



Al-Badar Educational & Charitable Trust's
AL-BADAR RURAL DENTAL COLLEGE & HOSPITAL, KALABURAGI

Affiliated to Rajiv Gandhi University of Health Sciences, Bangalore &
Recognized by Dental Council of India (New Delhi)

Date: 31/03/2021

CIRCULAR

All the teaching staff members are hereby informed that the marks of the first internal examination have to be displayed on the notice board of the individual department by 7th April 2021.

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Al-Badar Rural Dental College
& Hospital, KALABURAGI



Al-Badar Educational & Charitable Trust's
AL-BADAR RURAL DENTAL COLLEGE & HOSPITAL, KALABURAGI

Affiliated to Rajar Chandra University of Health Sciences, Bangalore &
Recognized by Dental Council of India (New Delhi)

Date: 31/03/2021

DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS

CIRCULAR

All the students are hereby informed to come to the department and go through the marks list displayed on the notice board and check their papers for any corrections or any other issues before 12th April 2021.

Al-Badar
31/03/21

HEAD OF THE DEPARTMENT
Department of Conservative Dentistry
Al-Badar Dental College & Hospital
KALABURAGI - 585 102



Al-Badar Educational & Charitable Trusts
AL-BADAR RURAL DENTAL COLLEGE & HOSPITAL, KALABURAGI

Affiliated to K. J. Somaiya University of Health Sciences Bangalore &
Recognized by Dental Council of India (New Delhi)

Date: 23/06/2021

CIRCULAR

All the teaching staff members are hereby informed that the marks of the second internal examination have to be displayed on the notice board of the individual department by 30th June 2021.

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AL-BADAR RURAL DENTAL COLLEGE & HOSPITAL, KALABURAGI

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Date: 23/06/2021

DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS

CIRCULAR

All the students are hereby informed to come to the department and go through the marks list displayed on the notice board and check their papers for any corrections or any other issues before 6th July 2021.

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23/6/21

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Conservative Dentistry
Al-Badar Dental College & Hospital
KALABURAGI - 585 102

Near PDA Engg. College, Naganhalli Road, KALABURAGI - 585 102 - KARNATAKA - INDIA.

Phone : 08472 - 227610, 220222 - Fax : 229687 | albadar_glb@yahoo.com



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Date: 23/06/2021

DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS

CIRCULAR

All the following students are hereby informed to appear the make up exam of
Conservative Dentistry and Endodontics on 17th July 2021.

Register No.	Name of the student
15D0409	Kiran Kumar
16D0402	Afroz Talikoti
17D0404	Atifa Roohi
17D0415	Mohd Sayeed Sufyanuddin
17D0417	Nalbund Mohammed Afzan
17D0419	Neha Tabassum Qureshi
17D0425	Sadiya Khanam
17D0463	Mirza Farhatullah Baig
16D0437	Shaik Laiba

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23/6/21

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DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS

MID COURSE IMPROVEMENT EXAM

TOTAL MARKS:70 marks DATE:17-07-2021

Long Essay

(2X10=20 marks)

- 1) Classify glass ionomer cements. Write in detail setting reaction, properties, uses of GIC.
- 2) Classify pulpal diseases. Describe clinical features, radiographic features, treatment plan of phoenix abscess.

Short Essays

(8x5=40 marks)

- 3) Define tooth discoloration. Describe walking bleach procedure in detail
- 4) Casting defects
- 5) Weines Classification
- 6) Clinical features and treatment plan of reversible pulpitis
- 7) Etiology and treatment of erosion
- 8) Clinical features and treatment of acute periodontal abscess
- 9) Root canal irrigants
- 10) Indications and Contraindications of inlay

Short answers

(5X2=10 Marks)

- 11) Sandwich technique
- 12) Indications and Contraindications of Veneers
- 13) Management of perforation
- 14) LASER
- 15) Management of flareup


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Date: 20/07/2021

DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS

CIRCULAR

Marks list for the mid-course improvement exam are displayed on the notice board and the students are requested to check their papers for any corrections or any other issues.

Mid-Course exam marks

Register No.	Name of the student	Original internal marks		Marks after make up exam	
		T(70)	V(20)	T(70)	V(20)
15D0409	Kiran Kumar	25	05	37	06
16D0402	Afroz Talikoti	21	05	34	08
17D0404	Atifa Roohi	33	16	37	13
17D0415	Mohd Sayeed Sufyanuddin	31	17	37	13
17D0417	Nalbund Mohammed Afzan	21	05	36	06
17D0419	Neha Tabassum Qureshi	31	17	36	13
17D0425	Sadiya Khanam	29	07	32	08
17D0463	Mirza Farhatullah Baig	32	17	38	13
16D0437	Shaik Laiba	32	17	38	13

Aladar 20/7/21
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Recognized by Dental Council of India (New Delhi)

AL-BADAR RURAL DENTAL COLLEGE & HOSPITAL, KALABURAGI

INTERNAL ASSESSMENT MARKS SHEET THEORY

Course: BDS

Batch:RSS

Year: Final Year

Subject: Conservative Dentistry & Endodontics

University Exam:

September 2021

Register no	Name of the student	I Internal Assessment (90)		II Internal Assessment (90)		Midcourse (90)		Prefinal (90)		Out of (270)	Out of (8)	Other Activities (2)	Final (10)
		T(70)	V(20)	T(70)	V(20)	T(70)	V(20)	T(70)	V(20)				
15D0409	Kiran Kumar	30	07	25	05	37	06	31	10	121	4	2	06
16D0402	Afroz Talikoti	21	05	36	07	34	08	36	13	134	4	2	06
16D0447	Tanzila Nishat	58	18	52	18			57	17	220	7	2	09
17D0401	Aafiya Naz	59	18	57	17			58	18	227	7	2	09
17D0403	Arshiva Zainab	39	17	58	16			56	15	201	6	2	08
17D0404	Aufa Roohi	33	16	34	10	37	13	35	12	141	4	2	06
17D0405	Ayesha Siddiqua	57	17	58	18			52	18	220	7	2	09
17D0406	Bushra Bandenawaz	39	16	57	17			52	14	195	6	2	08
17D0407	Eram Khanam	42	16	56	15			50	13	192	6	2	08
17D0408	Hajara Farzeen	41	17	58	16			57	15	204	6	2	08
17D0409	Harsha	38	15	47	13			45	16	174	5	2	07
17D0410	Humera Tagzet	57	18	55	17			52	18	217	7	2	09
17D0411	Laxmi Biradar	58	18	56	18			54	18	222	7	2	09
17D0415	Mohd Sayeed	31	17	35	11	37	13	35	15	146	4	2	06
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17D0416	Mubashara Fatima Qureshi	32	11	36	07			36	13	135	4	2	06
17D0417	Nalbund Mohammed Afzan	37	13	21	05	36	06	38	07	137	4	2	06
17D0419	Neha Tabassum Qureshi	31	17	34	11	36	13	42	16	144	4	2	06
17D0420	Pallavi Holal	38	15	33	13			42	16	157	5	2	07
17D0421	Porinima	57	19	59	19			57	18	229	7	2	09
17D0422	Priyanka M K	40	15	34	13			45	16	163	5	2	07
17D0423	Raj Rajeswari Rathod	57	19	55	18			57	19	225	7	2	09
17D0424	Reva Taskeen	42	15	36	14			44	16	167	5	2	07
17D0425	Sadiya Khanem	30	05	29	07	32	08	34	13	123	4	2	06
17D0427	Shahinda Navval	40	16	31	15			50	16	168	5	2	07
17D0429	Sveda Rafiya Zainab	42	16	45	17			45	16	181	5	2	07
17D0431	Aayun Noorain	39	17	43	16			47	17	179	5	2	07
17D0432	Adila Munawar	37	16	33	15			39	16	156	5	2	07
17D0433	Adithya SK	44	18	45	17			47	18	189	6	2	08
17D0434	Alka S Paul	45	16	42	16			45	17	181	5	2	07
17D0435	Amul Haseeb	51	17	53	16			53	17	207	6	2	08
17D0436	Aneeqa Mehree	41	15	36	16			51	16	175	5	2	07
17D0437	Anjali Anil	58	18	58	18			56	16	224	7	2	08
17D0441	Asma Tabseen	40	16	34	15			52	16	173	5	2	07
17D0442	Avesha Aiman	56	19	60	18			57	19	229	7	2	09
17D0443	Bibi Avesha Mulla	42	16	45	17			47	16	183	5	2	09
17D0444	Chabuk Sawar Shaik Jannat Hussain	43	15	45	16			46	17	182	5	2	07
17D0445	Epperi Mohammed Fahad	44	18	45	17			47	18	189	6	2	08
17D0446	Ezhihamani J	58	18	58	18			55	16	223	7	2	09
17D0447	Fareetha Shakeel	38	17	36	16			43	17	167	5	2	07
17D0448	Fatima Kausar	45	18	46	17			48	18	192	6	2	08
17D0449	Gokulamul K.P	33	18	45	17			47	18	178	5	2	07

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17D0450	Gopika Krishna	52	18	53	17			50	18	208	6	2	08
17D0453	Ishrath Anjum	57	18	56	17			55	16	219	7	2	09
17D0454	Ismat Jahan Mohammed Irfan Mulla	56	19	55	18			53	18	219	7	2	09
17D0456	Kazi Rubi Majid	33	18	45	17			45	18	176	5	2	07
17D0457	Kotkunde Saymanu	47	18	47	17			51	18	198	6	2	08
17D0458	Madha Zoha	56	18	55	17			58	18	222	7	2	09
17D0459	Mahvika M Mohan	35	16	38	16			35	16	156	5	2	07
17D0460	Maryam Habib Sayeda	42	18	45	18			48	18	189	6	2	08
17D0461	Meezath Ayesha	55	18	55	17			50	18	213	6	2	08
17D0462	Mehraaz	52	18	53	17			56	18	214	6	2	08
17D0463	Mirza Farhatullah Baig	32	17	36	11	38	13	35	15	148	4	2	06
17D0464	Mohammadi Begum	49	18	51	17			58	18	211	6	2	08
17D0465	Mohd Asif	44	18	45	17			51	18	193	6	2	08
17D0467	Mujeeb Anwar	33	17	36	16			37	17	156	5	2	07
17D0468	Nadaf Simran Shukur	54	18	57	18			55	18	220	7	2	08
17D0469	Nida Hamain Khan	41	17	42	18			42	17	177	5	2	07
17D0470	Pooja B H	44	18	46	17			56	17	198	6	2	08
17D0471	Saba Begum	53	18	50	17			58	18	214	6	2	08
17D0472	Saima Parveen	50	17	53	18			59	17	214	6	2	08
17D0473	Sayyad Ayesha Yunus	47	18	50	17			58	18	208	6	2	08
17D0474	Shaik Adiba Tamkeen	41	17	41	18			42	17	176	5	2	07
17D0475	Shaik Masira Nusrat	58	18	58	17			51	18	220	7	2	09
17D0476	Shaik Moira Mubeen	58	17	55	17			56	16	219	7	2	09
17D0477	Shaik Neelofar	51	17	53	18			59	17	215	6	2	08
17D0478	Shaikh Rahiba Mohd Mohiuddin	38	17	36	18			36	17	162	5	2	07
17D0479	Shaikh Sabiya	53	18	57	17			58	16	219	7	2	09
17D0480	Shaikh Umer Farooque	43	17	41	16			47	17	181	5	2	07
17D0481	Shaista Tabassum	41	17	40	18			42	17	175	5	2	07

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AL-BADAR RURAL DENTAL COLLEGE & HOSPITAL, KALABURAGI

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1700482	Siddiqui Maha Shadab	58	17	55	17			56	16	219	7	2	09
1700483	Sumayya Sadaf	37	18	36	18			37	16	162	5	2	07
1700484	Syed Khaja Nasseruddin	46	18	45	17			51	17	194	6	2	08
1700485	Syed Muzakki Ullah	34	17	36	18			34	17	156	5	2	07
	Hussaini												
1700486	Syed Nadiya	38	17	36	16			43	17	167	5	2	07
1700487	Syeda Maitha Mithaj	41	17	38	18			52	17	183	5	2	07
1700488	Syeda Wasima	54	17	53	18			57	17	216	6	2	08
1700489	Syeda Zeenat Fatima	51	17	53	18			58	17	214	6	2	08
1700490	Tambsol Uzma Abdul Aziz	41	17	43	16			53	17	187	6	2	08
	Tanzela Fatima	34	17	36	18			35	17	157	5	2	07
1700491	Taqyaba Fatima	50	17	55	18			57	17	214	7	2	09
1700492	Tismatul Banny	40	17	41	16			45	17	176	5	2	07
1700493	Ummu Amara	51	17	57	18			60	18	221	7	2	09
1700494	Ustad Moosam Mid Jawad	51	17	53	18			57	17	213	6	2	08
1700495	Yusuf Abbas Ali Shaikh	42	17	38	16			48	17	178	5	2	07
1600437	Shah Laiba	32	17	36	11	38	13	35	15	148	4	2	06

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AL- BADAR RURAL DENTAL COLLEGE & HOSPITAL, KALABURAGI

INTERNAL ASSESSMENT MARKS SHEET PRACTICALS

Course: BDS

Batch: RS3

Year: Final Year

Subject: Conservative Dentistry & Endodontics

University Exam:

September 2021

Register no	Name of the student	I Internal Assessment (90)	II Internal Assessment (90)	Prefinal (90)	Out of (270)	Out of (8)	Other Activities (2)	Final (10)
15D0409	Kiran Kumar	53	57	46	156	5	2	07
16D0402	Afroz Talikoti	51	57	53	161	5	2	07
16D0447	Tanzila Nishat	62	67	56	185	6	2	08
17D0401	Aafiya Naaz	68	65	67	200	6	2	08
17D0403	Arshiya Zainab	65	62	63	190	6	2	08
17D0404	Atifa Roohi	61	58	51	170	5	2	07
17D0405	Ayesha Siddiq	63	60	63	186	6	2	08
17D0406	Bushra Bandenawaz	65	60	65	190	6	2	08
17D0407	Eram Khanam	60	63	62	185	6	2	08
17D0408	Hajara Farzeen	65	64	68	197	6	2	08
17D0409	Harsha	55	59	66	180	5	2	07
17D0410	Humera Tagzet	60	62	62	184	6	2	08
17D0411	Laxmi Biradar	62	62	62	186	6	2	08
17D0415	Mohd Sayeed Sufyanuddin	47	48	46	141	4	2	06
17D0416	Mubashara Fatima Qureshi	42	45	54	141	4	2	06
17D0417	Nalbund Mohammed Afzan	47	48	46	141	4	2	06

