9-2021

Harshitha  
Sign. of the Candidate

## Long Essay:-

### 1) Balanced occlusion:-

The simultaneous closing of maxillary & mandibular arch in right & left side and posterior & anterior occlusal surfaces in centric & eccentric positions, limited ~~lessen~~ or limit tipping or ~~rotation~~ a denture base rotating in relative to the relationship.

- GPT.

### Classification of Balanced occlusion:-

- i) Unilateral Balanced occlusion
- ii) Bilateral Balanced occlusion
- iii) Proxusive Balanced occlusion
- iv) Lateral Balanced occlusion.



### i) unilateral Balanced occlusion:-

This occurs on the occlusal surface of the teeth on one side simultaneously ~~or~~ by simple & interrupted plane. It is prescribed more in fixed partial dentures.

### ii) Bilateral Balanced occlusion:-

This occurs on the occlusal surface of the teeth on both the side simultaneously in centric & eccentric relations.

- These helps the load to go on both sides.

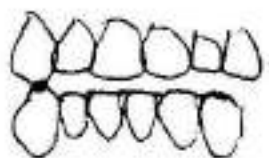
(ii) Protrusive balanced occlusion:-

- This type of balanced occlusion occurs when mandible is placed in forward direction.
- There should be atleast 3 contact points in a plane.
- 2 posteriorly + 1 anteriorly.



(iv) Lateral Balanced occlusion:-

Here, the simultaneous occlusion occurs lateral even though laterally placed some of contact points make it balancing. (i.e. Balanced occlusion).



Single contact point during lateral shows Balanced occlusion.

- In case on posteriors also contact points are present.

## Factors affecting balanced occlusion.

Hanau's proposed 9 factors for articulation of artificial teeth. They are

- 1) Horizontal condylar guidance
- 2) protrusive ~~and~~ incisal guidance
- 3) compensating curve
- 4) plane of orientation
- 5) Bilateral inclination of tooth.
- 6) sagittal incisal guidance
- 7) sagittal condylar pathway.
- 8) Relative cusp height
- 9) Teeth alignment.

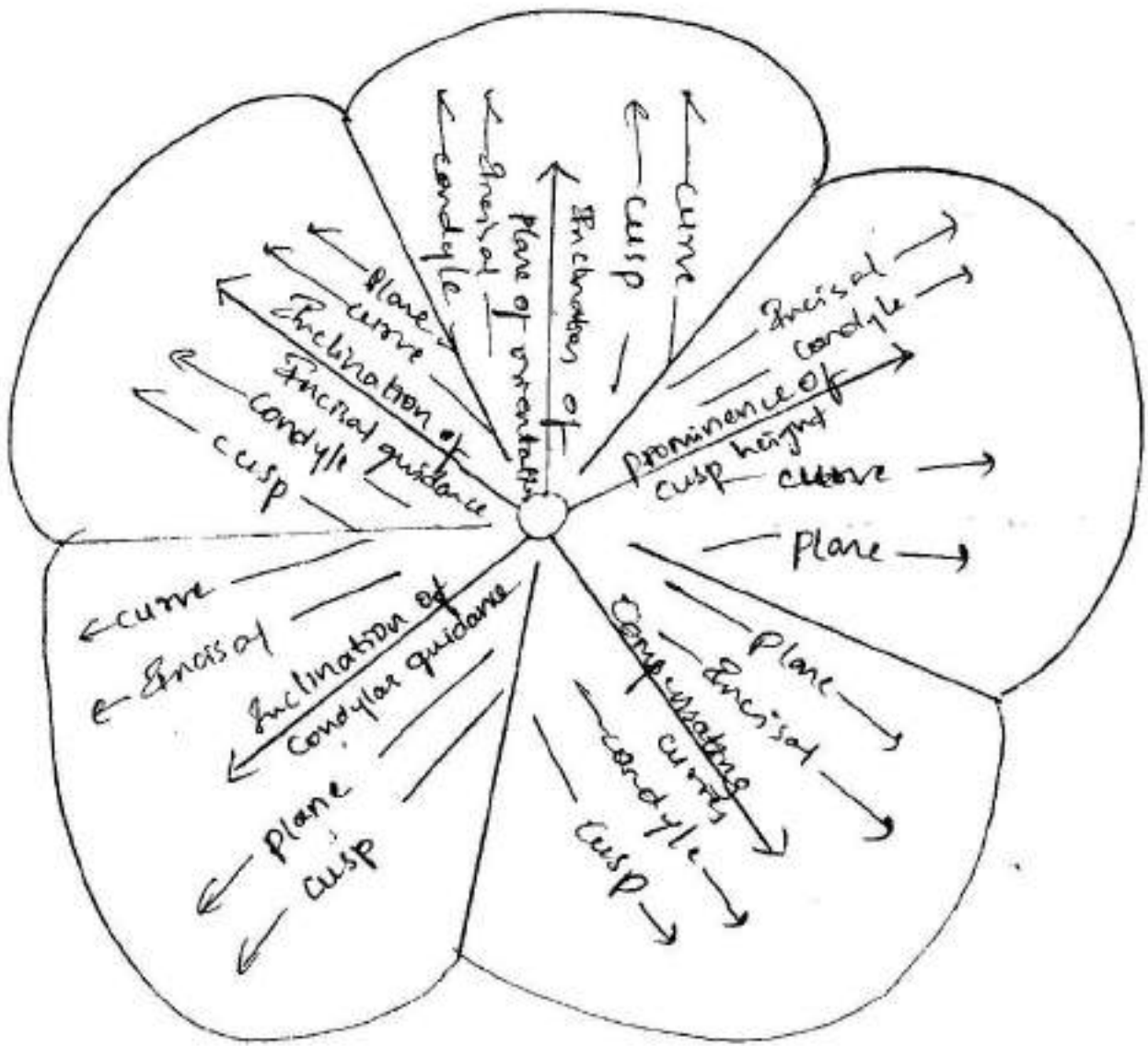
All these known as  
LAW OF BALANCED ARTICULATION

⇒ Further Hanau's condensed into five factors they are:

- 1] Condylar guidance
- 2) Incisal guidance
- 3) plane of orientation
- 4) Compensating curve
- 5) Relative cusp height.

