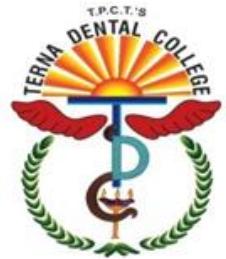
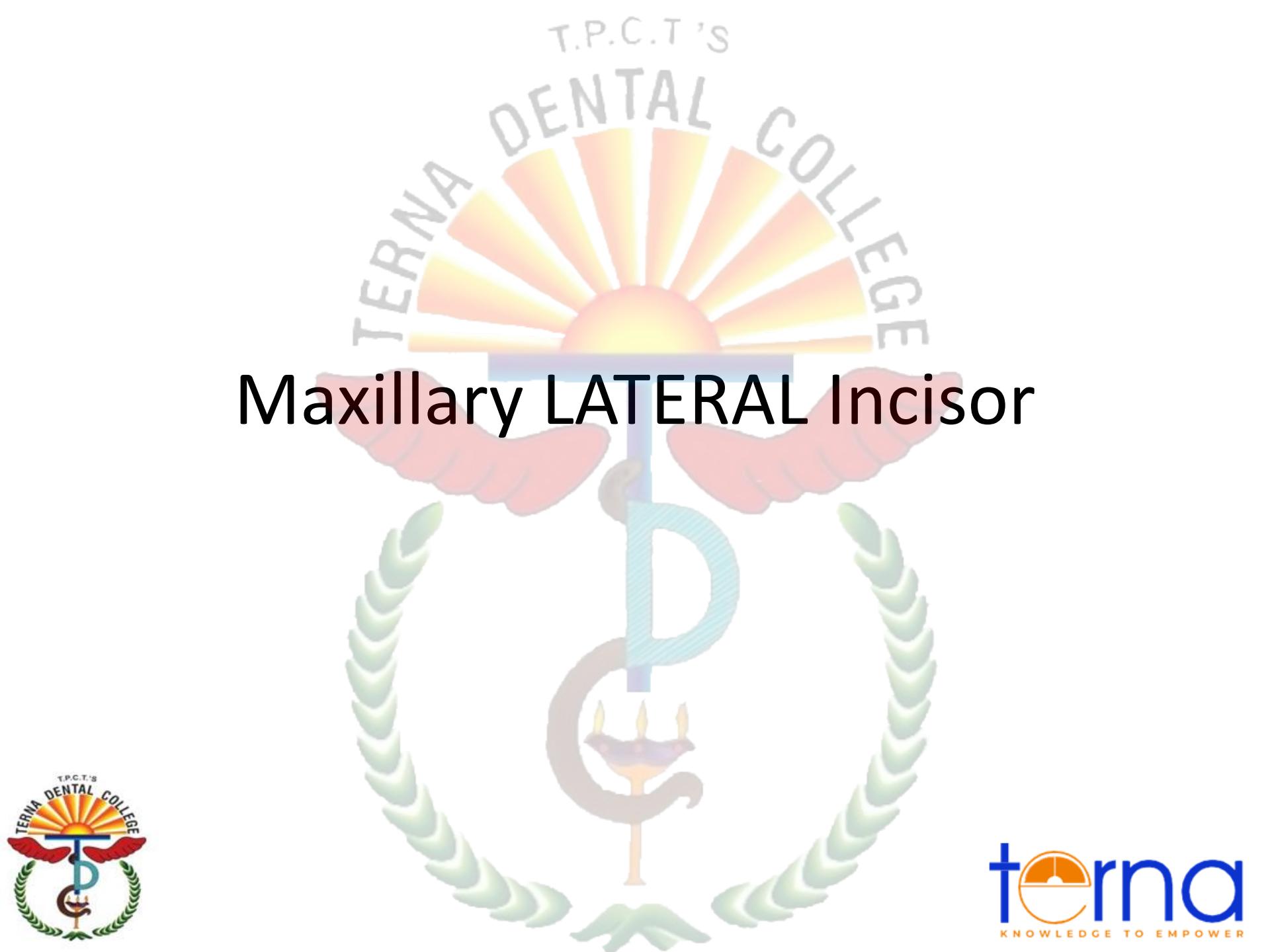




## DEPARTMENT OF ORAL PATHOLOGY AND MICROBIOLOGY





# Maxillary LATERAL Incisor

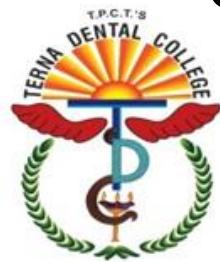
# OBJECTIVE

- To help understand students anatomy of maxillary and mandibular central incisors and the variation in them.



# CONTENT

- INTRODUCTION
- MAXILLARY LATERAL INCISOR
  - TOOTH NUMBERING
  - AVG. DIMENSION
  - CHRONOLOGY
  - SURFACES
- DIFFERENCES
- VARIATION
- CONCLUSION



# INTRODUCTION

- Two in number
- Mesial side : Max. Cl
- Distal side : Maxillary canines
- Function :
  1. Shearing or Cutting food ,
  2. Speech and support for lips,
  3. Supplements central incisors in function & are similar anatomically