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Department of Conservative Dentistry
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17D0419	Neha Tabassum Qureshi	47	48	46	141	4	2	06
17D0420	Pallavi Holal	50	52	53	155	5	2	07
17D0421	Ponima	65	62	62	189	6	2	08
17D0422	Priyanka M K	57	54	53	160	5	2	07
17D0423	Raj Rajeswari Rathod	60	62	62	184	6	2	08
17D0424	Rena Taskoon	57	53	54	162	5	2	07
17D0425	Sadya Khanem	42	44	41	127	4	2	06
17D0427	Shahida Nawal	59	61	50	170	5	2	07
17D0429	Syeda Rafiya Zainub	58	59	56	173	5	2	07
17D0431	Aayun Noorain	57	59	52	168	5	2	07
17D0432	Adila Munawar	51	57	54	162	5	2	07
17D0433	Adithya SK	61	60	65	186	6	2	08
17D0434	Alka S Paul	47	48	46	141	4	2	06
17D0435	Amul Haseeb	61	62	62	185	6	2	08
17D0436	Aneeqa Mehree	61	62	57	180	5	2	07
17D0437	Anjali Anil	63	67	59	189	6	2	08
17D0441	Asma Tahseen	57	59	52	168	5	2	07
17D0442	Avesha Aiman	47	48	46	141	4	2	06
17D0443	Bibi Avesha Mulla	71	73	74	218	7	2	09
17D0444	Chabuk Sawar Shaik Jannat Hussain	57	59	51	167	5	2	07
17D0445	Epperi Mohammed Fahad	64	68	57	189	6	2	08
17D0446	Ezhilmani J	63	66	59	188	6	2	08
17D0447	Fareeha Shakeel	57	59	52	168	5	2	07
17D0448	Fatima Kausar	62	65	60	187	6	2	08
17D0449	Gokulamul K.P	57	59	52	168	5	2	07
17D0450	Gopika Krishna	63	66	56	185	6	2	08
17D0453	Ishrath Anjum	71	73	78	222	7	2	09
17D0454	Ismat Jahan Mohammed Irfan Mulla	71	73	76	220	7	2	09

Principal

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17D0456	Kazi Ruhi Majid	56	59	53	168	5	2	07
17D0457	Kotkunde Saymabannu	64	66	60	190	6	2	08
17D0458	Madiha Zoha	78	78	78	234	7	2	09
17D0459	Malivaka M Mohan	58	58	52	168	5	2	07
17D0460	Maryam Habib Sayeda	57	67	65	189	6	2	08
17D0461	Meezath Ayesha	65	65	56	186	6	2	08
17D0462	Mehraaz	63	68	58	189	6	2	08
17D0463	Mirza Farhatullah Baig	59	49	50	158	5	2	07
17D0464	Mohammadi Begum	60	67	62	189	6	2	08
17D0465	Mohd Asif	62	65	60	187	6	2	08
17D0467	Mujeeb Anwar	58	58	52	168	5	2	07
17D0468	Nadaf Simran Shukur	61	66	72	199	6	2	08
17D0469	Nida Harnain Khan	58	55	55	168	5	2	07
17D0470	Pooja B H	62	65	59	186	6	2	08
17D0471	Saba Begum	60	69	63	192	6	2	08
17D0472	Saima Parveen	61	67	71	199	6	2	08
17D0473	Sayyad Ayesha Yunus	62	65	62	189	6	2	08
17D0474	Shaik Adiba Tamkeen	56	60	52	168	5	2	07
17D0475	Shaik Masira Nusrat	71	73	77	221	7	2	09
17D0476	Shaik Moina Mubeen	70	74	78	222	7	2	09
17D0477	Shaik Neelofhar	56	49	53	158	5	2	07
17D0478	Shaikh Rahiba Mohd Mohiuddin	58	58	52	168	5	2	07
17D0479	Shaikh Sabiya	72	75	75	222	7	2	09
17D0480	Shaikh Umer Farooque	57	60	51	168	5	2	07
17D0481	Shaista Tabassum	59	57	62	178	5	2	07
17D0482	Siddiqui Maha Shadab	79	74	78	231	7	2	09
17D0483	Sumayya Sadaf	42	45	54	141	4	2	06
17D0484	Syed Khaja Naseeruddin	62	65	67	194	6	2	08

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Dr. S. S. S. S. S.

PRINCIPAL

S. S. S. S. S.



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17D0485	Syed Muzakir Ullah	54	51	68	173	5	2	07
	Hussaini							
17D0486	Syed Nadiya	60	62	56	178	5	2	07
17D0487	Syeda Maliha Minhaj	57	51	55	163	5	2	07
17D0488	Syeda Waseema	60	65	67	192	6	2	08
17D0489	Syeda Zeba Fatima	71	73	55	199	6	2	08
17D0490	Tamboiti Uzma Abdul Aziz	67	69	64	200	6	2	08
17D0491	Tanzeela Fatima	59	61	53	173	5	2	07
17D0492	Tayyaba Fatima	67	76	76	219	7	2	09
17D0493	Tisnamol Benny	62	60	58	180	5	2	07
17D0494	Umme Amara	78	75	78	231	7	2	09
17D0495	Ustad Meezam Md Jaweed	70	65	63	198	6	2	08
17D0496	Yusuf Abbas Ali Shaikh	52	58	61	171	5	2	07
16D0437	Shaik Laiba	50	41	41	131	4	2	06

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Al-Badar Education and Charitable Trusts
Affiliated to Kuvempu University of Health Sciences, Bangalore
Recognized by Dental Council of India (New Delhi)

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INTERNAL ASSESSMENT MARKS SHEET THEORY

Course: BDS Batch: RS3

Year: Final Year Subject: Conservative Dentistry & Endodontics

University Exam: December batch 2020 (March 2021)

Register no	Name of the student	I Internal Assessment (90)		II Internal Assessment (90)		Midcourse (90)		Prefinal (90)		Out of (270)	Out of (8)	Other Activities (2)	Final (10)
		T(70)	V(20)	T(70)	V(20)	T(70)	V(20)	T(70)	V(20)				
11D0418	Ms. Arif Khanman	42	15	36	14			44	16	167	5	2	07
12D0436	Syed Adi Ahmed	40	16	29	13	31	15	50	16	168	5	2	07
15D0431	Harisa Khan	44	18	45	17			47	18	189	6	2	08
16D0422	Ms. Sohail	47	18	50	17			58	18	208	6	2	08
16D0446	Syed. Tahera Fatima	44	18	45	17			47	18	189	6	2	08
16D0453	Mohd. Ashfaq Ali	33	18	45	17			45	18	176	5	2	07
11D0410	Hassan Ahmed	33	17	20	11	36	16	37	17	156	5	2	07
13D0431	Sumayya Mahawash	43	17	41	16			47	17	181	5	2	07
14D0408	Bonal Md Fida	41	17	40	18			42	17	175	5	2	07

Batch 12/12/21

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AL-BADAR RURAL DENTAL COLLEGE & HOSPITAL GULBARGA

INTERNAL ASSESSMENT THEORY EXAMINATION: Ist / IInd / IIIrd

1. Degree : BDS-1st YEAR 1st Internal

4. Exam Date

2. Exam & Subject : Dental anatomy & histology

24 / 03 / 21

3. Candidate Name : VASIYA ZARRIN

5. Register No. Roll NO. : 58

6. Q P Code

0	0	A	N	A	N	0	0	0	0	0	0	0	0	0	0	0	0
1	1	B	O	B	O	1	1	1	1	1	1	1	1	1	1	1	1
2	2	C	P	C	P	2	2	2	2	2	2	2	2	2	2	2	2
3	3	D	Q	D	Q	3	3	3	3	3	3	3	3	3	3	3	3
4	4	E	R	E	R	4	4	4	4	4	4	4	4	4	4	4	4
5	5	F	S	F	S	5	5	5	5	5	5	5	5	5	5	5	5
6	6	G	T	G	T	6	6	6	6	6	6	6	6	6	6	6	6
7	7	H	U	H	U	7	7	7	7	7	7	7	7	7	7	7	7
8	8	I	V	I	V	8	8	8	8	8	8	8	8	8	8	8	8
9	9	J	W	J	W	9	9	9	9	9	9	9	9	9	9	9	9
		K	X	K	X												
		L	Y	L	Y												
		M	Z	M	Z												

Maximum Mark's.....70.....Mark's Obtained.....44.....

Question No.	Marks obtained	Question No.	Marks obtained
01	8.5	09	0
02	6.5	10	1.5
03	3.5	11	1.5
04	4.5	12	1.5
05	4.5	13	1.5
06	2	14	2
07	3	15	2
08	1	Total marks :	44

Maximum marks :

70

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Signature of the Candidate :

Vasiya

Marks obtained :

44

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Signature of the staff :

[Signature]

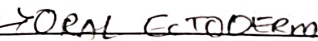
2

1. And?

- 15.

12

✱



→ DENTAL LAMINA.

→ ENAMEL ORGAN.

→ CENTRELLY POLYGONAL CELL

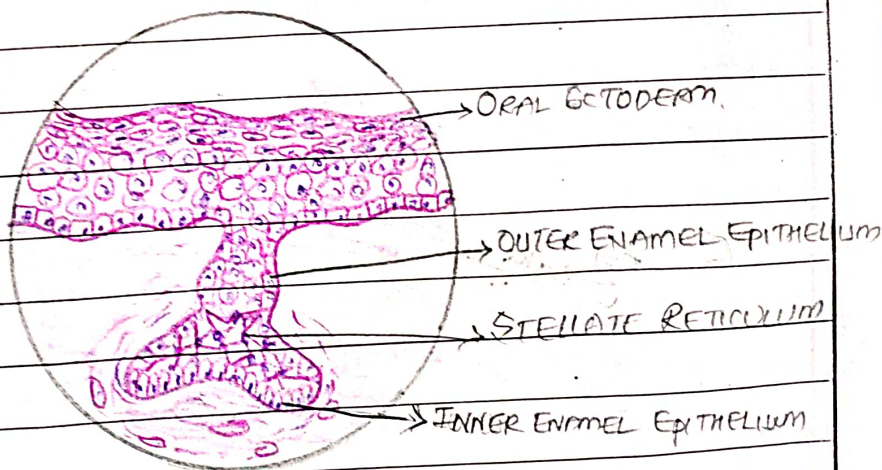
→ DENTAL PAPILLO

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BUD-STAGE

4. Cap stage:

In the cells in the enamel organ proliferate it dental expands directly into a uniform layer. It forms invagination & gives the shape of the cap. In the cap stage the cells lining the convexity are cuboidal & on the periphery hence called as outer enamel epithelium. The cells lining the concavity of the cap are low columnar cells & called as inner enamel epithelium. The cells in the enamel organ are densely packed. They get separated by the intracellular fluid filled in it & give a star shaped network called as stellate reticulum. The stellate reticulum acts as shock absorber. The cells in the enamel organ are densely packed & there is the knob like extension from enamel organ to the dental papilla called enamel knot. The vertical section distribution of enamel knot is called enamel cord. The enamel cord extends towards the outer enamel epithelium called enamel septum. The junction between the enamel septum & outer enamel epithelium is called enamel navel.

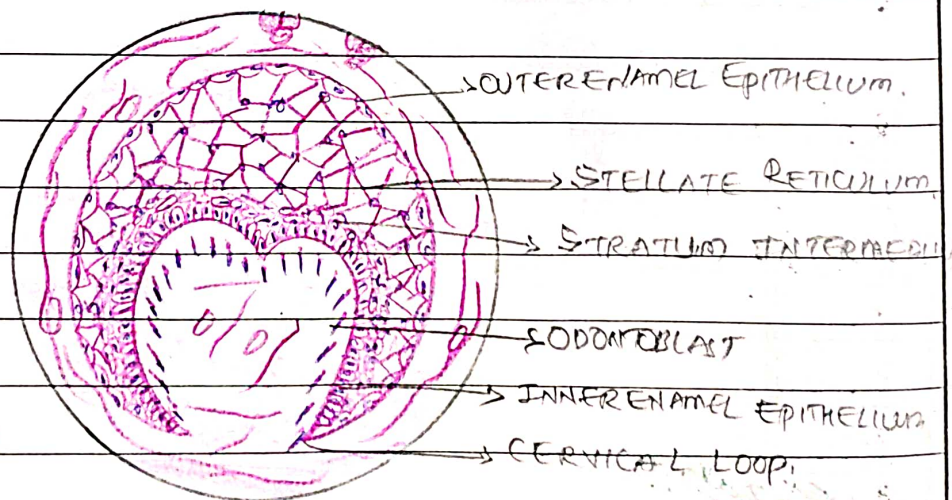


CAP STAGE

3). Early bell stage:-

→ The more invagination of the enamel organ from the cap stage gives the bell shape. In the early bell stage of tooth development there we can see the four types of cells. They are outer enamel epithelium, inner enamel epithelium, stellate reticulum, stratum intermedium. There is a single layer of cells on the inner enamel epithelium called as ameloblasts. There are two to three layers of squamous epithelium is present on the inner enamel epithelium called as stratum intermedium.

Dendrites connect the inner enamel epithelium laterally. Junctions & desmosomes help in attaching of inner enamel epithelium, stratum intermedium, stellate reticulum. Stratum intermedium helps to absorb the protein & nutrient & supply it to the ameloblast cell.



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EARLY BELL STAGE

44. Advanced bell stage :-

In advanced bell stage the stellate reticulum starts degenerating, advanced bell stage is characterised by the deposition of matrix, as there is the formation of boundary between the inner enamel epithelium & odontoblast gives the layer of future dentine enamel junction. As the odontoblast start forming the organic matrix a layer of dentine is laid down. The dentine layer is important for formation of enamel. The inner enamel epithelium has the ameloblast cells. These ameloblast cells start forming matrix on the dentine layer & when more & more matrix is formed this lead to formation of enamel.



OUTER ENAMEL EPITHELIUM

ENAMEL

AMELOBLAST

DENTIN

ODONTOLAST

ADVANCED BELL STAGE

8/2

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Q. Ans. Permanent Maxillary central incisor :-

- Central incisor help in cutting & biting.
- For system of nomenclature :- 11, 21.
- ADE system :- 8, 9.
- Palmer system :- 1, 1.

Morphological Aspects :-

Labial Aspect :-



- Labially the crown part of maxillary central incisor is slightly convex.
- The mesial part is less convex & the centre of curvature approaches the mesiodistal angle.
- The distal part is more convex compared to mesial aspect & the centre of curvature approaches to the height of cervical lines.
- The mesiodistal angle is straight.
- The distodistal angle is curved.

Lingual Aspect :-



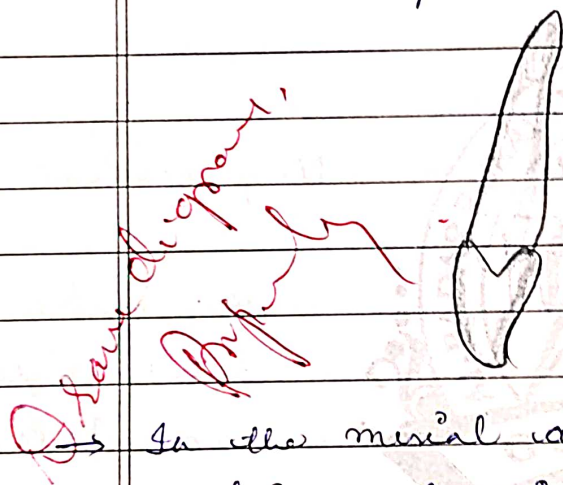
- The lingual aspect is completely opposite to

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to the labial aspect.