These are five factors affecting balanced occlusion.

# Hansen's Quint



(Inclination of condylar guidance) (condylar guidance)

(Cusp) (Curve) (Plane)





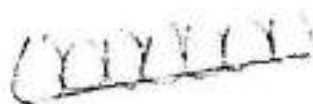
Incisal guidance



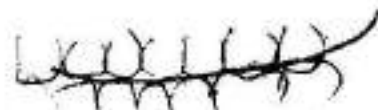
Condylar guidance



Cuspal height



Plane of orientation

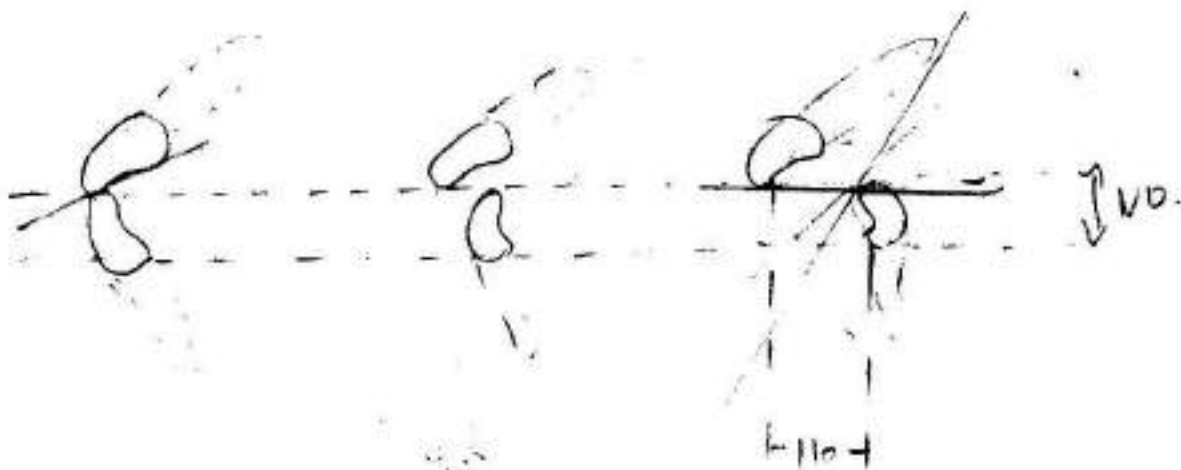


Compensating curves

Factors affecting Balanced occlusion:

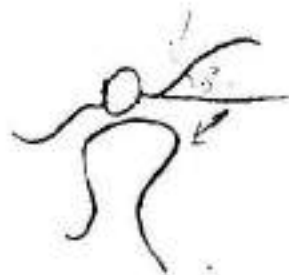
1) Incisal guidance:

maxillary anterior touches mandibular anterior when it is placed forwardly.



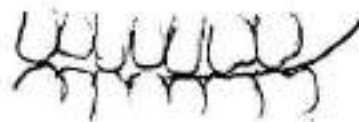
Vo - vertical axis  
Ho - horizontal axis

## 2) condylar guidance :-



When the condylar process & articular disc glide in between the excuser, it affects the occlusion.

## 3) Compensating curves :-



Inclination of curve depends on the tips of teeth which occlude & on vertical height of the plane.

• There are various compensating curves :-

1) Curve of Spee

2) Curve of Wilson

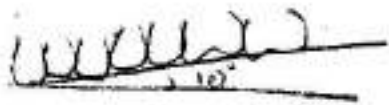
3) Reverse curve

• This factor is also affecting occlusion



4) plane of orientation:-

Minimum of  $10^\circ$  inclined plane is possible.



- It is depend anatomically on the plane.
- Minimum of  $10^\circ$  variation can be done. It affects the occlusion.

5) Relative Cusp height:



Here ~~the~~ It is based on angle of cusp & slope of the cusp on <sup>plane of</sup> ~~the~~ mesiodistal + occlusobuccal direction.

## Short Essay:

### 5) Obturator:

It is a prosthesis used to close the acquired or congenital tissue openings, primarily hard palate & contiguous alveolar ridge.

- GPT

### Types:

#### 1) Based on phase of treatment:

- Surgical
  - Interim
  - Definitive
- Immediate  
→ Delayed

#### 2) Based on materials used

- Metallic obturator
- ~~Ceramic~~ Resin obturators
- Silicone obturators

#### 3) Based on area of restoration

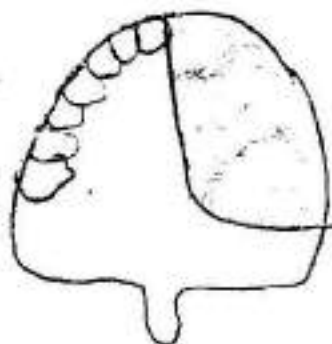
- palatal obturator
- Meatus obturators

### Functions:

- It helps in speech
- Helps in deglutition
- For the baby during feeding, it is helpful.