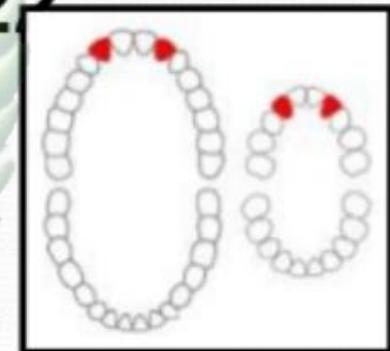


# TOOTH NUMBERING:

► **UNIVERSAL SYSTEM** - 7,10

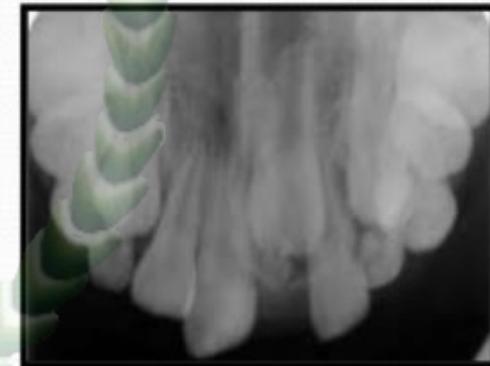
► **ZSIGMONDY / PALMER** - 22

► **FDI SYSTEM** - 12,22

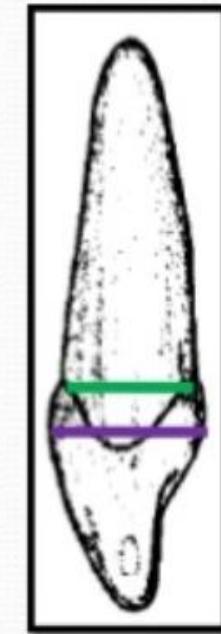
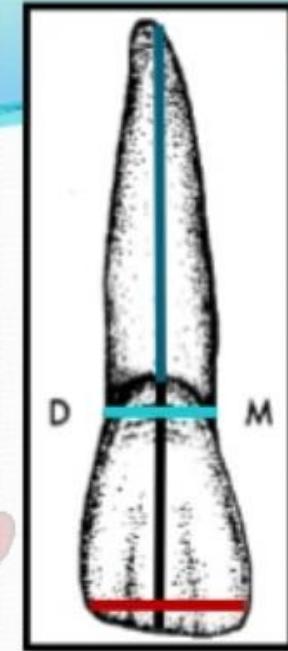
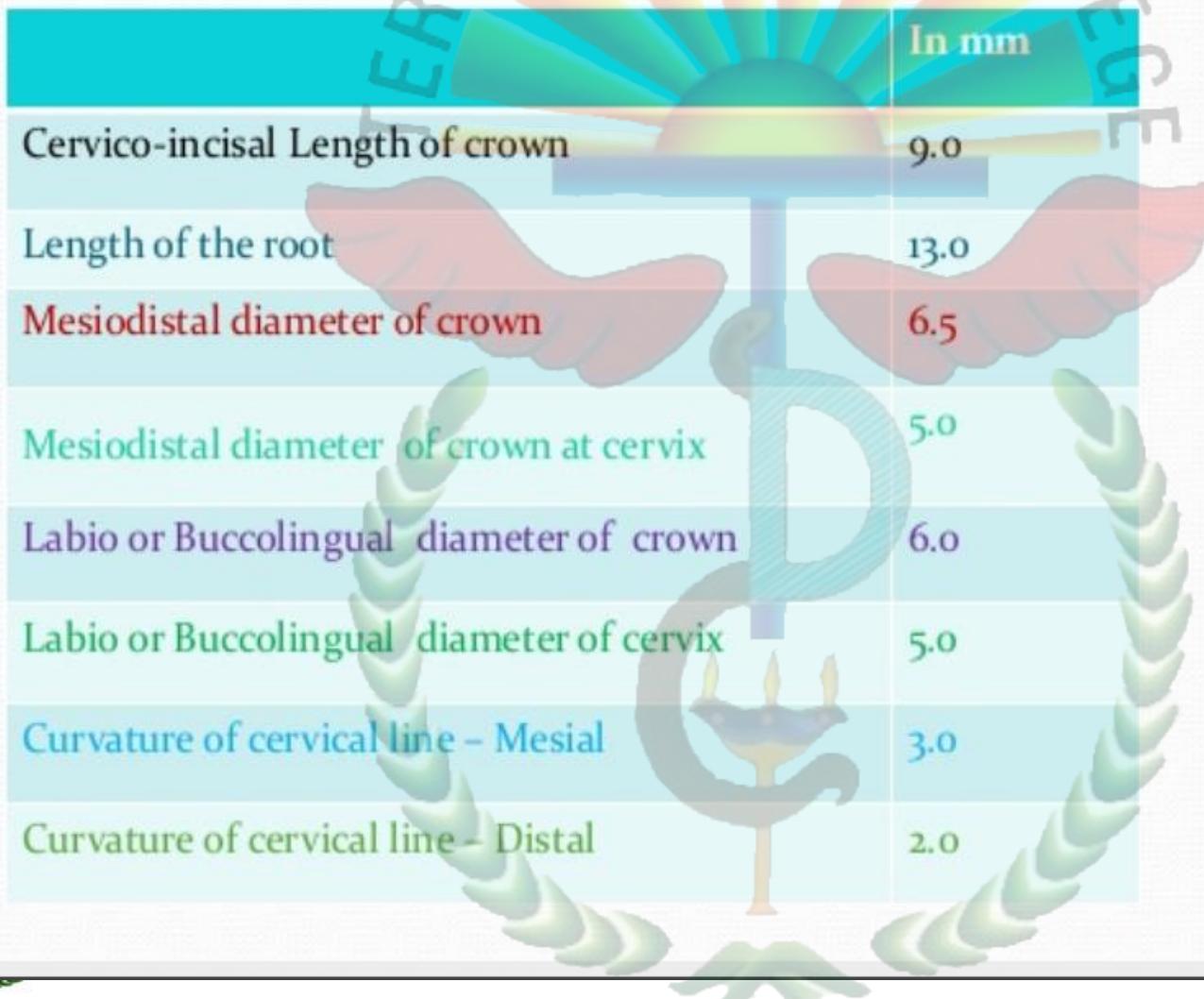