- At the neck to the cervical line there is a concavity called as sculpture.
- At between the marginal ridges there is a narrow notching dipping called lingual fossa.
- The line running from mesial to distal aspect of incisal line is straight.
- The incisal line contains a little fossa on its lingual surface.

Mesial Aspect :-



- In the mesial aspect the crown looks like a triangle forming the base of triangle is the cervix & the apex of the triangle is incisal ridge.
- If we draw a line from the apex of the root to the incisal edge the line occurs straight. It means they lie in the same plane.
- The mesial incisal ridge is smooth & straight.

Appearance

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- Maxillary central incisor has the labial & lingual aspects unusually, whereas ⁱⁿ lateral incisors they resemble similarly.
- Central incisor's mesial incisal angle is straight whereas the disto incisal angle is curved. In the lateral incisor the both mesioincisal & disto incisal angles are slightly similar.
- Central incisor has the mesial aspect of the crown root tip & incisal edge lies in same plane whereas in lateral incisor it doesnot lie in the same plane.

Short Essay:-

Ques:- Life cycle of ameloblasts:-

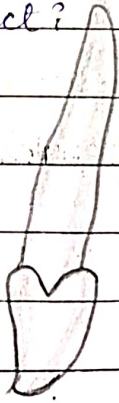
Life cycle of ameloblast contains the following stages:-

1. Morphogenic
2. Organizing
3. Formative
4. Maturation
5. Protective
6. Desmolytic

1. In the morphogenic stage of life cycle of ameloblast the ectomesenchyme cells & enamel organ interact & forming the ameloblast cells. There is formation of ameloblast on the layer of inner enamel epithelium takes place.

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Distal aspect?



- The distal aspect of maxillary central incisor is slightly less compared to the mesial aspect.
- The distal aspect has incisal ridge slightly curved / rough.
- The apex of the root & the incisal ridge do not lie in the same plane.
- The distal aspect of the cervical line is slightly less than the mesial aspect.

Incisal aspect?



- The teeth when seen from the incisal aspect there is no clear view of all other aspects.
- The axis is superimposable by the incisal aspect.
- The incisal aspect consists of cusps / forms.
- The incisal aspect shows the ridges.

Differences?

- Maxillary central incisor erupts at the age of 8-9 years whereas lateral incisor erupts at 11-12 years.

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2. Organizing stage :-

In this stage the cells of ameloblasts organize in the layers forming more layers of ameloblasts.

3. Formative stage :-

In this stage ameloblast start forming the organic matrix. Organic matrix is formed when there is 4 layers of dentin is formed.

4. Maturation stage :-

In the maturation stage of ameloblast the enamel formed is matured & then the more thickening of enamel occurs by forming of more organic matrix & plastic nature.

5. Protective stage :-

In this stage the enamel formed is protected from any harsh & hard injury. But the enamel is highly calcified.

6. Demolitic stage.

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Q. 1. Tools numbering system?

1. Universal system / AOs system?

→ In this system the primary dentition is shown by alphabets & permanent by numbers.

→ primary dentition

Upper right maxilla					Upper left maxilla				
2 nd molar	1 st molar	C	I.I	C.I	C.I	I.I	C	1 st m	2 nd m
A	B	C	D	E	F	G	H	I	J
T	S	R	Q	P	O	N	M	L	K
Lower right mandible					Lower left mandible				

→ permanent dentition

Upper right maxilla										Upper left maxilla									
3 rd M	2 nd M	1 st M	1 st pm	2 nd pm	C	I.I	C.I	C.I	I.I	C	1 st pm	2 nd pm	3 rd M	3 rd M	2 nd M	1 st M	1 st pm	2 nd pm	3 rd M
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Lower right mandible										Lower left mandible									

2. Palmer system / Zygmaoid system?

primary dentition

Upper right maxilla					Upper left maxilla				
2 nd M	1 st M	C	I.I	C.I	C.I	I.I	C	1 st M	2 nd M
E	D	C	B	A	A	B	C	D	E
E	D	C	B	A	A	B	C	D	E
Lower right mandible					Lower left mandible				

Permanent dentition

Upper right maxilla

Upper left maxilla

3 rd M	2 nd M	1 st M	2 nd PM	3 rd PM	C	L.I	C.I
8	7	6	5	4	3	2	1

C.I	L.I	C	3 rd PM	2 nd PM	1 st M	2 nd M	3 rd M
1	2	3	4	5	6	7	8

8 7 6 5 4 3 2 1

1 2 3 4 5 6 7 8

Lower right mandible

Lower left mandible

FDI system

~~from~~ permanent dentition

→ The FDI system consist of two digits where first digit indicates the quadrant & second digit teeth.

→ It follows in a way:

* Upper right quadrant

* Upper left quadrant

* Lower left quadrant

* Lower right quadrant

3 rd M	2 nd M	1 st M	2 nd PM	3 rd PM	C	L.I	C.I	C.I	L.I	C	3 rd PM	2 nd PM	1 st M	2 nd M	3 rd M
18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38

primary dentition

3 rd M	1 st M	C	L.I	C.I	C.I	L.I	C	3 rd M	2 nd M
55	54	53	52	51	61	62	63	64	65
85	84	83	82	81	71	72	73	74	75

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Grades:	Primary dentition	Permanent dentition
→	In primary dentition there are 20 sets of teeth.	In permanent dentition there are 32 sets of teeth.
→	In primary the 1st premolars are absent.	In permanent the 1st premolars are present.
→	The 2nd molar is about 1/2 the size of the 1st molar.	The 2nd molar is about 1/2 the size of the 1st molar.
→	The tooth is completed at 2-3 years.	The tooth starts at 6 & complete at 21 years.
→	The 2nd molar is the largest tooth.	Here the third molar is largest teeth.
→	There are less developmental groove.	There are prominent developmental groove.
→	Mamelons are absent.	Mamelons are present.
→	The teeth are small in size.	The teeth are larger compared to primary teeth.
→	Cusps are not well developed.	Cusps are well developed.
→	The tooth starts to shed at the age of 4-6.	The tooth after formation does not shed as there are life long teeth.

7. Ans: HERS stands for Hertwig's epithelial root sheath. It is formed from the cervical loop. HERS is the double layered sheath containing the inner enamel epithelium & outer enamel epithelium. HERS is responsible for formation of size, shape & number of roots. HERS covers the dental papilla & forms the boundary of dental sac except at the basement membrane.

8. Hypocalcified structure of enamel are:

1) Enamel lamella

2) Enamel tuft

3) Enamel spindle.

Neonatal line

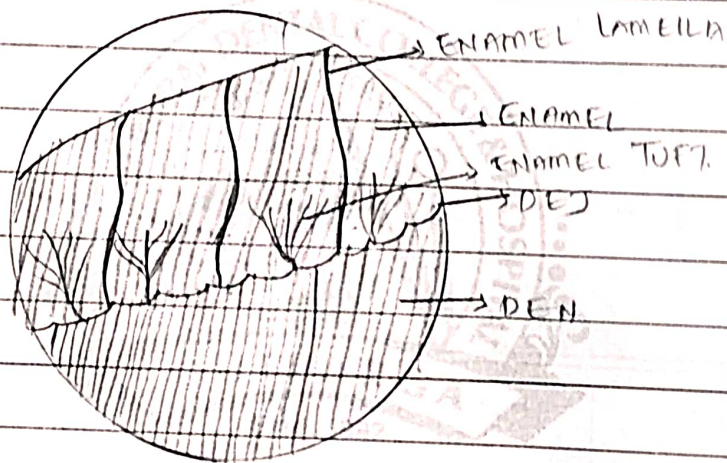
HS bands

1) Enamel lamella:

→ These are the tree like projection from the outer surface of the enamel towards the dentinoenamel junction.

→ These consist of high calcified enamel.

→ Enamel lamella appear like a branch of tree.



Enamel tuft:

Enamel tuft arises from the dentinoenamel junction.

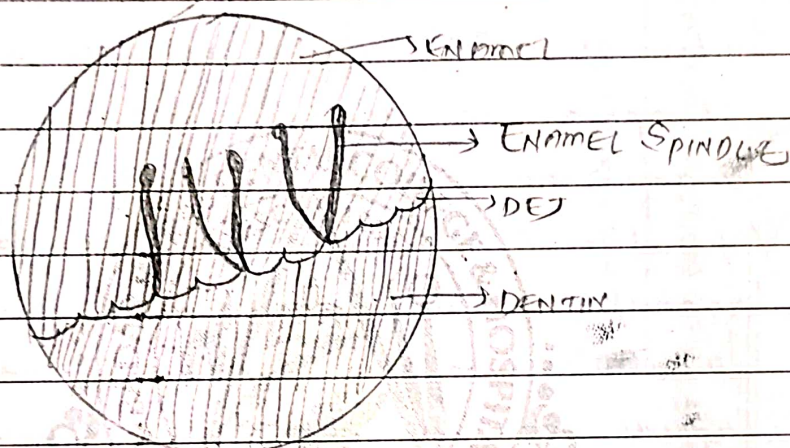
It forms the one third of the enamel thickness. Enamel tuft moves from dentinoenamel junction to the enamel.

Enamel tuft arises from the different plane & forms grass like structure.

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Q. Enamel spindle?

- Enamel spindle are the tubular structures rising from the dentinoenamel junction.
- Enamel spindle move from dentinoenamel junction towards the two third of the thickness of the enamel.
- Enamel doesn't contain the most thickness at the one third of its part as the spindles are present only in the two third of enamel thickness.



Q. What is amelogenesis? means the formation of enamel by the enamel forming cell i.e. ameloblast.

- Amelogenesis is taken place only after the formation of dentin.
- When the layer of dentin is formed then the columnar cells differentiate & form ameloblast. These cells of ameloblast these ameloblast cells form the matrix of enamel & then form completely the enamel.
- Amelogenesis occurs in two stages i.e. Organic matrix formation & matrix maturation & mineralization.

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Short answers:-

11. Ques: Fate of dental lamina?

→ Dental lamina is functional upto the age of 5 years.

→ After the eruption of tooth they lose the connection with the dental lamina.

→ As the dental lamina degenerates the remnant of it is called epithelial pearls.

12. Ans: Enamel rods appear clear crystalline structure when the light passes through it.

→ It appears as the fish scale.

→ Enamel rods originate from the dentinoenamel junction & lies parallel to the each other.

→ Enamel rods are made of rods & covered by the inter-rod sheath giving the head & tail appearance hence called lock & key pattern.

13. Ques: Osteoblast cells are the bone forming cells.

* Osteoblast cells are oval or cuboidal in shape.

* It helps in remodelling of bone.

→ Osteoclast cells are the bone eating cells.

* These cells are attached to the osteoblast & helps in resorption of bone.

* These cells are oval or star shaped cells.

→ Osteocyte cells are present in the osteoblast.

* These cells help the osteoblast in bone forming & lies within the osteoblast.

→ Osteoclast cells are giant cells with more number of nuclei.

14. Line angles: refer to the junction betⁿ the two upper surfaces of the teeth.

Example:

- * Mesiodistal, distodistal, mesio, disto, lingual
- * Mesiolingual, distolingual, mesio, disto, labial
- * Mesioocclusal, distoocclusal, mesio, disto, occlusal
- * Mesiofacial, distofacial, mesio, disto, buccal

Point angle: point angles refer to

- ex: Mesiodistal, distodistal
- Mesiolingual, distolingual
- Mesioocclusal, distoocclusal

15. Idm: Type traits differentiate between the primary & permanent dentition.

Plan trait differentiate betⁿ the four types of upper teeth.

ex: Incisor, canine, premolar & molar.

5. Idm: Landmarks of tooth crown:

1. Cusp: There are thickening & ridge on the incisal aspect due to more formation of matrix.
2. Cingulum: It is the concavity present mostly on the lingual surface.
3. Fossa: These are the irregular ridges on the incisal side.
4. Tubercle
5. Oblique ridge
6. Transverse groove
7. Mamelon etc.

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NAME: VASIYA ZARRIN.

①

Roll. NO. : 58

SUBJECT: BDS DASH

BDS 1st YEAR, 2nd INTERNAL EXAMINATION.

DATE: 16/6/21.

32
20

Junior

10 MARKS.

1. Describe the morphology of maxillary canine & write the differences betⁿ mandibular & maxillary canine.
2. Classify Oral mucous membrane & write in detail about keratinized epithelium.

5 Marks:

1. Layers of pulp.
2. Types of dentin.
3. Maxillary 1st premolar.
4. Theories of tooth eruption.
5. Types of cementoenamel junction.
6. Functions of pulp.
7. Theories of dentin sensitivity.
8. Papillae of tongue.

2 Marks:

1. Odontoclast.
2. Taste buds.
3. Interglobular dentin.
4. Non keratinocytes.
5. Tome's Granular layer.

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(2)

Long Essay :-

1. Ans:- Maxillary canine:-

- * There are two maxillary canine on either side of the dental arch, distal to the lateral incisor.
- * First evidence of eruption is at 4-5 months.
- * Enamel completed at the age of 6 to 7 years.
- * Eruption is at the age of 11 to 12 years.
- * Root is completed at 13 to 15 years.

→ Labial aspect:-

- * The crown is roughly pentagonal in shape & is narrower by 1mm than the central incisor.
- * Mesial outline may be convex or slightly concave from the cusp at the contact area.
- * Distal outline is convex at the contact area.
- * Buccal outline is curved in the apical region.

→ Lingual aspect:-

- * The crown outline on the lingual aspect is similar to the labial aspect.
- * Canine show a significant tapering.
- * Lingual aspect of canine also shows concavity & convexity.
- * Convexities:- Cuspulum is seen at 1/3rd convexity at the cervical.

→ Mesial aspect:-

- * The crown is wedged shaped with base at cervical 1/3rd & apex at cusp tip.
- * The entire crown appears bulkier.
- * The greater labio-lingual measurement can be appreciated from this side.

→ Distal aspect :-

- * The curvature of the line is less at the distal aspect.
- * Distal marginal ridge is heavier.
- * Developmental depression are more prominent at this aspect.

→ Facial aspect :-

- * From this aspect a greater labio-lingual measurement than the mesio-distal can be well seen.
- * The crown part is not symmetrical.
- * Although the labio & lingual surfaces are visible from this aspect.