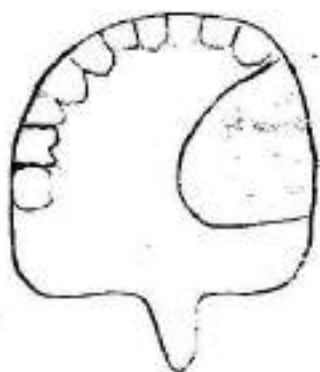
## Classification of Obturator:-

1) Class I :- Midline resection



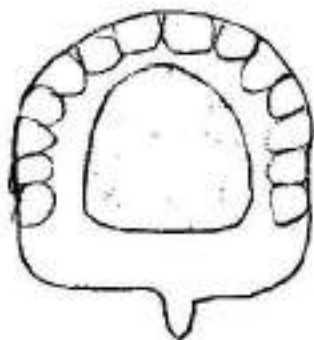
Here, resection of half of the palate including dentition is done.

2) Class II :- Unilateral resection



Here, the defect occurs in the unilateral side with retaining contralateral anterior side.

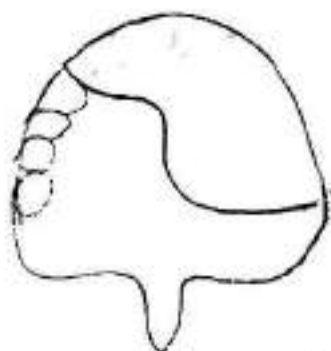
3) Class III :- Central resection



Here, the defect is present in the hard palate which may extend sometimes to soft palate.

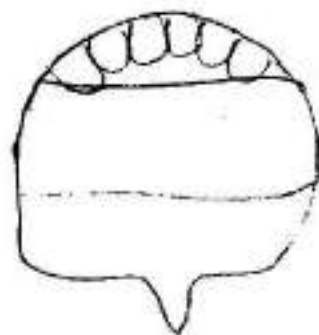
- Dentition is preserved.

A) Class IV - Bilateral-anterior - posterior resection



Here, the defect involving both the ~~anterior~~ side, but with some retained posterior teeth.

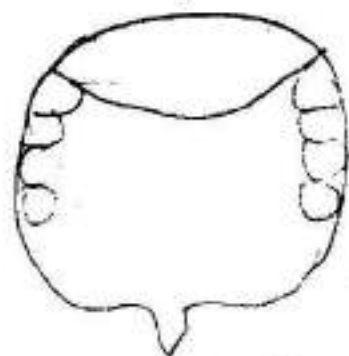
B) Class V - posterior resection



Here, the defects is present ~~in~~ front back side of retained teeth.

C) Class VI - Anterior resection

It is of rare case.



Defect present, in front of retained posterior teeth.

## \* Surgical obturator :

It is defined as temporary prosthesis used to restore the continuity of the hard palate immediately after surgery or traumatic loss of a portion.

It may be placed immediately or after 7-10 days.

### 1) Immediate:

It is a baseplate type of appliance which is constructed from the preoperative cast & inserted at the time of resection of maxilla in operating time.

### 2) Delayed

It is type of obturator placed after 7-10 days of surgery.

## \* Interim obturator

It bridges gap between the immediate surgical obturator & definitive prosthesis.

## \* Definitive obturator

2-4 months after surgery consideration may be given to construction of the definitive obturator prosthesis.

6)

### Over dentures:-

These are tooth supported over denture.

- Any removable dental prosthesis that covers & rests on one or more remaining natural teeth, ~~and~~ the roots of natural teeth / dental implants : a dental prosthesis that covers & is partially supported by natural tooth roots / dental implants.

### Indications:-

- patients with few remaining teeth
- patients with congenital / acquired defects like cleft lip / palate.
- patients with few remaining teeth.
- low caries index & good oral hygiene

### Advantages:-

- preservation of alveolar bone
- preservation of proprioception.
- Improved support
- Improved retention
- Less psychological trauma

✓

## Disadvantages:

- In case of high caries index
- In case of periodontal problems
- Long bony undercuts cases. it is contraindicated.

## 8) Swing lock denture

- It is the modification of labial bar proposed by JJ Simon's in 1967.
  - The prosthesis has a lingual bar in addition to labial bar.
  - This labial bar does not require a bulk of a conventional labial bar for rigidity.
  - The swing lock labial bar has a hinge device on one end & locking device on the opposite end.
  - The hinge action permits it to be positioned more intimately against the gingival tissue; at times it is even positioned in the undercut on the labial surface of the ridge.
- It helps to disguise the thickness of the bar & is more acceptable as far as patient comfort is concerned.

3



### Indications:

- Labially proclined anterior abutments
- Unfavourable path of insertion
- Missing key abutments
- Periodontally compromised teeth that require splinting.

### Disadvantages:

- Esthetics is compromised

### Advantages:

- Simple
- Inexpensive
- Use all or more remaining teeth for retention.

### 3) Relining & Rebasing for CD:

\* Relining :- The procedures used to resurface the tissue side of removable dental prosthesis with new base material, thus producing an accurate adaptation to the denture foundation

— 9 PT

#### Indications:

- change in denture bearing area due to resorption
  - loss of retention
  - Loss of vertical dimension
- ill fitting new denture during denture delivery.
- Socioeconomic condition.
- Immediate denture cases after 3-6 months

#### Procedures:

Divided into 2 ~~big~~ parts

I. clinical procedures - same for relining & rebasing

II. laboratory procedure - different for both.

#### I. Clinical procedure :

- Tissue preparation
- Denture preparation

3/2

## \* Final Impression, Techniques:

I: static impression techniques

- a. closed mouth technique
- b. open mouth technique

II - Functional impression technique

- a. Using a tissue conditioner

## Laboratory procedures for relining

1. Articulatormethod
2. chair-side relining technique.
- 3) ~~Flask~~ method

## \* Rebasing:-

It is the laboratory process of replacing the entire denture base material on an ~~existing~~ existing prosthesis.