# CHRONOLOGY

- First evidence of calcification : 10-12 months
- Enamel completed : 4-5 years
- Eruption : 8-9 years
- Root completed : 11 years

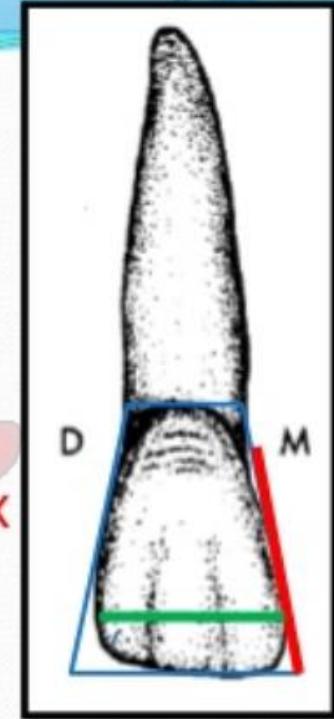


# DIMENSIONS

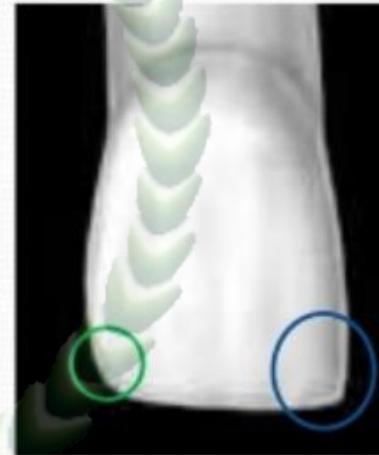


# Labial Aspect

- Crown outline is trapezoidal
- Mesial margin is approx. similar to Max CI
- Height of contour (mesial margin) : near junction of incisal and middle 3rd
- Distal margin more rounded than max. CI



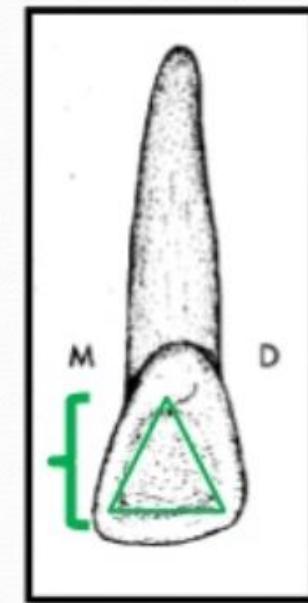
- Mesio-incisal and disto-incisal line angles are more rounded than Max. Central Incisor.
- Incisal outline is similar to max. CI but not straight
- Crest of curvature (labial aspect) : cervical 3<sup>rd</sup>



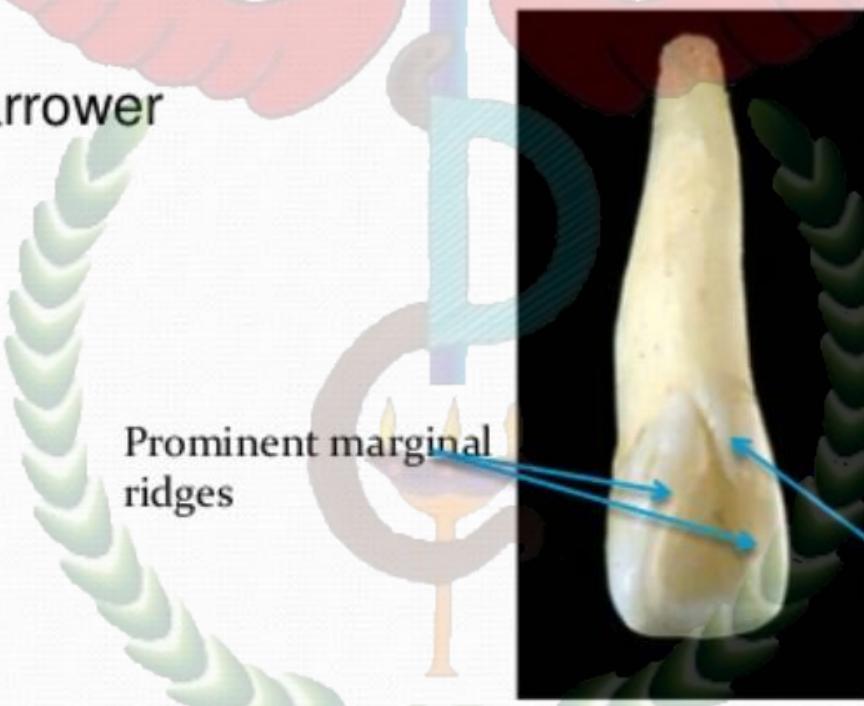
# LINGUAL ASPECT

- Mesial margin is more convex than max. CI & Distal margin is more rounded than max. CI.
- Lingual Fossa: deep triangular shaped & occupies  $2/3^{\text{rd}}$  of lingual surface of crown.
- Cingulum is limited to cervical  $3^{\text{rd}}$

LINGUAL  $2/3^{\text{RD}}$



- Marginal ridges and Cingulum are more prominent
- Fossa will be rounded at the mesio-marginal ridge which is straight and longer whereas distal marginal ridge will be slightly curved and small.
- Root is narrower