LABIAL



LINGUAL



MESIAL



DISTAL



INCISAL

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MAXILLARY CANINE

- * Erupts at the age of 11 to 12 years.
- * Root is completed at the age of 13 to 15 years.
- * Crown is wider with convex mesial & distal outlines.
- * Labial ridge is prominent.
- * Cingulum is centrally placed.
- * Both the cusp slopes are at the straight line.
- * Cusp tip is located labial to midline.
- * Mesial slope is shorter than the distal slope.
- * Cusp is more sharper.
- * Crown appears less symmetrical.

MANDIBULAR CANINE

- * Erupts at the age of 9 to 12 years.
- * Root is completed at the age of 12 to 14 years.
- * Crown is longer & narrower relatively straight.
- * Labial ridge is less prominent.
- * Cingulum is distally placed.
- * Distal cusp slope is lingually placed.
- * Cusp tip is located lingual to midline.
- * Mesial slope is much shorter than the distal slope.
- * Cusp is less sharper.
- * Crown appears more symmetrical.

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2. Ans:- Oral mucous membrane:-
Oral mucous membrane is classified as:-

1. Based on functions:-

- a. x. Lining mucosa
- b. x. Masticatory mucosa.
- c. x. Specialised mucosa.

2. Based on type of epithelium covering the mucosa.

* a. Keratinised mucosa.

* b. Non-keratinised mucosa.

1. a. Lining mucosa:- lines the inner aspect of the lips & cheeks, soft palate, floor of the mouth, ventral aspect of tongue, vestibule, etc.

* b. Masticatory mucosa:- lines the hard palate & gingiva.

c. Specialised mucosa:- lines the dorsal aspect of tongue, & this mucosa shares both masticatory mucosa & glosal mucosa.

2. Based on type of keratinisation:-

* Keratinised mucosa:-

Found in the region of hard palate, gingiva, vermilion border of lips & tongue papillae of tongue.

* Non-keratinised mucosa:- found in the region of lining mucosa & dorsal aspect of tongue.

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Keratinised epithelium :-

* Four different layers are seen in the Keratinised oral epithelium.

1. Stratum Basale / Basal cell layer :-

This layer is composed of single layer of cuboidal or columnar cells that are present on the basement membrane.

* Basal & parabasal cells have the capacity to undergo mitotic division.

* So this layer is also called as proliferative or germinative layer.

* Basal cells have basophilic nuclei & dense cytoplasm & centrally placed nuclei.

* The nucleus is arranged to perpendicular to basement membrane.

2. Stratum Spinosum :-

→ It is seen above the above the basal layer & composed of several polyhedral cells.

→ As cell pass from the basal layer to the the spinosum layer there is decrease in the basophilicity, making the boundary distinct.

→ Cells are larger than basal cells & have centrally placed round & oval nucleus.

→ The nuclear cytoplasmic ratio of spinosum is 1:3:6.

→ This cell layer is also called as prickly cell layer because in histological section cells have spiny or prickly in nature.

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32. Stratum Granulosum / granular cell layer

- This layer is composed of few layers of flattened cells seen immediately after or above the stratum spinosum.
- The cytoplasm of this cell layer is filled with basophilic granules called as Keratohyaline granules. & named as granulosum layer.
- The nucleus of these cells are flattened parallel to outer epithelium surface.

48. Stratum Corneum:-

- This layer is also called cornified layer.
- This layer is the most superficial layer found in keratinized epithelium & is composed of keratin squamous which is larger & flattened than granular layer.
- As the cell reach into cornified layer nuclei undergoes degeneration.
- If the nucleus is completely absent in the surface layer it is called as Orthokeratinized.
- If pyknotic nucleus is retained in all or some it is called parakeratinized.
- Parakeratinized is mainly seen in gingiva.

Short Essays (5 Marks):

1. Ans: Layer of pulp :-

pulp is the soft tissue component of the tooth that occupies the pulp cavity in the central part of the tooth.

→ Histologically four distinct zones can be distinguished which include odontoblastic zone, cell free zone, cell rich zone & pulp core.

1. Odontoblastic Zone:-

- * This zone is found at the periphery of the pulp & consist of cells bodies of odontoblasts.
- * Many nerve fibers enter this zone & terminate between the odontoblasts.
- * The odontoblastic layer & subodontoblastic nerve network combine to form sensory complex.

2. Cell free Zone:-

- * Beneath the odontoblastic zone layer of app. 40 microns which is seen as relatively devoid of cells.
- * This layer is called as zone of Weil or sub odontoblastic layer.
- * The cell free zone is more prominent in the coronal pulp.
- * The major component of this zone are the ground substance with reticular fibers.

3c. Cell rich Zone:-

- * It is situated just below the cell free zone.
- * It is a narrow zone with more density of cells & rich capillary network.
- * Although the cell rich zone is present in the coronal pulp & radicular pulp.
- * It is more prominent in the coronal pulp.
- * It consist of fibroblast, undifferentiated mesenchymal cells, macrophages, etc.

4c. Pulp Core: A pulp proper:-

- * The connective tissue located in the center of the coronal & radicular pulp is referred to as pulp core.
- * It is a core of loose connective tissue with abundant cellular elements which also contain large blood vessels & nerves.

2. Ans. Types of dentin:-

There are basically three types of dentin.

- 1c. Primary dentin
 - a) Mantle dentin
 - b) Circumpulpal dentin
- 2c. Secondary dentin
- 3c. Tertiary dentin

1c. Primary dentin:-

The physiological dentin that is formed till the root completion. This primary dentin forms the major part of dentin.

Primary dentin consist of two types

1. Mantle dentin :-

- * This is the portion of the primary dentin found at the outer most layer of the adjacent to dentino-enamel junction or dentino-cemental junction.
- * This is the first formed dentin.
- * This layer extends from from the DEJ upto the ~~sal~~ zones of cuticular globular dentin.
- * This layer is different from the other primary dentin in that it has large diameter collagen fibers & are arranged perpendicular to the dentino-enamel junction.
- * The ground substance is derived from dental papilla that lack phosphorus.
- * The mantle dentin has high organic component but is less mineralized than the other dentin.
- * Mantle dentin is better formed with fewer defects.

2. Circumpulpal dentin :-

- * It forms the remaining part of the primary dentin & forms the bulkier part of the primary dentin.
- * Circumpulpal dentin is composed of organic component with closely pack, smaller diameter of collagen fibers arranged parallel to dentino-enamel junction.
- * The ground substance is derived from odontoblast which contain phospho-phorus.

- * Circumpulpal dentin is 4% more mineralised than the mantle dentin.
- * It shows mineralisation defects called as interglobular dentin.

2. Secondary dentin :-

- * It is the 4
- * Although, at the slower rate, dentin deposition occurs till the life of the tooth.
- * The physiological dentin that is formed after the root completion as a part of continuous, life long deposition of dentin is called secondary dentin.
- * The continuous formation of ~~root~~ secondary dentin results in decrease in the pulp chamber.
- * The rate of dentin deposition is more at the roof & floor of pulp chamber causing reduction in size of the pulp chamber.

3. Tertiary dentin :-

- * This is also referred to as irregular secondary dentin, reactive, reparative dentin, which is formed in response to the stimuli such as attrition, abrasion, erosion, etc.
- * Tertiary dentin in contrast to secondary dentin is formed at the pulpal surface and at the affected area.

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3. Ans:- Maxillary 1st premolar:-

- It is erupted at 10 to 11 years.
- Root is completed at 12 to 13 years.
- First evidence of calcification is $1\frac{1}{2}$ to $1\frac{3}{4}$ year.

Buccal aspect:-

- * Buccal surface is convex with prominent middle lobe.
- * This is seen as ridge on the buccal surface & is called buccal ridge.
- * The maxillary first premolar is composed of two roots, i.e. bicuspid.
- * The buccal root is tapered apically with blunt apex.

palatal or lingual aspect:-

- * The palatal aspect of crown is reverse of the outline of buccal aspect.
- * The crown tapers towards the lingual & the tapering is more from distal aspect.
- * The palatal cusp is 1 to 1.5 mm shorter than the buccal cusp.

Mesial aspect:-

- * Shape of crown from the mesial aspect is roughly trapezoidal with occlusal beak.
- * Buccal outline is convex from cervical line to cusp tip.
- * palatal region shows smooth curve from cervical line to cusp tip.

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Distal Aspect:-

- * Surface shows convexity from almost all points except for a small flattened area at cervical end the contact area.
- * No developmental groove crossing the distal marginal ridge on this aspect.

Q. Ans:- Theories of root formation?

1. Root formation theory
2. Bone remodeling theory
3. Hydrostatic pressure theory.
- ~~4. Construction of pulp~~
- ~~5. Pulp pressure~~
6. Periodontal ligament traction theory.

1. Root formation theory:

- * According to this theory, the eruption of the tooth is brought about by occlusal movement of tooth that occurs to accommodate the growing root.

A - The root growth theory states that the growth of root impinges upon a sheet of connective tissue called cushion membrane, ligament, to produce the necessary thrust for eruption.

2. Bone remodelling theory:

- * Bone remodelling theory of jaw has been linked the tooth eruption. The inherent growth pattern of maxilla or mandible, supposedly moves teeth by selective deposition & resorption of bone in neighbourhood of teeth.

Hydrostatic theory:-

- * The vascular pressure theory state that the increased vascular pressure present in the apex of a dextr developing root produces the force for eruption.
- * This theory though supported by experiment conducted in dogs is challenged on the grounds that hydrostatic pressure may not be sufficient to sustain slow eruption for long periods.

* Periodontal ligament transaction theory:-

- * Eruptive forces reside in the dental follicle periodontal ligament complex.
- * PDL fibroblasts possess contractile filament which are in contact with each other to permit summation of contractile forces. They exhibit fibronexus which transmits fibres to the collagen fibre bundles.

Q. Ans:- Functions of pulp:-

1. Nutritive:-

The blood vascular system of dental pulp nourish & maintain the vitality of dentin by providing O₂ & nutrients to odontoblast.

2. Sensory:-

The pulp has both myelinated & non-myelinated nerve fibres. Sensory nerve fibres present in the pulp respond to stimuli.

3. Inductive ?

- * Dental papilla, the primordium of dental pulp performs imp. function in determining the crown pattern.

4. Formative ?

- * The pulp forms the formative fraction i.e. of presence of odontoblasts which are the formative cells of dentin.

5. Defensive & protective ?

- * The pulp responds to irritation & protects itself & vitality of tooth by producing reparative dentin which can block the dentinal tubules & prevent irritating stimulus reaching pulp.

2 Marker:- Short Essays.

1. Ans:- Odontoclast:- The cells responsible for the resorption of dentine & cementum. They are normally associated with the resorption of roots of primary dentition.

2. Ans:- Taste buds are specialized sense organs that can perceive the taste sensation. They are mainly located in papillae of tongue.

3. Ans:- Interglobular dentin:- It is the hypocalcified area seen in coronal circum-pulpal dentin immediately below the mantle dentin.

4. Ans: The cells that do not produce keratin are called non-keratinocytes. They are melanocytes, Langerhans cells, Merkel cells & inflammatory cells.

5. Ans: Jones' granular layer:
It is a structure seen only in radicular dentin adjacent to cemento-dentinal junction. This is formed because of loosening & coalescing of dentinal tubules near the dentino-cemental junction.

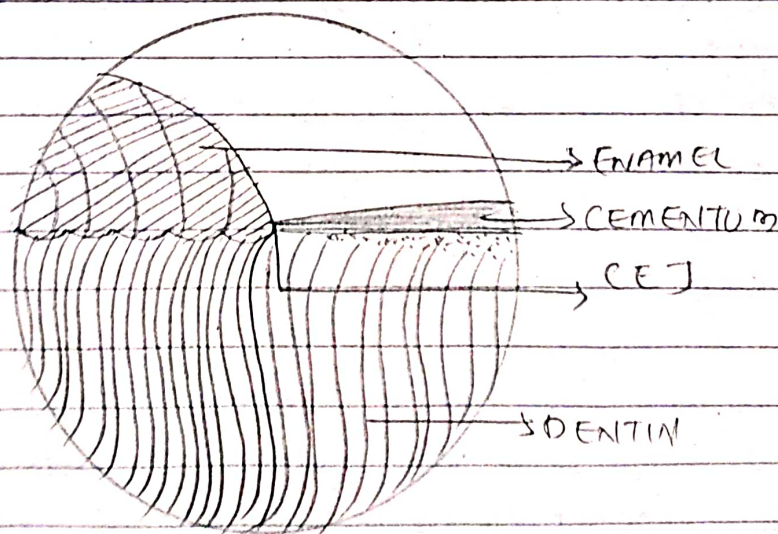
5 Marks.

5. Ans: Types of cements-enamel junction.

1. Sharp junction
2. Overlap junction
3. Gap junction

1. Sharp junction :-

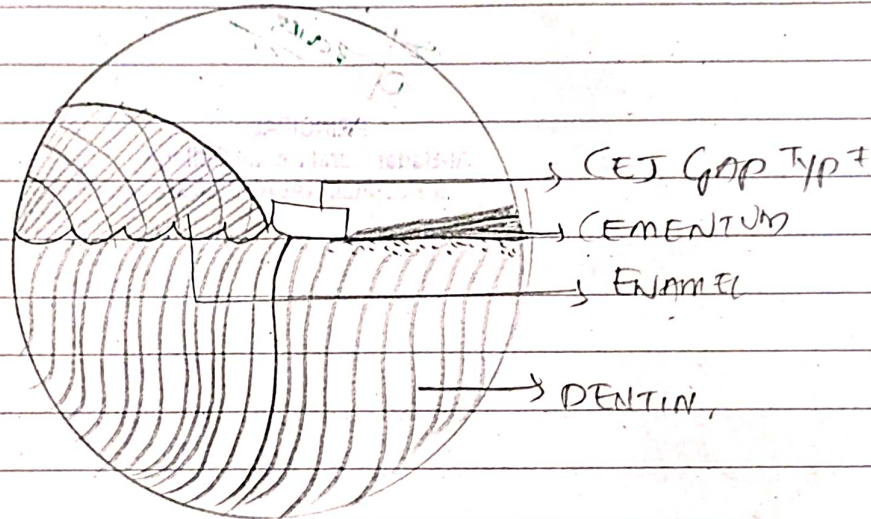
* This joint where enamel & cementum meet at a sharp line.