### Indications:-

- when porcelain teeth are used
- observed clinical changes

### Contraindications for Both:-

- Denture base of poor condition or quality
- Excessive resorption of ridge
- Abused oral tissues
- poor esthetics.

## Short answers:

### 1) Non-rigid connectors:

- Tenon-Mortise connector
- Split pontic connector
- Cross pin & wing connector.

→ These are indicated in cases where a single path of insertion cannot be achieved due to non-parallel abutments.

2 → These connectors allow limited movement between the retainer & pontic

### 1) Immediate denture:

It is a complete or removable partial denture constructed for insertion immediately following the removal of natural teeth

—GPT

#### Indications:

- For patients with periodontally weak teeth indicate for extraction

### 13) Silverman's speaking space

- It measures the vertical dimension when mandible & muscles involved are in physiological function of speech.
- It vary from 0-10mm.

### 14) Pindex system in prosthodontics

- Reverse ~~drill~~ <sup>drill</sup> press is used that can be removed & replaced with great precision
- Impression poured before positioning the <sup>dowel</sup> pins
- ~~Drills~~ ~~drill~~ ~~to parallel~~ Parallel holes are placed

### 2) IPN teeth

These are the teeth that <sup>gradually</sup> mimic the enamel.

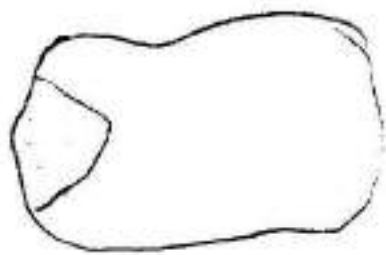
## 1) Rest & Rest seat :-

Rest :- The component of RFD that transfers force down the long axis of the abutment teeth are called Rests

Rest seat :- The prepared surface of the teeth in to which rests fit.

### Types of Rest

- 1) occlusal rest
- 2) Lingual rest
- 3) Embasure hook
- 4) Buccal ~~rest~~ rests



occlusal rest



Lingual rest



Buccal rest

## 4) Impression techniques for distal extension base.

### 1) Mclean's Technique

This technique records tissue of ridges in functional form & then ~~relates~~ relating it to remainder of arch, by a second impression

Disadvantages: finger pressure on alginate stock tray cannot produce same loading as ~~simplified distal~~ biting force

### 2) Hindle's technique

### 3) Functional technique

### 4) Fluid-wax technique

2

## 10) Osseointegration.

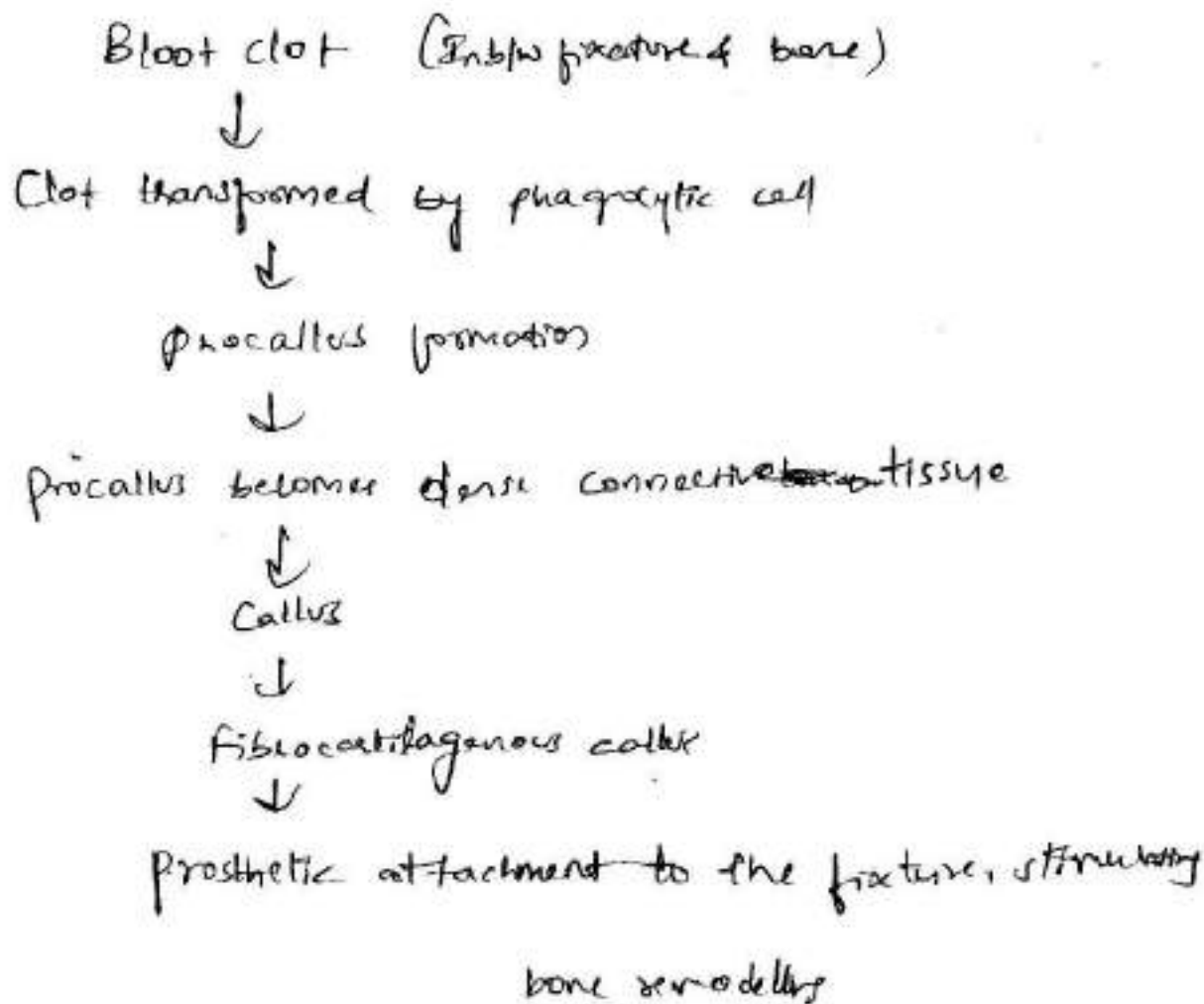
The apparent direct attachment or connection of osseous tissue to an inert, alloplastic material without intervening connective tissue.