Prominent marginal ridges

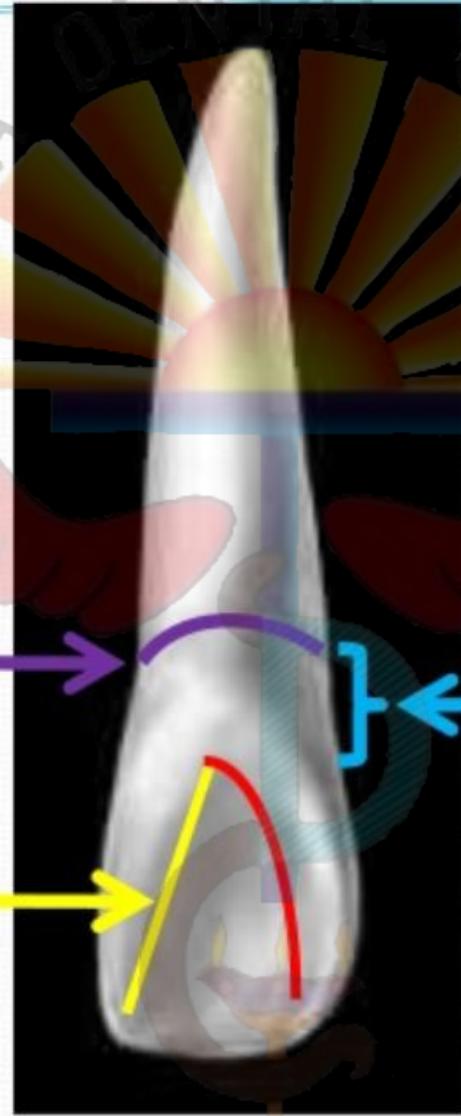
Prominent cingulum



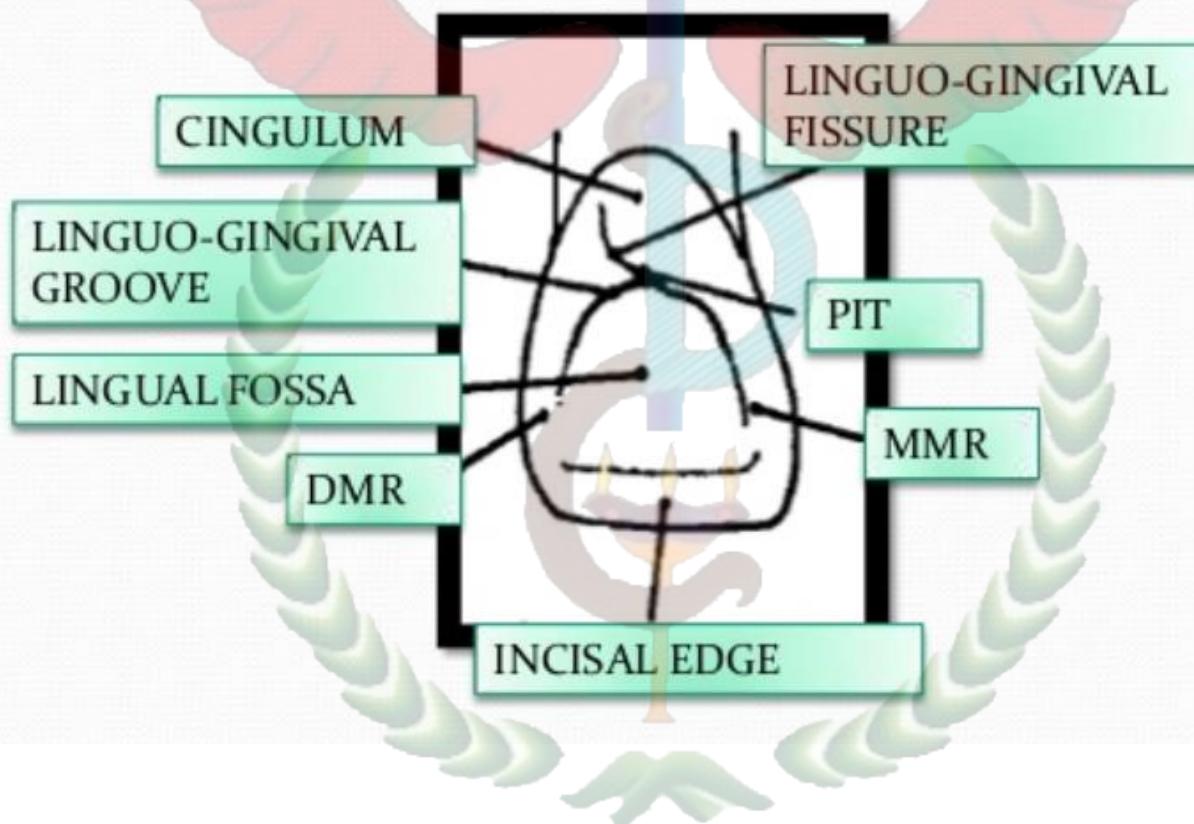
Cervical line

Cingulum in  
cervical 3<sup>rd</sup>

“V” shaped fossa

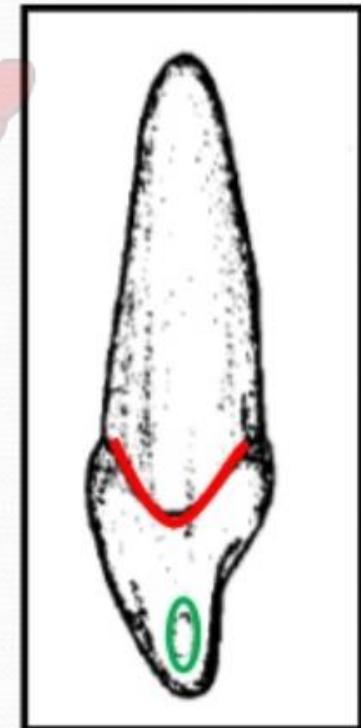


- Lingual pit present on the point of “V”
- Linguo-gingival groove: emanates from lingual pit (usually distally) and may extend over CEJ