Sharp Type - CEJ

28. Overlap junction:-

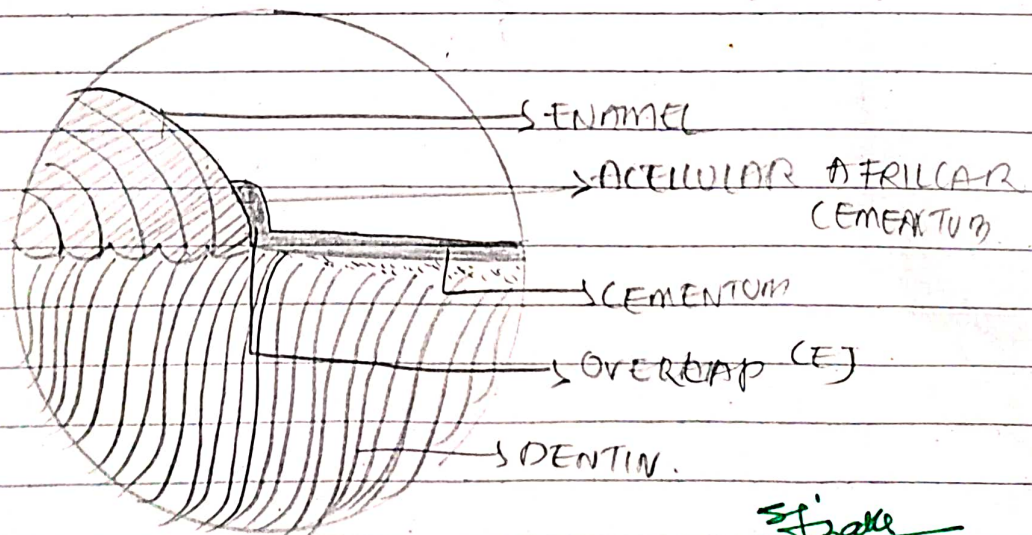
In this type of cementum overlap the cervical region of enamel. This occurs due to degeneration of cervical region of reduced enamel epithelium allowing the dental follicle to come in contact with newly formed enamel.



GAP TYPE - CEJ,

32. Gap junction:-

In this type, there is no actual junction between enamel & cementum. Instead, a cervical region of root devoid of cementum is seen.



CEJ- Overlap Type

~~Plaque~~

8. Ans:- papillae of tongue:

- 1) Circumvallate papillae
- 2) Filiform papillae
- 3) Fungiform papillae

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LONG ESSAY

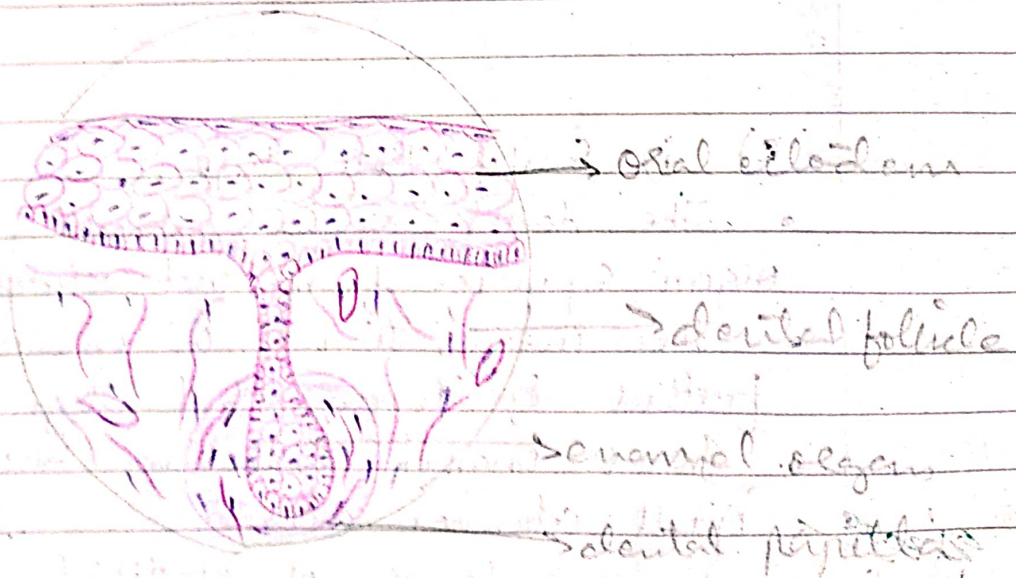
1) Morphological stages of tooth development:

Answer

- a) Bud stage
- b) Cap stage
- c) Bell stage
- i) Early
- ii) Advanced

a) BUD STAGE =

- The oral ectoderm invaginates into underlying ectomesenchymal connective tissue.
- The enamel organ is connected to oral ectoderm through dental lamina.
- Enamel organ is bud shaped.
- Outer layer of enamel organ has cuboidal cells.
- Inner layer consist of polyhedral cells.
- Enamel organ is surrounded by dental papilla which condenses.



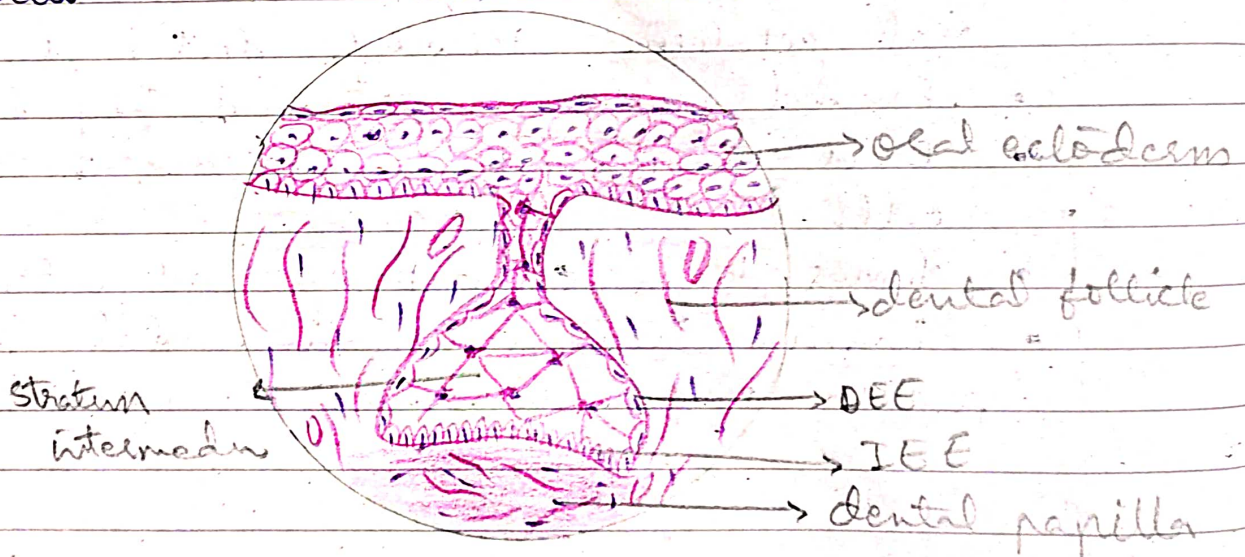
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b) Cap stage :-

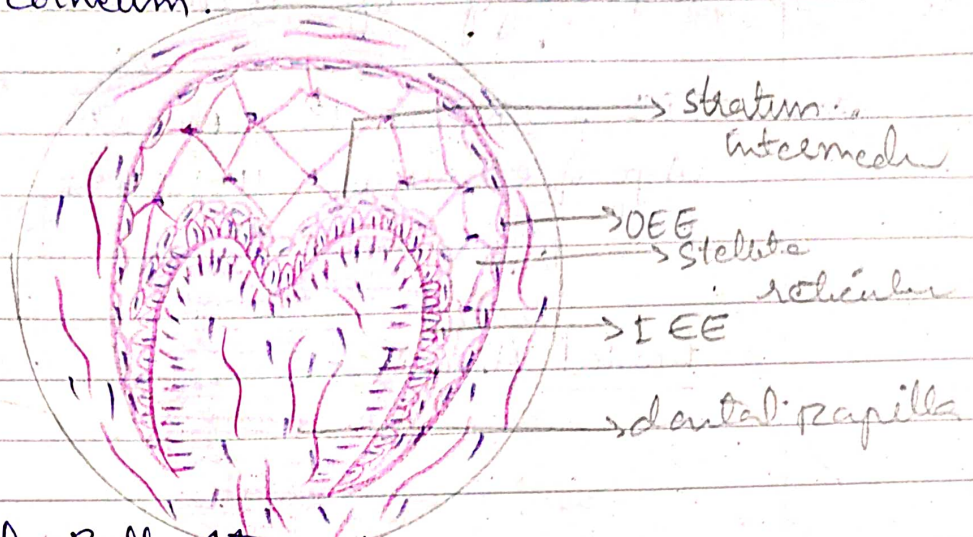
- Enamel organ grows in size and develops into cap shape due to invagination of middle part deep inside the enamel organ.
- Enamel organ shows 3 distinct cell layers :-
 - Inner Enamel epithelium - single layer of tall columnar cells.
 - Outer Enamel epithelium - single layer of cuboidal cells.
 - The centre mass of cell which consist of polyhedral cells develop into star-shaped cells called stellate reticulum.



c) i) Early Bell stage :-

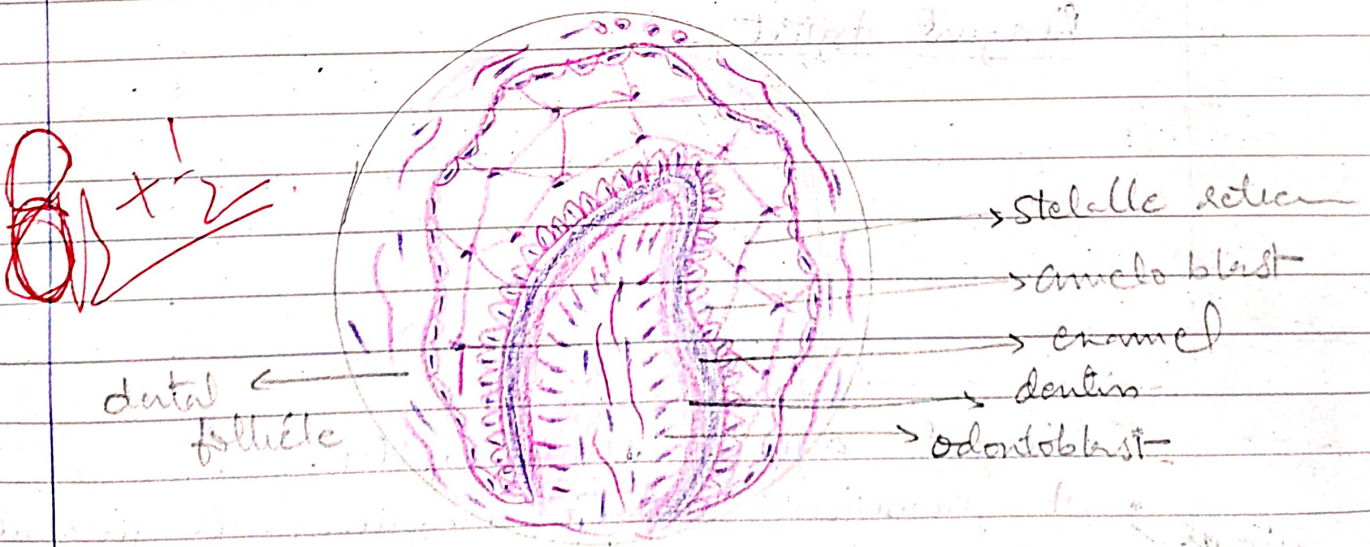
- The dental lamina degenerates and enamel organ separates from oral ectoderm.
- The invagination of enamel organ deepens further & develops bell stage.
- Inner enamel epithelium has single layer of tall columnar cells.
- A new layer of stratified squamous cells is seen between stellate reticulum & inner enamel epithelium is called stratum

intermedium corneum.



ii) Advanced Bell Stage 1-

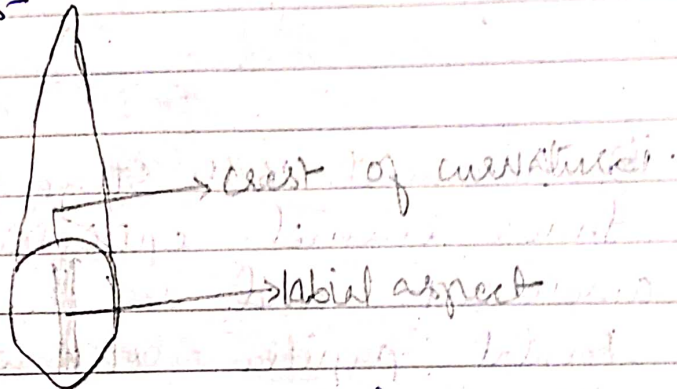
- Inner enamel epithelium develops into ameloblast and lay down a layer of enamel.
- Dental papilla cells which got differentiated into odontoblast in early bell stage now deposit a layer of dentin below the layer of enamel.
- Stellate reticulum collapses and dental follicle cells come closer contact with the cells of enamel organ.



2) Morphology of Permanent Maxillary canine

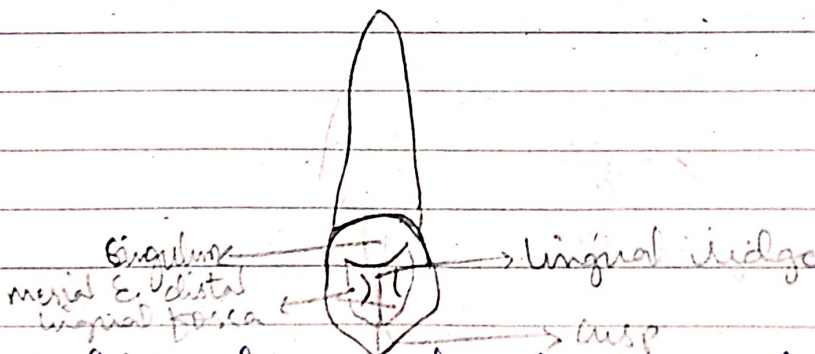
and FDI = Right 13, Left 23
Age of eruption = 11-12 yrs
Root formation = 15 yrs

Labial Aspect :-



- Labial aspect is trapezoidal in shape.
- It has one cusp.
- Labial aspect is highly convex with 2 shallow mesial and distal lobes which make a prominent labial ridge at the centre.
- Mesial & distal surface are rounded.

Lingual Aspect :-



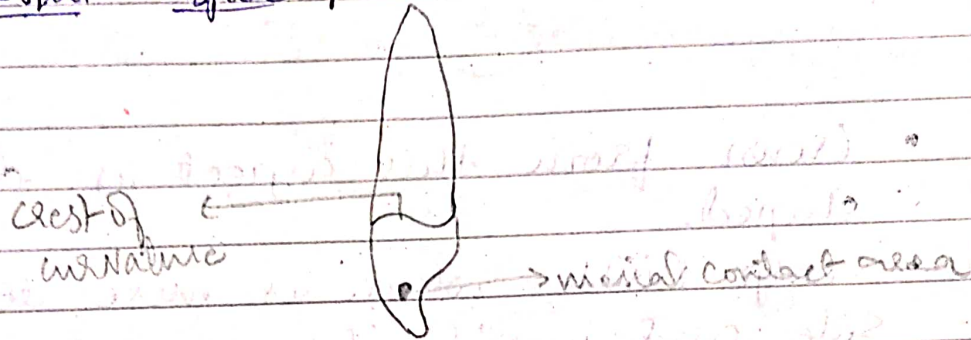
- Lingual aspect is trapezoidal.
- A prominent convex lingulum is present at cervical third.