— GPT

It is 2 types

- 1) Adaptive osseointegrative
- 2) Biointegration

### Mechanism of osseointegration.





It has 3 phases

- 1) Inflammatory phase (0-<sup>14</sup> days)
- 2) Proliferative phase (3-42 days)
- 3) Maturation phase. (After 28 days)

Factors responsible for affecting osseointegration

★ General Factors

- Excessive implant mobility
- Radiation therapy
- Inappropriate porosity
- Medical history
  - Osteoporosis
  - Rheumatic arthritis
  - Advanced age
  - Nutritional deficiency
  - Smoking
- Pharmacological agents
  - Cyclosporin A
  - Methotrexate
  - Warfarin

4

## \* Implant factors

- Implant length
- Implant Diameter
- Implant Surface
- Implant Surface Macrogeometry
- Implant Surface Microgeometry
- Surface porosity.
- Chemical composition of Implant
- Bio active coating

## Long essay:-

2). Principles of preparing a maxillary right central incisor tooth for All ceramic preparation.

Fundamentals of principles of Tooth preparation are:

- 1) Mechanical
- 2) Biological.
- 3) Esthetic.

These 3 considerations are considered

Main Biomechanic principles of Tooth preparation are:

- 1) preservation of Tooth structure
- 2) Retention + Resistance form
- 3) ~~Long~~ Structural durability
- 4) Marginal integrity
- 5) preservation of the periodontium.

1) Preservation of Tooth structure:-

- Here the Tooth is preserved as much as possible.
- Greater drilling force is required for the tooth preparation.
- Grossly decayed carious tooth, Case - there should be involvement of grooves, pits, locks.

2) Retention: - ~~It is defined as ability to~~

It is defined as prevention of removal of restoration along the path of insertion.

They are of 2 types.

\* Primary retention :- Sleeve retention

\* Secondary retention: It is by grooves, boxes & pins.

Resistance form

It is the prevention of ~~restoration~~ <sup>restoration</sup> ~~resistance~~ form forces along the axis.

1) Taper :- Zero degree tapers more resistant form, but it is not obtained.

Ideal  $3^{\circ}$ - $10^{\circ}$  taper can be given.

2) Length: Increased length or greater length of crown gives increased retention.

→ Cementation also increases the retention.

3) Force of displacement:

U shaped grooves are provided rather than V-shape to get resistance.

3) Structural durability

It is the ability of the ~~restoration~~ <sup>restoration</sup> ~~to~~ to ~~resisting~~ destruction due to external forces.

It has 3 components?

- 1) occlusal reduction
- 2) Functional cusp level
- 3) Axial reduction

1) occlusal reduction

Here, for this maxillary right central incisor - that to  
for <sup>all</sup> ceramic preparation

- All side is reduced by 2mm.

For metal :- 1.5 - 2mm for functional cusp  
1.0 - 1.5mm for non functional cusp.

2) Functional cusp level :

- It is an integral part of the <sup>occlusal reduction</sup> ~~functional~~.
- Where for this it is made of maximal thickness  
It should not be a minimal thickness as it leads  
to easy perforation.

3) Axial reduction :

It is done very carefully without disturbing the  
adjacent teeth.

#### 4) Marginal integrity

It may be done as subgingivally / Equigingivally / Supragivally

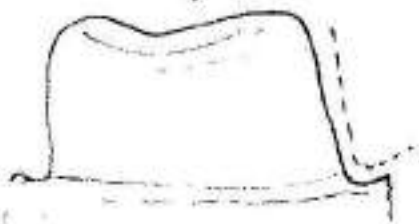
- For All ceramic restoration it should be supragingivally placed.