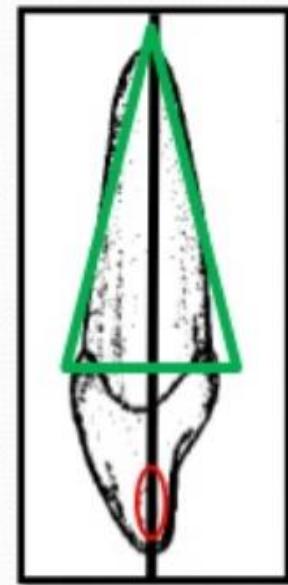


# MESIAL ASPECT

- Very similar to the central incisor, with lessened dimension
- Curvature of the cervical line is marked in the direction of the incisal ridge
- Contact area : incisal 3<sup>rd</sup> very near junction of incisal & middle 3<sup>rd</sup> (similar in shape to contact of Max. CI)



- Root appears as a tapered cone with bluntly rounded apical end
- Line drawn through centre of the root tends to bisect the incisal ridge of the crown
- Proximal contact : Junction of incisal 3<sup>rd</sup> near the junction of the incisal middle 3<sup>rd</sup>



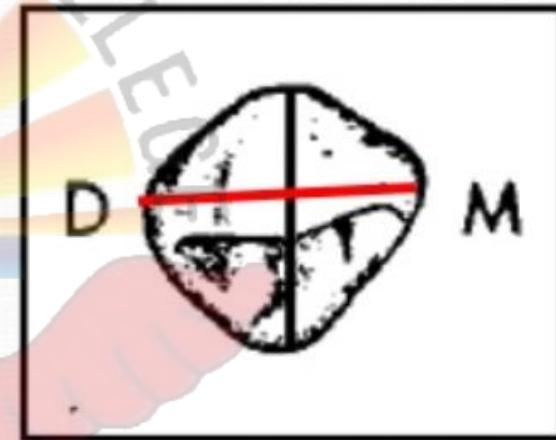
# DISTAL ASPECT

- Distal surface is smaller & more convex in all dimensions than mesial surface
- Curvature of cervical line is usually a millimeter or so less in depth than on mesial side
- Proximal contact : Junction of Incisal & Middle 3<sup>rd</sup>



# INCISAL ASPECT

- Resembles central incisor
- More or less ovoid in form
- Cingulum may be large, as is the incisal ridge
- Labiolingual dimension may be greater than usual in comparison with mesiodistal dimension



- Exhibit more convexity labially and lingually from incisal aspect than maxillary central incisor
- Mesiolabial & distolabial line angles are much more rounded
- Lobes of labial surface are less clearly demarcated in lateral incisors is because of high degree of convexity of labial surface



# TRAITS

## ARCH TRAITS

### MAXILLARY LATERAL INCISOR

1. *Rectangular, broader crown*
2. *Mesial and distal out line is convex*
3. *Mesioincisal and distoincisor angle is rounded*
4. *Prominent marginal ridge*
5. *Fossa will be deep and 'V' shaped*
6. *More prominent cingulum*

### MANDIBULAR LATERAL INCISOR

1. *Long and narrower mesiodistally*
2. *Long Mesial and distal out line is straight*
3. *Mesioincisal and distoincisor angle is straight and sharp*
4. *Less prominent marginal ridge*
5. *No fossa*
6. *Less prominent cingulum*