There is a well-defined lingual ridge extending from cervical area till the cusp tip.

- It divides lingual aspect into 2 fossae

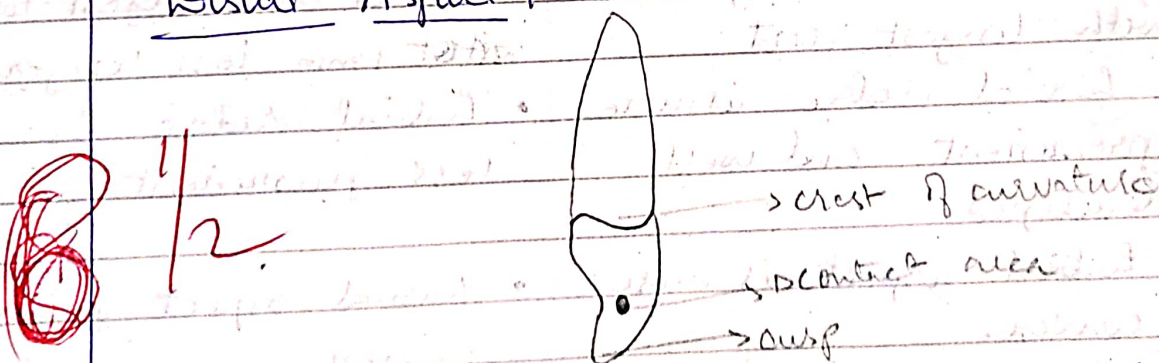
- mesial lingual fossa
- distal lingual fossa.

Mesial Aspect:-



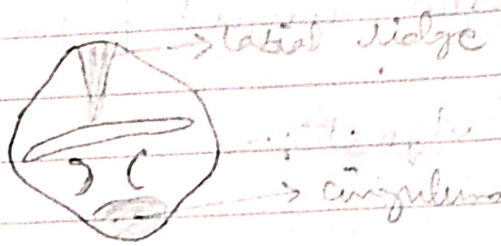
- Appears triangular in shape
- Labiolingual thickness is more than mesiodistal thickness.
- Mesial aspect appears thickest & broadest among all anterior teeth.
- Mesial contact area is at the incisal third of crown.

Distal Aspect:-



- Distal aspect of crown appears triangular
- Crest of curvature is less compared to mesial aspect.
- Curvature faces coronally.
- Distal contact area is at the junction of middle and incisal third.

Incisal aspect:-



- Crown from this aspect is diamond shaped.
- Cusp visible which is more towards labial side and mesial side.
- Labial ridge is visible.
- Lingulum and 2 fossae from lingual aspect are visible.

Difference

Maxillary Canine

- It is the longest tooth with longest root.
- Labial ridge is more prominent and well developed.
- Labial aspect is more convex.
- Lingual surface is irregular.
- Lingual ridge is prominent.
- Fossae are deep & well developed.
- Cusp tip is very sharp.

Mandibular Canine

- It is 2nd longest tooth ~~root~~ 1mm less longer.
- Labial ridge is less prominent.
- Labial aspect is less convex.
- Lingual surface is smoother.
- Lingual ridge is poorly developed.
- Fossae are not well defined.
- Cusp tip is comparatively blunt.

- Mesial contact area is at incisal third
- Distal contact area is at junction of incisal and middle third

- Mesial contact area at junction of incisal & middle third.
- Distal contact area at distoincisor edge.

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Short Essays

3) Write in detail about tooth numbering system

Ans 1) Universal system (ADA system)

a) For primary dentition
 $\text{teeth} = \frac{20}{4} = 5$ in each quadrant

Right	A	B	C	D	E	F	G	H	I	J	left
	T	S	R	Q	P	O	N	M	L	K	

ex:- D := upper right lateral incisor
 J = Upper left 2nd molar.

b) For permanent dentition
 $\text{teeth} = \frac{32}{4} = 8$ in each quadrant

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

ex:- 10 - Upper left lateral incisor
 25 - lower right central incisor

2) Palmer - Zsigmondy System

a) 1^o dentition

E	D	C	B	A	A	B	C	D	E
E	D	C	B	A	A	B	C	D	E

ex:- $\frac{A}{B} \cdot \frac{C}{D}$

A - Right maxillary central incisor
 D - left mandibular 1st molar

b) For permanent dentition

8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

en:- $\frac{1}{7} \frac{4}{6}$

- 1 - Right maxillary central incisor
- 4 - Left maxillary 1st premolar
- 6 - Left mandibular 1st molar

3) Federation Dentaire Internationale [FDI system]

2 digit system

1st digit - quadrant

2nd digit - tooth

a) For permanent dentition

18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38

- en:-
- 11 - Central incisor on right maxilla
 - 24 - maxillary left 1st premolar
 - 42 - mandibular right lateral incisor

b) For primary dentition

55	54	53	52	51	61	62	63	64	65
85	84	83	82	81	71	72	73	74	75

- en:-
- 53 - Right maxillary canine
 - 72 - Left mandibular lateral incisor

4) Layers of Pulp

Ans Pulp is divided into 4 layers based on histology as follows

- 1) Odontoblastic zone
- 2) Cell-free zone
- 3) Cell-rich zone
- 4) Pulp core

1) Odontoblastic Zone :-

- This zone of pulp lies at the peripheral surface
- This zone consist of a single layer of odontoblast
- Odontoblast cells are formative cells of dentin
- Cytoplasmic processes of these cells extend into the dentin

2) Cell-free zone :-

- This zone lies just beneath the odontoblastic zone.
- This zone is devoid of cells.
- It consist of collagen fibres.
- The branches of nerve emerging in the pulp form a plexus in this zone called as Plexus of Rashkow.

3) Cell-rich zone :-

- This zone of pulp lies below the cell free zone
- This zone consist of many cells such as fibroblasts, undifferentiated mesenchymal

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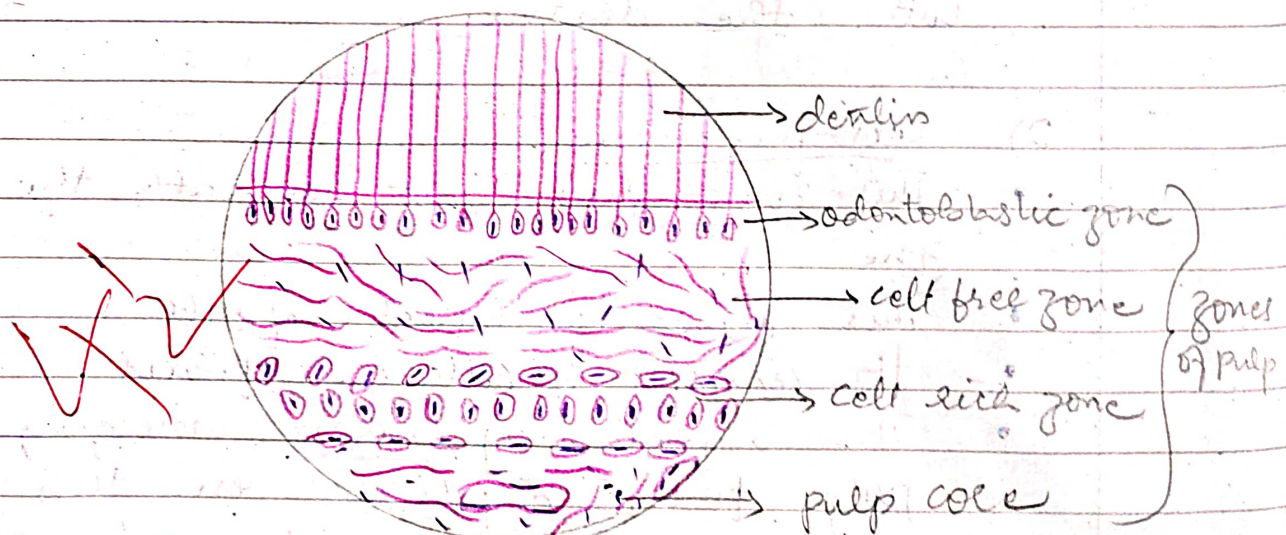
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cells, immuno competent cells such as lymphocytes, dendritic cells.

4) Pulp core

- This is the inner most zone of pulp
- It consist of many cells such as fibroblast, undifferentiated mesenchymal cells, immuno competent cell such as lymphocytes, dendritic cells.
- It consist of ground substance along with blood vessels and nerve fibres.
- These nerve fibre and blood vessels enter the pulp through apical foramen and accessory canal and perform nutritive and sensory functions.



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5) Difference between primary and permanent dentition.

Ans

Primary dentition

- Total number of teeth 20
- 5 teeth in each quadrant
- dental formula = $\frac{2102}{2102}$
- Premolars are absent.
- 3rd molar is absent
- Incisors are broader and small
- Canine are more sharper.
- Incisors lack mamelons.
- Jaws are smaller in size.
- Molars are comparatively smaller.
- Cusp of molar are less sharper.
- There is gap between canine & molar.

Permanent dentition

- Total number of teeth is 32
- 8 teeth in each quadrant.
- dental formula = $\frac{2123}{2123}$
- 2 premolars in each quadrant are present.
- 3rd molar is present.
- Incisors are less broader.
- Canines are less sharper.
- Incisors which are newly erupted have mamelon.
- Jaws are comparatively larger in size.
- Molars are large & broader.
- Cusp of molars are more in number & sharp.
- Teeth are tightly arranged in arches without any gap.

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8) Theories of tooth eruption:-

These are four theories of tooth eruption:-

- 1) Root formation theory
- 2) Bone remodeling theory
- 3) Vascular pressure theory
- 4) PDL traction theory.

1) Root formation theory:-

- This theory states that, tooth eruption occurs due to occlusal movement of tooth which happens to accommodate the growth of root.
- Increase in length of root can either be accommodated by occlusal movement of tooth or resorption of bone in the base of socket.
- Due to growth of root during its formation there is always a force acting on tooth to move.
- This is only possible if the apically directed force is translated to the occlusal direction.

2) Bone Remodelling theory:-

- This theory states that, tooth eruption occurs due to selective deposition and resorption of bone surrounding the root of tooth.
- Osteoblasts are the formative cells of bone.
- Osteoclasts are resorptive cells of bone.
- According to this theory, there is resorption of bone in front of tooth & deposition of bone behind the tooth resulting in tooth movement.

3) Vascular Pressure theory:-

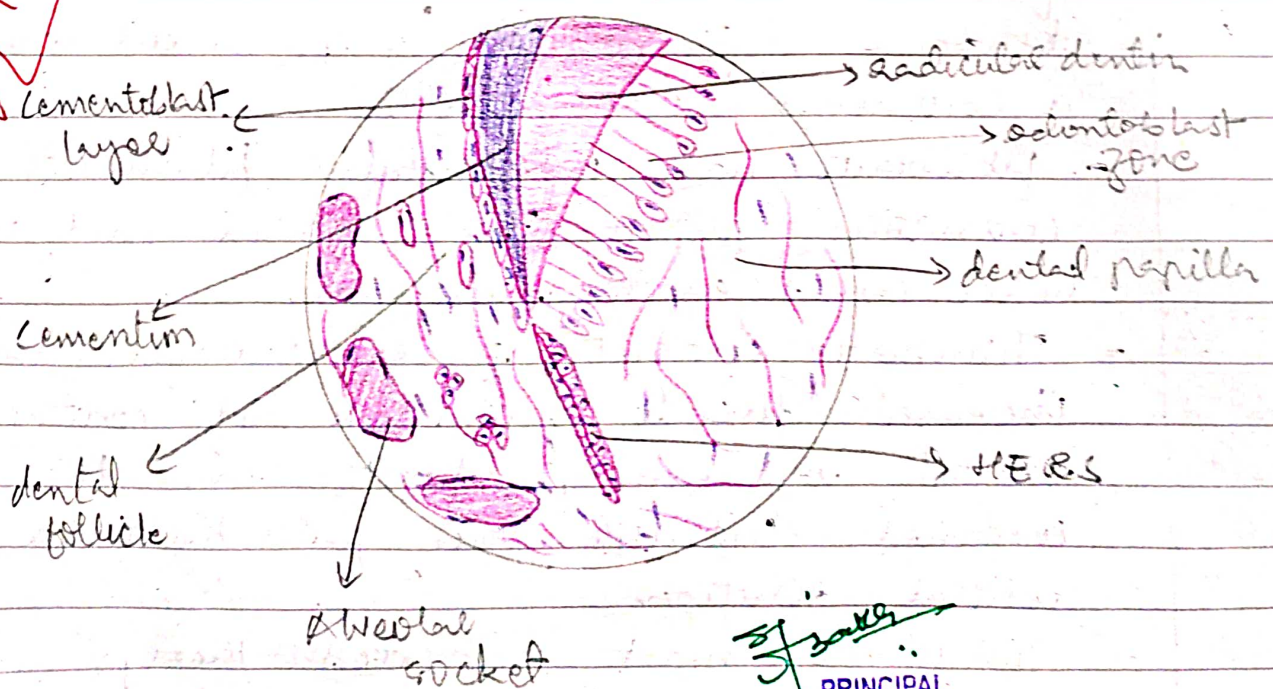
- This theory states that, the tooth eruption occurs due to local increase in the pressure of tissue fluid in the periapical region.
- Periapical region has blood vessels, where there is continuous transport of fluid.
- Fluid through capillaries enters the periapical region, which causes swelling.
- Since periapical region is a closed space it exerts pressure on the newly formed teeth to erupt in occlusal direction.

4) PDL traction theory:-

- This theory states that, a contractile force is created by the cells & fibres of PDL which pulls the tooth in occlusal direction.
- PDL contains fibroblast which have intracellular filaments; increased intercellular junction between adjacent cells & fibronexus which forms a continuous network of cells.
- fibroblasts have intracellular filaments having contractile property i.e. myosin and actin hence called as myofibroblasts.
- Fibroblasts contract, force of contraction increased due to summation of contraction exerted by each fibroblast and this combined contractile force pulls the tooth in occlusal direction.
- This is the most accepted theory.

7) Hertwig's Epithelial Root Sheath:-

- Ans - The cervical loop of enamel organ forms an epithelial band, Hertwig's epithelial root sheath, which induces dental papilla cells to differentiate into odontoblasts and deposit radicular dentin.
- As the radicular dentin formation is completed, HERS gets degenerated - so that dental follicle cells come in contact with dentin and differentiate into a layer of cementoblasts and deposit a layer of cementum.
 - The remnants of HERS called cell rest of Malassez remain in connective tissue and may form odontogenic cyst or tumor in pathological condition.
 - Simultaneously the dental follicle condenses more and leads to formation of periodontal ligament, gingiva.