#### Finishing line configurations:

- 1) Chamfer
- 2) Shoulder
- 3) Radial shoulder
- 4) Shoulder with bevel
- 5) Featherless edge
- 6) Knife edge



1) Chamfer



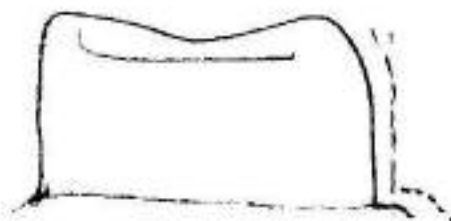
2) Shoulder



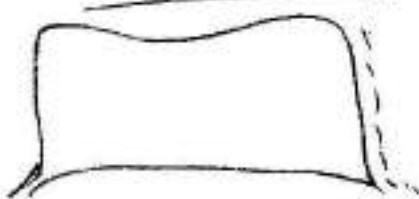
3) Radial shoulder



4) Shoulder with bevel



5) Featherless edge



6) Knife edge



For all ceramic we ~~use~~ use featherless or knife edge finishing

## 8) preservation of the periodontium -

- The finish line should be so perfect that during impression taking there should be no distortion.
- The Marginal integrity or margin should be placed at the supragingival level.
- The crown should not irritate the periodontium.

## 9) Treatment plan for Endodontically treated maxillary central incisor teeth

- After the treatment for the incisor tooth (i.e., root canal treatment or any other treatment like restorations) we give crown.
- First should evaluate the periodontium condition, then tooth structure.
- History should be taken which includes,
  - What type of restoration had undergone
  - And the radiographs should taken.That radiograph show the restoration & the condition <sup>if</sup> possible to place the crown.

After thorough examination of radiographs, treatment can be done.

- Most probably we prefer all ceramic restoration because of esthetic concerns.
- So, reduction of crown should be done from all

4) ✓

- And then knife edge or featherless edge finish line is ~~done~~ configured.
- In the last periodontium should be preserved

1)

3)

5)



S.J.M. Vidyapeetha (R.)

# S.J.M. Dental College & Hospital

## Chitradurga - 577 501

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### INTERNAL ASSESSMENT THEORY VALUATION RECORD

I.A. NO. \_\_\_\_\_

SUBJECT : \_\_\_\_\_

Question Nos.	Marks obtained	Question Nos.	Marks obtained	Question Nos.	Marks obtained
1		11		21	
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Sub Total					

Grand Total 

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Grand Total in words : .....

Sign. of the candidate.....

Name & Reg. No. of the candidate.....

Progress remarks : .....

Name of the Valuer.....

Sign. of the Valuer. with date.....

Sign. of the H.O.D. with seal.....

30. Reduction of marks should be

S.J.M. Vidyapeetha (R.)

# S.J.M. Dental College & Hospital Chitradurga - 577 501

*Affiliated to Rajiv Gandhi University of Health Sciences  
(Recognised by Dental Council of India, New Delhi)*



## INTERNAL ASSESSMENT RECORD

I.A. NO III

YEAR 2020 -2021

Name: RACHANA .M

Reg. No. : 19D1420

Subject : Dental Materials (Prosthodontics)

B.D.S. : II Year

S.J.M. Vidyapeetha (R.)

# S.J.M. Dental College & Hospital Chitradurga - 577 501

## INTERNAL ASSESSMENT THEORY RECORD

I.A. NO. III

SUBJECT Prosthodontics (DM)

Name: RACHANA - M Reg.No. 19D1420

Year: 2020 - 21 Batch: 19 BDS

Please ( ✓ ) Tick the Answered Question Numbers in the appropriate boxes.

Question Nos.		Question Nos.		Question Nos.	
1	✓	11		21	
2	✓	12		22	
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5	✓	15		25	
6	✓	16		26	
7	✓	17		27	
8	✓	18		28	
9		19		29	
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Date: 24/08/21

Rachana M  
Sign. of the Candidate

## Section A : Prosthodontics

### LONG ESSAY

i) Classify dental casting Alloys :-

Alloy :- Alloys can be defined as substance which contains one or more metals along with non-metallic substances.

i) Base on function :-

- \* ~~Metals~~ <sup>Alloys</sup> for all metal & resin veneer restorations. Ex: Inlays, crown & bridges.
- \* Alloys for metal-ceramic restorations
- \* Alloys for complete dentures, removable partial dentures, etc..

ii) Based on the strength of the alloys :-

Class I → Extra hard

Class II → Hard

Class III → Medium

Class IV → Soft

28  
—  
31

iii) Based on the Nobility :-

- \* High-noble alloys → Contain more than 60% of noble metals.
- \* Noble alloys → Contain greater than or equal to 25% of noble metals by weight.
- \* <sup>Predominantly</sup> ~~Noble~~ Base metal alloys → Contain less than 25% of noble metals by weight.
- \* Base metal alloys → No noble metal content

iv) Based on the mechanical properties :-

Type 0

Type 1

Type 2

Type 3

Type 4

Type 5

v) Based on the major constituent of alloys :-

- \* Silver alloys
- \* Cobalt alloys
- \* Titanium alloys
- \* Palladium alloys
- \* Nickel alloys

vi) Based on the three major components of alloys :-

- \* Cobalt - chromium - nickel alloys
- \* Silver - cobalt - chromium alloys
- \* Titanium - cobalt - platinum alloys.

vii) Based on number of metals in the alloy :-

\* Binary alloys

Ex: Cobalt - chromium alloy

\* Ternary alloys

Ex: Silver - cobalt - chromium alloy

\* Quaternary alloys

Ex: Titanium - cobalt - chromium - nickel alloy.

vii) Based on function :-

\* Alloys for all metal and resin veneer restorations :-

- High-noble alloys
- Noble metal alloys
- Predominantly base
- Base metal alloys.

\* Alloys for metal ceramic restorations :-

- High-noble alloys
- Noble metal alloys
- Predominantly base
- Base metal alloys.

\* Alloys used for major components :-

- High-noble alloys
- Noble metal alloys
- Predominantly base
- Base metal alloys.