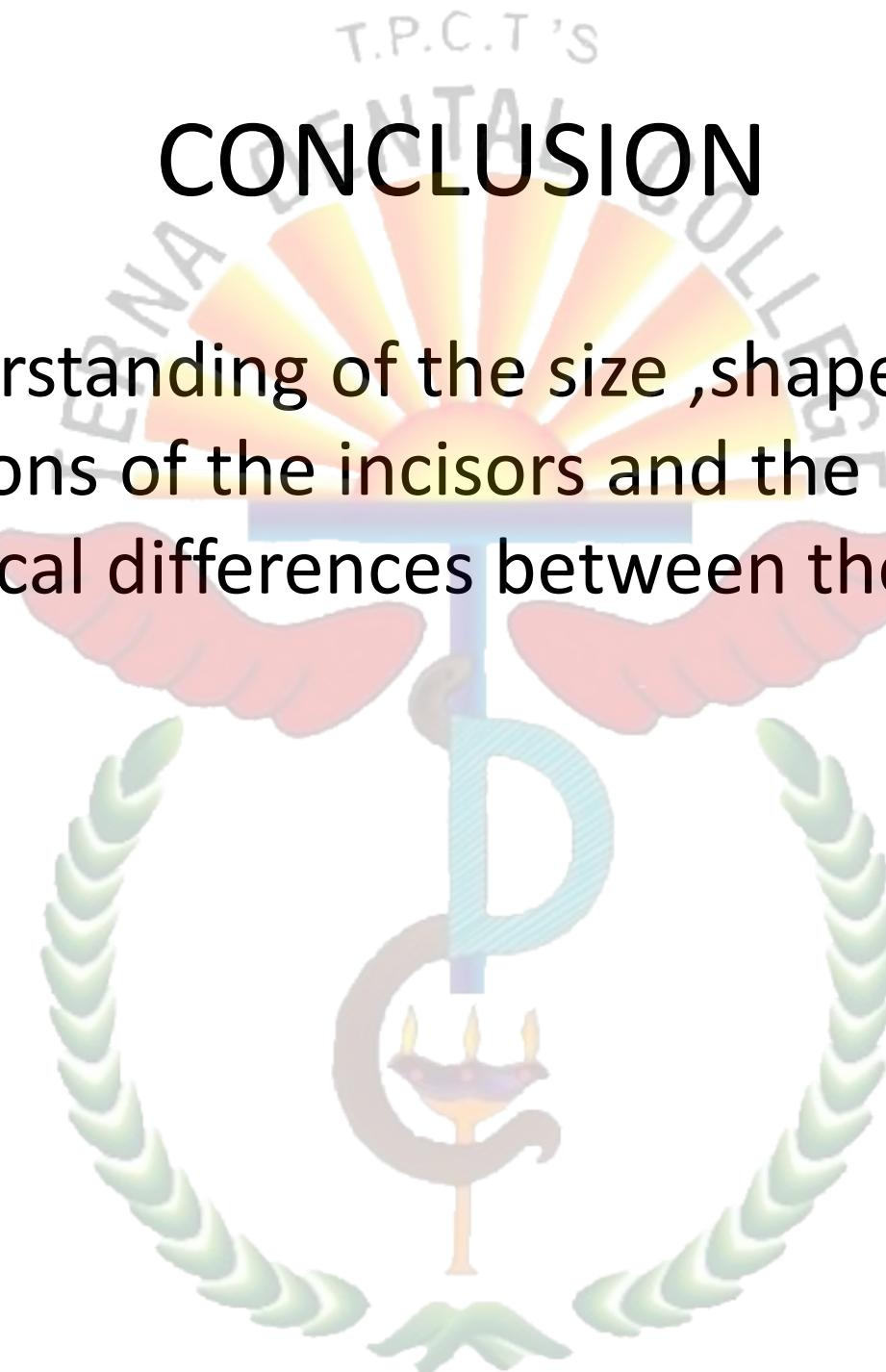
# TYPE TRAITS

CROWN	CENTRAL INCISOR	LATERAL INCISOR
<b>1. <u>LABIAL ASPECT</u></b>		
Mesiodistally	Wide	Narrow
Mesioincisal angle	Sharp (90 degrees)	Slightly rounded
Distoincisal angle	Slightly rounded	Distinctly rounded
Mesial profile	Straight	Slightly rounded
Distal profile	Round	Highly rounded
Mesial contact	Incisal third	Junction of incisal and middle third
Distal contact	Junction of incisal and middle thirds	Middle third
Labial surface	Relatively flat	Rounded
<b>2. <u>LINGUAL ASPECT</u></b>		
Marginal ridges and cingulum	Moderately pronounced	More prominent
Lingual fossa	Moderately deep	Deep

CROWN	CENTRAL INCISOR	LATERAL INCISOR
3. MESIAL ASPECT		
CEJ	Moderately curved	Less curved
Contact area	Incisal third	Junction of incisal and middle third
Cingulum	Moderately convex	Convex
4. INCISAL ASPECT		
Outline	Triangular	Ovoid
Labial surface	Slightly convex	Highly convex
Lobes	Visible labially	Slightly visible to absent
Mesio and Distolabial angles	Prominent	Rounded