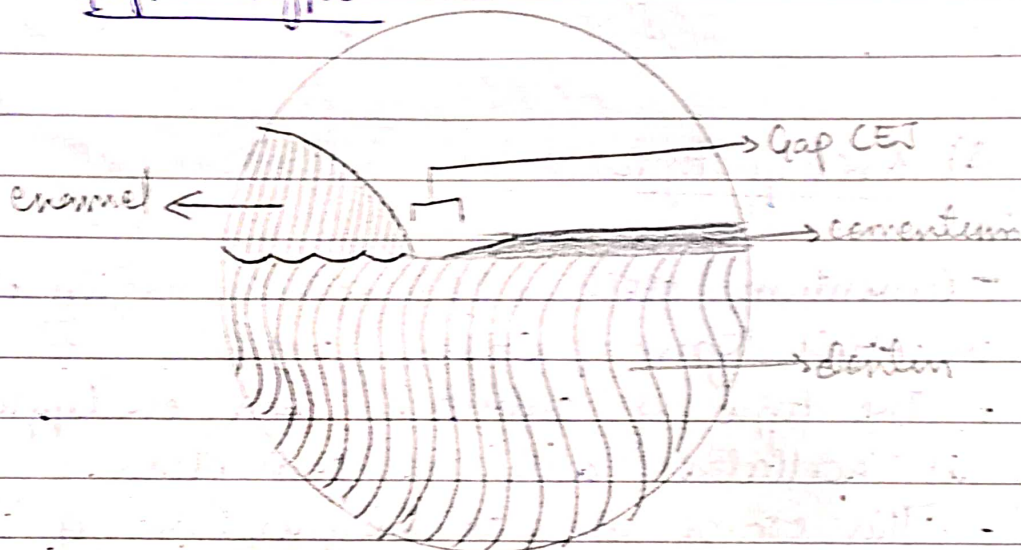
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8) Types of Cementoenamel junction :-

- 1) Gap type
- 2) Sharp type
- 3) Overlap type

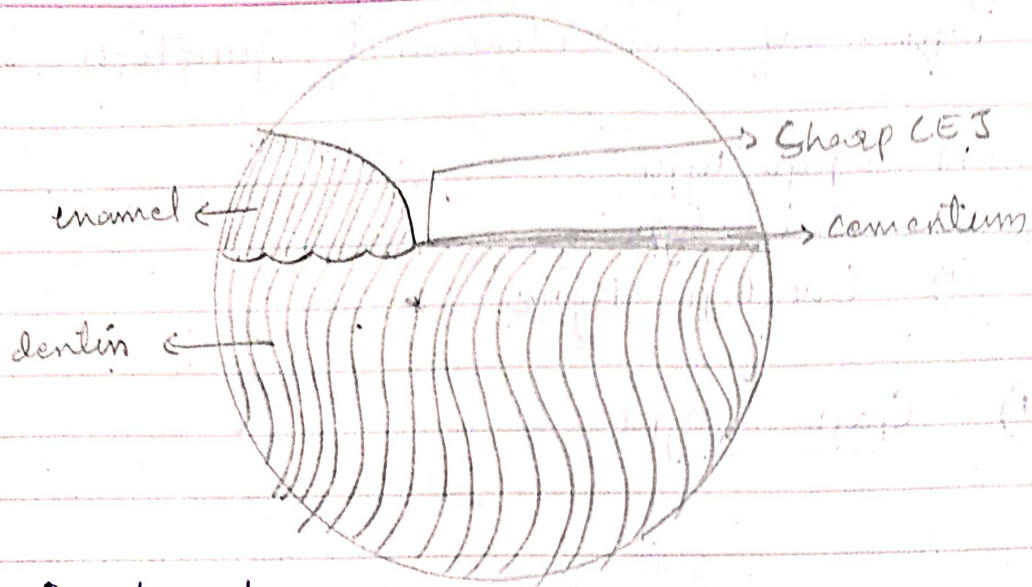
1) Gap type



- In this type of junction there is no junction instead a zone of root devoid of cementum is seen.
- This occurs due to lack of degeneration of KERS preventing the differentiation of cementoblast and therefore cementum formation.
- In this type of junction, a portion of radicular dentin is exposed causing sensitivity if root is exposed due to gingival recession.
- This type is seen in 15% of teeth.

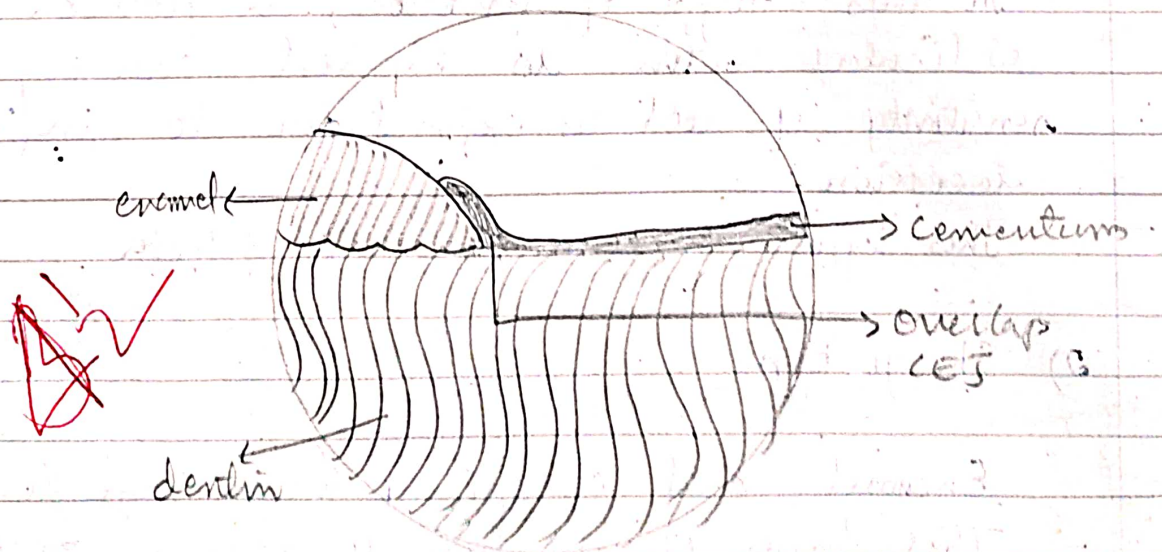
2) Sharp type

- Enamel and cementum meet edge to edge.
- This type of junction is seen in 30% of teeth.
- Cementum & enamel meet at sharp point.



3) Overlap type

- Cementum overlaps the cervical region of enamel in this type of CEJ.
- The type of cementum seen overlapping enamel is acellular afibrillar cementum.
- This occurs due to degeneration of reduced enamel epithelium which allows dental follicle cells to come in contact with newly formed enamel.
- Then these cells differentiate into cementoblast and lay down cementum.
- This type of junction is seen in 60% of teeth.



7) Discuss Amelogenesis in detail.

Ans Amelogenesis:- It is the process of formation of enamel matrix.

Formative cells responsible for enamel formation are ameloblast.

It takes place in 2 steps:-

- 1) Formation of enamel matrix
- 2) Maturation & mineralisation of enamel matrix.

1) Formation of enamel matrix:-

- The inner enamel epithelium of enamel organ differentiates into ameloblasts.
- Ameloblast cells influence the cells of dental papilla to differentiate into odontoblast.
- The differentiated odontoblasts lay down a layer of dentin.
- As the dentin layer is formed the ameloblast become secretory in function.
- Also with the deposition of dentin layer the basal lamina is disappeared and ameloblast loose connection with underlying dental papilla. Hence the ameloblast gain nutrition from dental sac.
- As the ameloblast become secretory in function they obtain some histological changes which are as follows:-
 - Ameloblast increase in height & volume.
 - Cytoplasmic organelles increase i.e there is increase in formation of mitochondria, golgi bodies & RER.

- Ameloblast attain secretory vacuoles which move to distal part of cells.
- Ameloblast now deposit layer of enamel on the dentin layer.
- During this period ameloblast grow a cytoplasmic conical extension in the distal part, which is called TOMME'S PROCESS

2) Mineralisation & Maturation :-

- During mineralisation of deposited layer of enamel ameloblast attain a ruffled border which contain brush border.
- During mineralisation, a dual process is performed that is :-
 - Deposition of inorganic matter in the enamel layer.
 - Removing the water & some enamel protein from enamel matrix to make space for mineral deposition.
- The above mentioned process leads to maturation of enamel matrix.
- The formative cell layer form a tight hemidesmosmolytic connection between the enamel and themselves, release collagenous enzyme which degenerates the connective tissue between tooth & oral ectoderm.

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AL-BADAR DENTAL COLLEGE & HOSPITAL, GULBARGA

INTERNAL ASSESSMENT THEORY EXAMINATION : 1st / IInd / IIIrd

1. Degree : BDS IV year. (Ist internal)

4. Exam Date

2. Exam & Subject : Conservative Endodontics

26/03/21

3. Candidate Name : Atifa Roorhi

5. Register No. 1700404

6. Q P Code

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0	0	A	H	A	H	0	0	0	0	0
1	1	B	O	B	O	1	1	1	1	1
2	2	C	P	C	P	2	2	2	2	2
3	3	E	Q	D	Q	3	3	3	3	3
4	4	E	R	E	R	4	4	4	4	4
5	5	F	S	F	S	5	5	5	5	5
6	6	G	T	G	T	6	6	6	6	6
7	7	H	U	H	U	7	7	7	7	7
8	8	I	V	I	V	8	8	8	8	8
9	9	J	W	J	W	9	9	9	9	9
		K	X	K	X					
		L	Y	L	Y					
		M	Z	M	Z					

Maximum Mark's 70 Mark's obtained 33

Question No.	Marks obtained	Question No.	Marks obtained
01	6	09	1
02	6	10	1
03	2	11	1
04	3	12	1
05	2	13	1.5
06	2	14	1.5
07	2	15	1.5
08	1	Total Marks :	3.3

Maximum marks :

70

Signature of the Candidate :

Atifa

Marks obtained :

33

Signature of the Staff :

Kuram

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Long. Essay :-

- i) Inlay - Indirect intracoronal restoration fabricated using the lost wax technique.

Indications

- Extensive proximal caries.
- Cavity does not extend $\frac{1}{3}$ intercuspal distance.
- Proximal margin extend subgingivally.
- Other gold castings present in mouth.

Contraindications

- not used as an abutment for FPD/RPD.
- In post endodontic restoration.
- class II gold inlay.
- adjacent/opposing teeth have dissimilar metallic restorations.
- gold inlays are not used - cost effective.

Silver amalgam.

- narrow outline.
- Cavity width $\frac{1}{4}$ intercuspal distance.
- Cavity walls converge occlusally.

~~3/3/2020~~

Class II gold inlay.

- wide outline.
- Cavity width $\frac{1}{3}$ intercuspal distance.
- Cavity walls slight occlusal divergence.

- Occlusal cam surface angle is 90° .

Gingival bevel is in the range of $15^\circ - 20^\circ$

Undercuts in preparation.

Gingival seat should be located subgingivally.

Proximal walls are primary flared.

Internal line angles are rounded.

Occlusal cam surface angle is $135^\circ - 145^\circ$

Gingival bevel is of $20^\circ - 30^\circ$

No undercuts

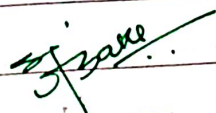
Subgingival extension of gingival seat

Proximal walls are primary & secondary flared.

Internal angles are well defined

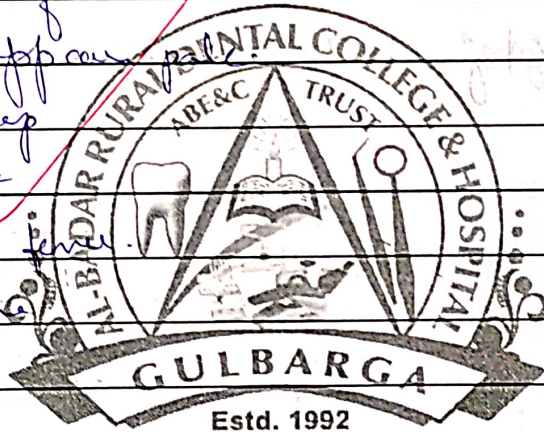
2)
Ans. Endodontic Emergencies.

1. Pre-treatment
2. Post-treatment


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Clinical features of Alveolar abscess

- Tenderness of tooth.
- Severe throbbing pain.
- Attendant swelling.
- Tooth painful.
- Elongated & mobile tooth.
- Pus may break through sinus.
- Swelling is seen in adjacent tissues.
- Everted - swelling of upper lip.
- Thine at surface of swelling appears taut & inflamed.
- Patient appears ill.
- Loss of sleep.
- Irritable.
- Chills & fever.
- Headache.
- Malaise.



Management:

- Drainage of pus.
- Irrigation of canals.
- Place cotton pack & wait till an hour.
- Then pack calcium hydroxide medicament in canals.
- Advise saline hot water for 3 minutes each hour.
- Then symptoms subside, perform root canal therapy.

3) Clinical features of Pulp polyp.

Ans:

:- It is a productive inflammation due to an extensive carious exposure of young pulp. characterized by development of granulation tissue, covered at times with epithelium & resulting from long standing, low grade irritation.

Symptoms :- It is symptomless except during mastication. When pressure of food bolus may cause discomfort.

Treatment :-

- i. Should be directed towards elimination of polypoid tissue followed by extirpation of the pulp.
- Periodontal curette & spoon excavator. Bleeding can be controlled with pressure.
- The pulp chamber is then completely removed.
- :- Temporary dressing sealed with iodoform pulp tissue.
- :- If time permits, then pulpectomy can be done in a single visit.

4) GIC classification.

Ans

Type 1 - Luting

Type 2 - Restorative

Type 3 - Lining or base.

Setting mechanism

1) Setting reaction of autocure GIC.

e

∴ It is basic acid-base reaction b/w the polyalkenoic acid liquid & glass powder.

1) Dissolution

2) Precipitation of salts

3) Hydration of salts

2) Setting reaction of resin modified GIC

- In this on mixing the powder & liquid 2 parallel chemical reactions begin.
one is acid base reaction
other is of cross linking of methacrylate groups.

- On exposure to curing light there will be rapid cross linking of HEMA & methacrylate groups of polymer due to photoinitiator present in powder.

3
3/3/2022

5) Vital bleaching

Ans -

- Proper case selection is key factor in successful vital bleaching.

Indications

- Extrinsic stains due to foods, beverages, tobacco, etc.
- Age related intrinsic stains
- Mild - moderate tetracycline stains
- Dental fluorosis stains

Contraindications

- Teeth with pulp chamber
- Hypersensitivity
- Extensive decay
- Large pulp chambers
- Severe tetracycline stains
- Severe fluorosis
- Hemolytic disease
- Unrealistic expectation
- Crown discoloration due to amalgam restorations

78

Prasanna

6) Law of Symmetry 1 :- Except for maxillary molars, the offices of the canals are equidistant from line drawn in a mesiodistal direction.