## Metal-ceramic alloys :-

- \* They contain metals & non-metals in the alloy form.
- \* Used for crown & bridges, fixed & removable partial dentures, pontics.
- \* First, metal casting is done for required tooth structure.
- \* Later, ceramic coating is done on the metallic casting.
- \* They are brittle in nature.
- \* Relatively decreased abrasion and are corrosion resistant because of presence of ceramics.
- \* They contain cobalt-chromium alloys  
Titanium alloys.  
Nickel alloys.
- \* classified as - High noble alloys  
Noble metal alloys  
Predominantly base alloys  
Base metal alloys.



## SHORT ESSAY :-

2) classify investment materials :

i) Based on wettability / contact angle :-

- \* Hydrophilic
- \* Hydrophobic

Wettability : Its the angle formed between the liquid & surface of the particular substance.

ii) Based on the filler particle used :-

- \* Gypsum-bonded investment
- \* Phosphate-bonded investment
- \* Ethyl-silicate bonded investment.

↳ Phosphate-bonded investment :

Withstand temperature greater than  $750^{\circ}\text{C}$ . Used for cobalt-chromium alloys.

↳ Ethyl-silicate bonded investment :

They can withstand very high temperatures & are used for base metal casting alloys.

ii) ISO classification :-

Type I

Type II

Type III

Gypsum-bonded investment material :-

- \* Composition :
  - Silica
  - $\beta$ -hemihydrate (dental stone)
  - Others (Fillers, colouring agents)

- \* Manipulation :

Adequate W/P ratio of the investment is taken in rubber bowl & mixing is done in straight spatula to obtain uniform consistency. Bowl is tapped for removal of air bubbles.

- \* setting time - 12 to 14 minutes
- Working time - 2 to 3 minutes

\* Setting Reaction :

The hemihydrate reacts with water to form dihydrate & further reacts with silica to form bonded particles and hardens.

\* Uses :

→ Gypsum-bonded investment materials are used for casting gold-alloys.

→ They can resist temperature of upto  $750^{\circ}\text{C}$ .

→ Molten-gold alloy is passed into the mold & casting is done.

→ They cannot withstand higher temperatures.

### 3) Inversible - hydrocolloid impression material

#### ALGINATE :-

Hydrocolloid : It consists of gelatin particle suspended in a liquid medium

- Hydrocolloid is called so because of presence of water as dispersion medium.
- There is no clear difference between gel, sol and solid phases.

#### \* Composition -

• Silica	
• Sodium alginate	- 12-15%
• Calcium sulfate	- 20%
• Diatomaceous earth	- 60%
• Trisodium phosphate (retarded)	+ 5%
• Calcium fluoride	+ 0-2%
• Colouring agent	+ Traces
• Flavouring agents -	Peppermint, anise orange, etc...

\* Manipulation :-

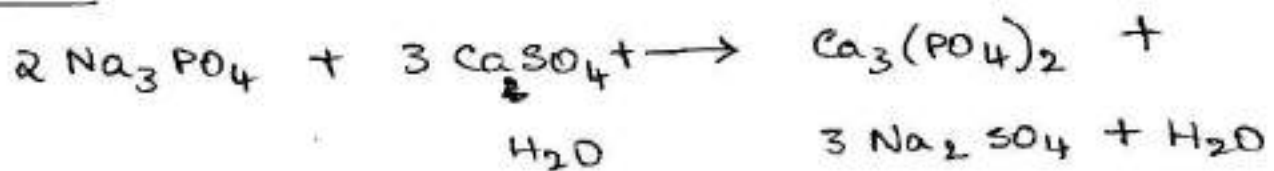
- Proper W/P ratio of alginate is taken which is 3:1
- Rubber bowl & curved spatula are used
- Vigorous mixing is done against the wall of the rubber bowl.
- Figure eight motion is followed while mixing.

Mixing time : 45 seconds - 1 minute

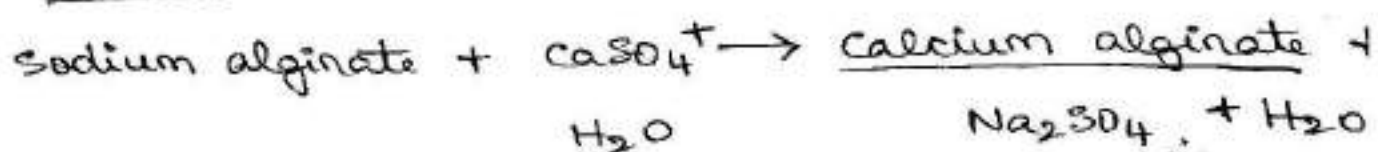
Setting time : 3-4 minutes.

\* Setting reaction :-

↳ Reaction I :



↳ Reaction II :



\* Properties :-

- Taste & odour : Pleasant taste & smell when compared to polysulfide
- Adhesion : They don't have adhesive properties so special trays like perforated tray are used which provide mechanical adhesion
- Shelf-life : Alginate in bulk should be replaced with lid immediately to prevent contamination & can be stored upto 1 year.
- Biocompatibility : They are biocompatible with tissues but are hazardous when dust is inhaled.
- Dimensional stability : They cannot be stored for long period & need to be poured immediately.  
Exhibit syneresis & imbibition.
- Tear strength : Its low and can be distorted easily if handled improperly.

### Uses :-

- \* For taking impression of partially dentulous mouth.
- \* Used near undercut areas.
- \* For impression making for crown construction.

### Advantages :-

- \* Its inexpensive.
- \* Biocompatible with oral tissues.
- \* Due to elastic nature, undercut areas can be easily recorded without distortion of the impression.