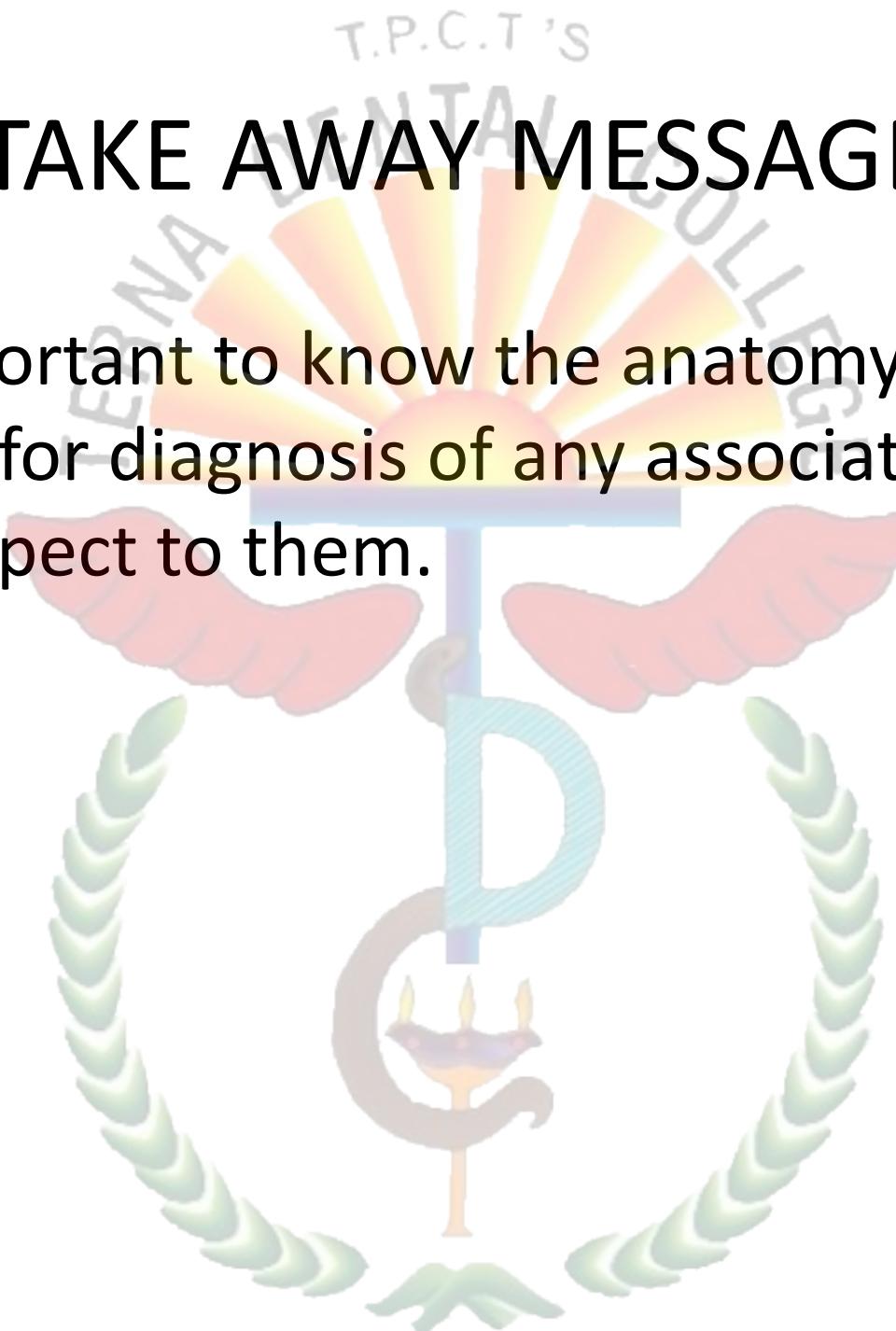
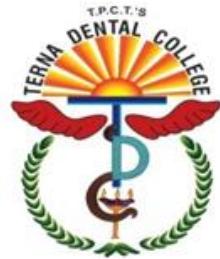
# CONCLUSION

- An understanding of the size ,shape and dimensions of the incisors and the related anatomical differences between the two incisors.



# TAKE AWAY MESSAGE

- It is important to know the anatomy of the incisors for diagnosis of any associated defects with respect to them.





Thank you

# MCQ

T.P.C.T'S

1} the first macroscopic indication of morphologic development of primary incisors approx. at?

- A. 11 weeks in utero
- B. 14 weeks in utero
- C. 16 weeks in utero
- D. 6 weeks in utero

2} In how many years, the central incisors erupt as permanent teeth \_\_\_\_\_?

- A. 8-9 years
- B. 10-12 years
- C. 6-7 years
- D. 17-25 years

3} Following eruption , the root of the maxillary central incisor completes development at what approximate age ?

- A. 7 years
- B. 8 years
- C. 9 years
- D. 10 years

4] The maxillary lateral incisor is smaller than the maxillary central incisor on all aspects EXCEPT which one of the following \_\_\_\_\_?

- A. Crown length
- B. Mesiodistal crown width
- C. Faciolingual crown width
- D. Root length

5} The eruption age of maxillary permanent lateral incisor is \_\_\_\_\_?

- A. 8-9 years
- B. 6-7 years
- C. 10-11 years
- D. 8-9 months

6} Which of the following permanent teeth is usually bilaterally symmetric when viewed labially and incisally \_\_\_\_\_?

- A. Mandibular lateral incisor
- B. Mandibular canine
- C. Mandibular central incisor
- D. Maxillary central incisor

7} The first evidence of calcification of primary anterior teeth begins approx. between?

- A. 14 to 17 weeks in utero
- B. 9 to 12 weeks in utero
- C. 6- to 9 weeks in utero
- D. 17 to 20 weeks in utero

8} Rounded protuberances on the incisal edges of newly erupted permanent incisors are \_\_\_?

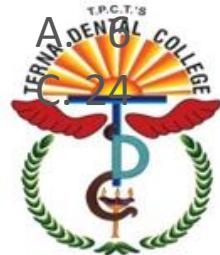
- A. Mamelons
- B. Tubercles
- C. Enamel pits
- D. Cingulum

9} Which of the following features of a permanent maxillary lateral incisor aids in distinguishing it from a mandibular lateral incisor?

- A. Flattened root
- B. More pronounced lingual fossa
- C. Thinner incisal ridge
- D. Sharper proximal incisal angles

10} The total number of cingula in each definition is ?

- B. 12
- D. 32



11} The permanent anterior tooth, which is most commonly atypical, is \_\_\_?

- A. Maxillary central incisor
- B. Maxillary lateral incisor
- C. Mandibular central incisor
- D. Mandibular 1<sup>st</sup> premolar

12} The root of maxillary lateral incisors if curved is usually in which direction ?

- A. distal
- B. Mesial
- C. Facial
- D. Palatal

13} An 8 yr old child comes to your clinic with large front teeth having jagged margins, what is the treatment plan for this patient?

- A. Smoothen the jagged margins and apply fluoride varnish
- B. Build up other teeth to large size
- C. Extraction of big teeth
- D. Assure him and send him back

14} If the pulp of a single rooted tooth canal were triangular in cross section with the base of the triangle located facially and the apex lingually with a longer mesial side than distal side; the tooth most likely is \_\_\_?