### Disadvantages :-

- \* Its irreversible in nature
- \* Cannot be electroplated
- \* Syneresis & imbibition are seen by which it cannot be stored.

5

4) Classify dental <sup>ceramics</sup> ~~cements~~ :-

Ceramics : They are silica containing substances which are hard & brittle in nature.

i) Based on firing temperature :-

- Very-high fusing ceramics
- High fusing ceramics
- Moderately fusing ceramics
- Low fusing ceramics

ii) Based on the additives used :-

- Feldspathic-reinforced glass ceramics
- Leucite-reinforced ceramics
- Zirconia-reinforced ceramics
- Alumina-reinforced ceramics.



iii) Based on the application of ceramics :-

- core build-up
- Opaque ceramics : For covering the metal casting
- For veneers

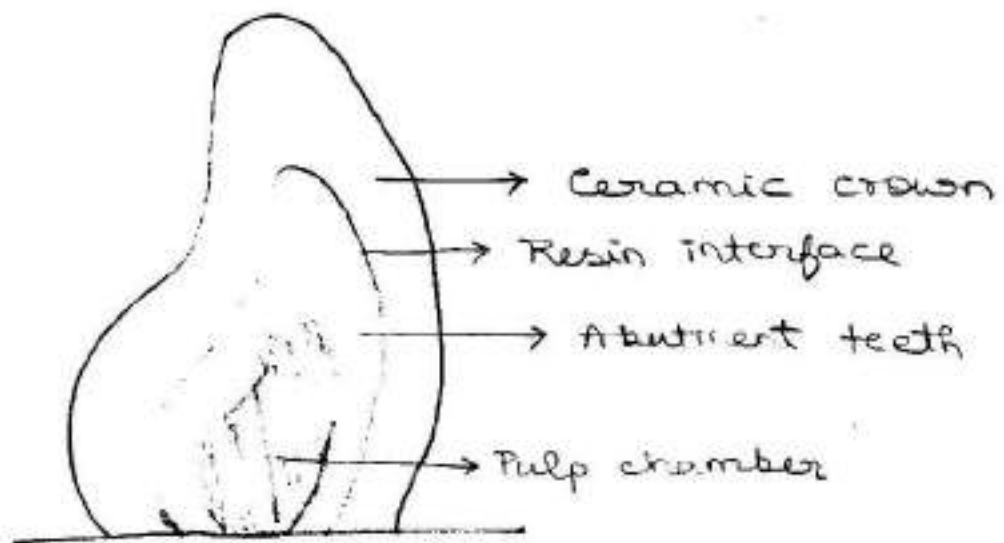
iv) Based on the microstructure :-

- Glass containing ceramics
- Crystalline ceramics
- Crystal-resin containing ceramics.

v) Based on the condensation :-

- Condensable ceramics
- Mechanical pressable ceramics.

## Dices :-



- \* Ceramics are used for crown preparation where esthetics is important.
- \* Metal castings are coated by a layer of ceramics.
- \* Crown & bridges are done with ceramics.
- \* The ceramic crown is adhered to the tooth structure with the help of luting cements.

## SHORT ANSWERS :-

5) Abrasive, finishing & polishing agents :-

- \* **Abrasives** : They are the substances which mechanically change the form of surface by scraping, rubbing, etc...

Ex : Arkansas stone  
Chalk  
Corundum  
Pumice  
Zirconium

- \* **Finishing & Polishing agents** : The production of smooth mirror-like surface without much loss of tooth surface/structure.

Ex : Diamond burs  
Brushes  
Rubber discs  
Polishing stones.

1/2

6) 18:8 stainless steel

- \* contains 18 parts of iron & 8 parts of chromium, carbon.
- \* stainless steel can be classified as
  - Austenitic
  - Martensitic
  - Ferritic
- \* Its resistant to tarnish and corrosion
- \* Along with iron, carbon & chromium are added.

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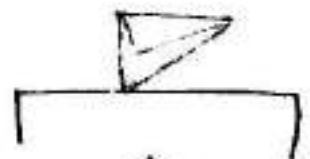
7) Hardness tests

- \* Hardness is the ability of material to withstand external indentations.
- \* There are various methods to determine hardness of an object -

• Rockwell hardness test  
(spherical indenter)



• Brinell hardness test  
(conical indenter)



• Knoop hardness test  
(pyramidal indenter)



2

### 8) Munsell's colour system :-

\* Hue : Its the dominant colour of an object.

Ex: Blue, green, red.

\* Value : Its the degree of saturation of particular colour.

Ex: Lemon yellow & sunflower yellow.

\* Chroma : Its the lightness or darkness of the hue on a grayscale.

Ex: As whiteness darkens, chroma decreases.

### 9) Disinvestment :-

Its the gypsum product used in the preparation of sectional mold for ~~and~~ fabrication of complete dentures & casting procedures.

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## INTERNAL ASSESSMENT THEORY VALUATION RECORD

I.A. NO. \_\_\_\_\_

SUBJECT : \_\_\_\_\_

Question Nos.	Marks obtained	Question Nos.	Marks obtained	Question Nos.	Marks obtained
1		11		21	
2		12		22	
3		13		23	
4		14		24	
5		15		25	
6		16		26	
7		17		27	
8		18		28	
9		19		29	
10		20		30	
Sub Total					

Grand Total 

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Grand Total in words : .....

Sign. of the candidate.....

Name & Reg. No. of the candidate.....

Progress remarks : .....

Name of the Valuer.....

Sign. of the Valuer. with date.....

Sign. of the H.O.D. with seal.....