- A. Maxillary central incisor
- B. Maxillary second premolar
- C. Mandibular lateral incisor
- D. Mandibular central incisor

15} What is the functional form of anterior teeth from the mesial or the distal aspect ?

- A. Rhomboid
- B. Trapezoid
- C. Elliptical
- D. Wedge- shaped

16} Permanent mandibular central incisor develops from?

- A. 1 lobe
- B. 3 lobes
- C. 4 lobes
- D. 5 lobes

17} tooth with smallest root is

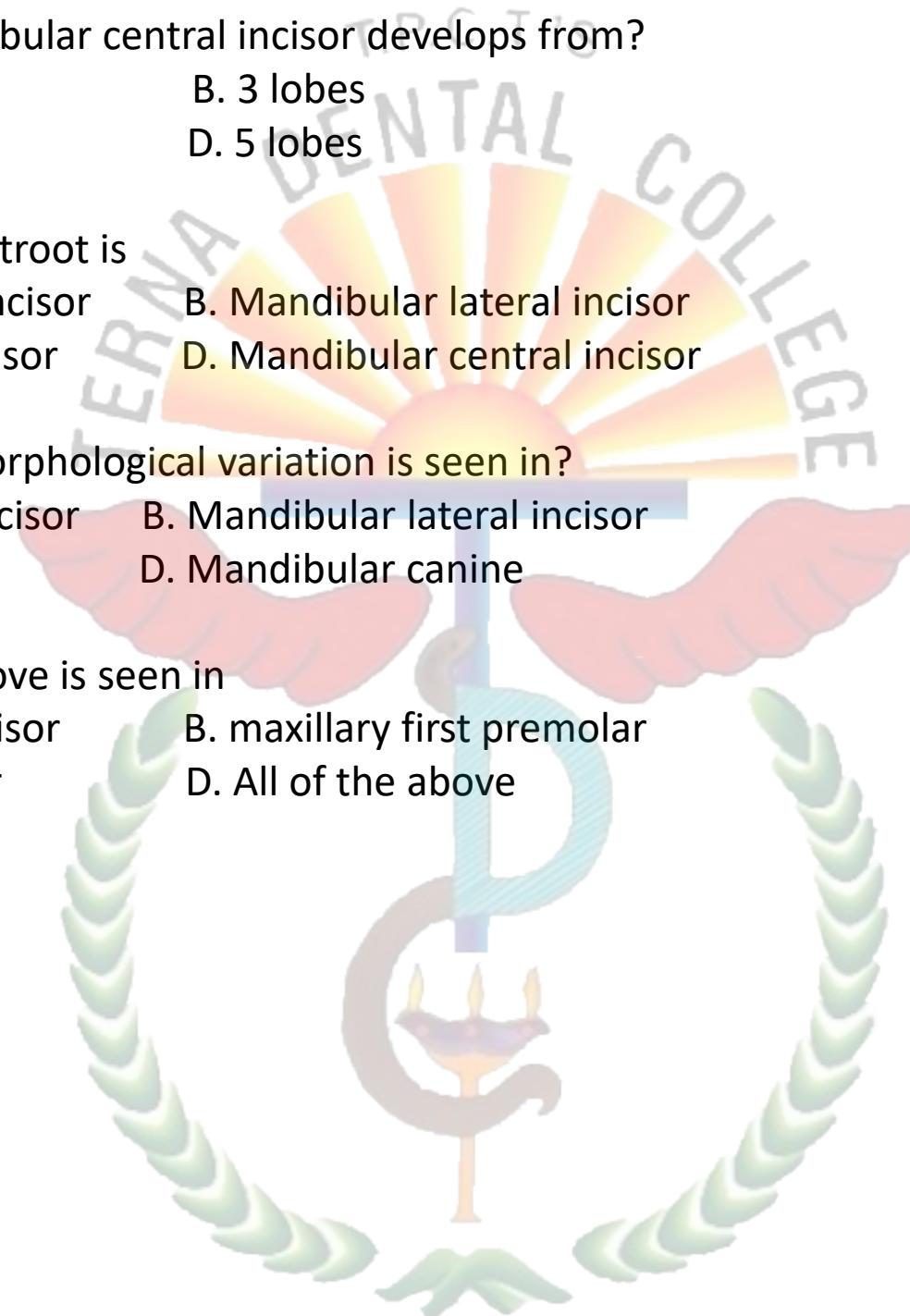
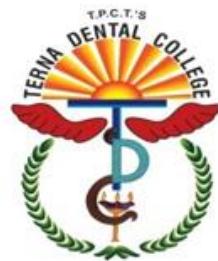
- A. Maxillary central incisor
- B. Mandibular lateral incisor
- C. Maxillary lateral incisor
- D. Mandibular central incisor

18} Most common morphological variation is seen in?

- A. Maxillary lateral incisor
- B. Mandibular lateral incisor
- C. Maxillary canine
- D. Mandibular canine

19} palatogingival groove is seen in

- A. Maxillary lateral incisor
- B. maxillary first premolar
- C. Maxillary first molar
- D. All of the above



## ANSWERS

- 1)A
- 10)B
- 2)A
- 11)B
- 3)D
- 12)A
- 4)D
- 13)D
- 5)A
- 14)A
- 6)C
- 15)D
- 7)A
- 16)C
- 8)A
- 17)D
- 9)B
- 18)A
- 19)A

## PROBABLE QUESTIONS

I) LAQ

1) Describe in detail traits and morphology of permanent maxillary right central incisor

II) SAQ

1) Roots of anterior teeth

2) Mammelons

3) Arch traits of permanent incisors