Law of Symmetry 2 :- Except for maxillary molars, the office of the canals lie on line 1 or 2 line drawn in a mesiodistal direction.

Law of color change :- color of pulp chamber of floor is always darker than walls.

Law of offices location 1 :- The offices of root canals are always located at junction of walls & floor.

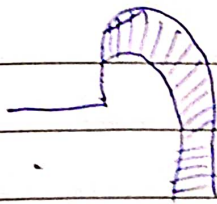
Law of offices location 2 :- The offices of the root canals are located at the angles in the floor wall junction.

Law of office location 3 :- The offices of the root canals are located at terminus of root developmental fusion lines.

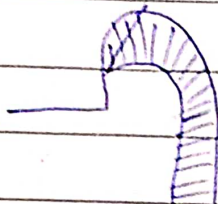
7) Bevels & flares

Bevel - Plane of cavity wall / floor which is directed away from the cavity preparation.

Bevels are placed on occlusal & gingival cavosurface margins of cavity preparation.



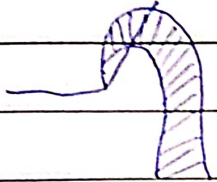
Partial band



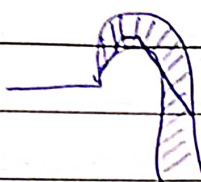
Short band



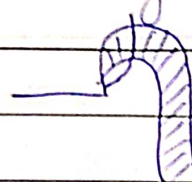
Long band



Full band



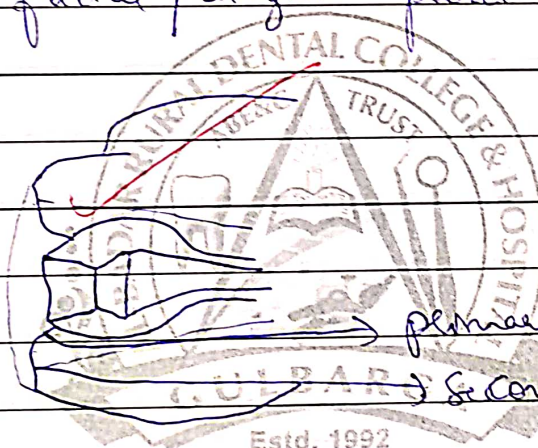
Center band



Hollow ground band

Flare :- Flat / Concave peripheral portions of facial / lingual proximal walls.

2



primary flare

secondary flare

*) Intermediate restorative materials

Ans These are brittle materials

- They are supplied as powder & liquid
- When mixed to thin consistency, they are used to retain - indirect restorations

- orthodontic bands & brackets
- Temporary fillings
- root canal sealer.

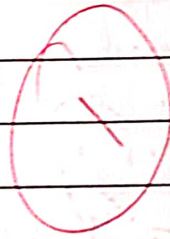
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1

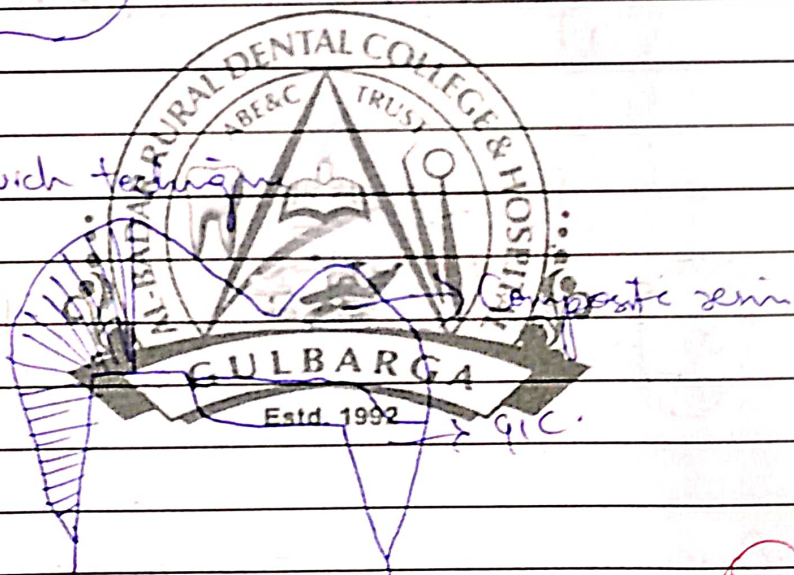
Q) Dentine map
Ans

The thin, dark lines on the floor of the chamber is called as dentine map.

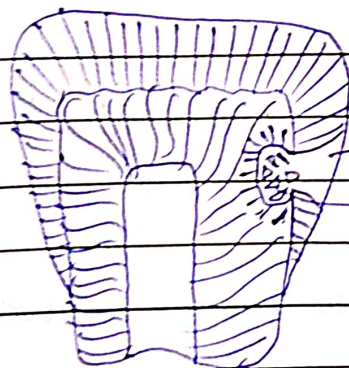
- These lines lead to orifices that naturally take you to occluded canal



Q) Sandwich technique
Ans



open sandwich restoration



Composite resin
GIC

closed sandwich restoration.

Short. Answers

11) Suck back porosity

Impeller spine attachment - at 90° to a broad flat surface causes a 'hot-spot' where the metal first impinges leading to solidification of this area after the alloy solidifies in the spine.

12) Apical delta

Ans: Refers to the branching pattern of small accessory canals & minor foramina seen at the tip or apex of some tooth roots.

The pattern is said to be reminiscent of a river delta when sectioned & viewed using a microscope.

13) Acid etch technique.

Ans

37% phosphoric acid liquid/gel is used.
Applied using syringe applicator or a brush.
Etch time for 15 secs.
Rinsed with water spray for 5-15 secs.
Then surface is dried with clean dry air.

15

14) Indications of laminates & veneers.

Ans

- ~~Laminate~~ Esthetically compromised anterior teeth
- Poorly shaped
- Crooked teeth
- Stained teeth
- Closure of diastema
- Fractured teeth
- Tooth wear
- Enamel hypoplasia

15

15) Incision & drainage
Anteapical medications

Ans

Occlusal reduction

Non-narcotic analgesics

Behavioural management

Antibiotics

Trephination

15

(34)

Name : Atifa Roohi

Reg no : 1700404

Sub : Conservative & endodontics

(2nd internal) 19/06/2021

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Long Essay

1) Ans Silver amalgam

1. Outline form of cavity is narrow
2. Inter cuspal width is $\frac{1}{4}^{th}$ of inter cuspal distance.
3. Cavity depth is more
4. Cavity walls converge occlusally
5. Buccal & lingual walls are convergent
6. Butt joint given at cavosurface margin
7. Line angles & point angles are rounded & axio pulpal line is bevelled
8. Reverse ~~bevel~~ is not given
9. Grooves are not given only locks given. (7)
10. Undercuts in the preparation improve retention of restoration.

Class II gold inlay.

- It is wider
- width is $\frac{1}{3}^{rd}$ of inter cuspal distance.
- Cavity depth is less
- Cavity wall kept parallel or divergence.
- Buccal & lingual proximal walls are parallel.
- Cavosurface bevel is given.
- All line angles & point surfaces are well defined.
- Reverse bevel is given.
- Grooves are given locks are not given.
- No undercuts are present.

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2) Objectives:

- 1) Confinement of instrument to roots.
- 2) Necrotic debris not forced periradically.
- 3) Complete removal of tissue from canal space.
- 4) Hermetic seal in obturation.
- 5) Continuous tapering conical shape.

Step back technique.

1. Root canal enlarged 1st in apical $\frac{1}{3}^{rd}$, no 25/30 instrument then each larger BET used for shaping middle $\frac{1}{2}$ and coronal part of R-C.
- cleaning & shaping begins with gross debridement & determinⁿ of exact working length

File no 10 & 15 inserted through orifice then engaged against DW with lateral pressure & is withdrawn.

↓
Apical $\frac{1}{2}^{nd}$ is enlarged to develop apical stop of size 25 & ↓ step back prepⁿ.

↑ in size of files & ↓ in length i.e. 30, 35, 40, 45 to produce conical taper.

↓
To prepare body of canal, each sq. larger file insert until it makes unforced contact with walls & wall are filed.

↓
Potency of apical flared segment, which enlarged to size 25 must be continued use of this file after each step back. (once body prepⁿ (recapitulation) is complete.)

No 2 & 3 & 4 & 5 are used to further finish preparation coronally. Instrumentation & walls are smooth & tapering.

Short Essay

- 3) Ans 1) Cutting blade 16 mm in length
2) Diameter of instrument at tip D_1 is determined by size in hundredth of millimeter.
3) Diameter (D_2) uniformly 0.32 mm greater than D_1
4) Tip angle of an instrument should be 75 ± 15
5) Number 64 & have been added to increased instrument selection.
6) Instrument handle should be coded for their easier recognition
7) Instruments should be numbered from 10 to 100
The number advanced by 5 units upto size 60 & then by 10 units till size 100
8) Working blade shall begin at tip & designed site D_0 & extend exactly 16 mm upto shaft terminatory at designed size D_{16} .

4) Any Classification

- 1) Chemically nonactive solution
- Water
- saline
- local Anesthesia
2) Chemically active material
- Alkaline
- Chelating agents

- 3) Guiding agents
- 4) Antibacterial agent
- 5) Acids
- 6) Detergents

Sodium hypochloride

Mech of action -

- Reactive chlorine in aqueous solution occur in 2 forms
In hypochlorite & hypochlorous acid
- At acidic and neutral pH chloride. at a solution,
antibacterial solution.
- To increase efficiency sodium bicarbonate is
added as buffering agent

Disadvantages

- It leads to removal of biofilm
- It cause lubrication of canal
- Bad taste & odor
- Can be corrosive to instruments

Advantages

- Leads to cause lubrication of canal
- Economical & easily available

S. S. S.

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5) Posterior Composite

Advantages :- Conservation of tooth structure.
Esthetics.

Abrasion to structure

Insulation

No galvanism

Radioopacity.

Disadvantages :- Polymerization shrinkage during setting

- Secondary caries

- Post operative sensitivity

- Reduced wear resistance.

Indications :- Class I & II restoration
Small carious lesion.

Area where esthetics is highly important

Patients with good oral hygiene.

Contraindications :- Multiple large restorative
In patients with poor oral hygiene
& high carious activity
Posterior areas where adequate
isolation is not possible.

3

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6) Any Causes

- Horizontal brushing technique
- Use of too much pressure during tooth brushing
- Improper use of dental floss and tooth picks
- Use of abrasive dentifrices
- Amalgam & dentinogenests ineffectiveness
- Pipe smokers & pipe syndrome.

C/F

1. Broad saucer shaped irregular depression in cervical area usually on facial surface of tooth

2. Surface appear smooth & hard & polished
3. Commonly seen in gingival third of labial surface of anterior teeth

4. Commonly seen in gingival third of labial surface of anterior teeth.

5. Tooth is sensitive to chemical & physical & mechanical stimuli

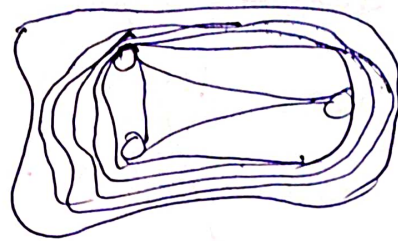
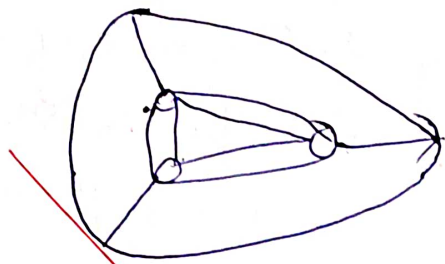
J. S. S. S.

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9) Dentine map.



Law of Symmetry :- Except for maxillary molars the orifices of canals are equidistal from line drawn in mesiodistal direction.

Law of Symmetry :- Except for maxillary molars the orifices of the canal lie on a line perpendicular to a line drawn mesiodistal direction.

Law of color change :- The color of the pulp chamber floor is always darker than walls.

Law of orifice location 1 :- Located at the intersection of the walls & the floor.

Law of orifice location 2 :- Located at the angles in the floor wall junction.

Law of orifice location 3 :- Located at the terminal of the root developmental fusion lines.

S. J. B. K.

Short answers

11) Apical delta

- It describes joining primary & secondary canal that determinates short of the apex with lateral canals joins & comes out from this point to end of root surface.
- Difficult to instrument & obstruct at this site

12) Walking bleach

- Used in non vital tooth
- Intracoronel bleaching technique
- Sodium perborate & 30% hydrogen peroxide was used
- Bleaching effect is visible after 1-2 treatments.

13) Shade selection protocol.

- Patient asked to remove lipstick & is draped with neutral colour drape to avoid detection.

- Teeth should be clean & free of stains.
- Proper shade solution before tooth preparation
- Both shade shade tooth & natural tooth must be hydrated to avoid errors

18) Uses of Pulkacard medicaments.

- Root canal disinfection
- Eliminate microorganisms
- ~~Removal of contents of canal~~
- It helps to enhance local anesthesia
- Control pulp extant & apical infection

19) GG Drills.

- They are used to enlarge orifice
- Remove Gutta serena
- ~~Widening of canal when instrument has fractured with it.~~
- No 6 GG Drill has large head.



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INTERNAL ASSESSMENT THEORY EXAMINATION : Ist / IInd / IIIRD

1. Degree : BDS IV year (Mid course) 4. Exam Date
2. Exam & Subject : Conservative & Endodontics 17/07/21
3. Candidate Name : Atifa Loohi
5. Register No. A-00404 6. Q P Code

1	7	D	0	4	0	4	1	1	9	4
0	0	A	N	0	0	0	0	0	0	0
1	1	B	O	1	1	1	1	1	1	1
2	2	C	P	2	2	2	2	2	2	2
3	3	D	Q	3	3	3	3	3	3	3
4	4	E	R	4	4	4	4	4	4	4
5	5	F	S	5	5	5	5	5	5	5
6	6	G	T	6	6	6	6	6	6	6
7	7	H	U	7	7	7	7	7	7	7
8	8	I	V	8	8	8	8	8	8	8
9	9	J	W	9	9	9	9	9	9	9
		K	X							
		L	Y							
		M	Z							

Maximum Mark's 70 Mark's obtained 37

Question No.	Marks obtained	Question No.	Marks obtained
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05	4	13	1
06	4	14	1
07	1	15	2
08	2	Total Marks :	37

Maximum marks :

70

Signature of the Candidate :

Atifa

Marks obtained :

37

Signature of the Staff :

h

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Long Essay.

1) Classification of GIC.

Type 1 - Luting

Type 2 - Restorative

Type 3 - Lining & base.

Setting reaction

- Dissolution.
- Precipitation of salts.
- Hydration of salts.

Properties of GIC

- Adhesion to enamel & dentin.
- Biocompatibility.
- Fluoride release.
- Colour & translucency.
- Radiopacity.
- Strength & fracture resistance.
- Abrasion resistance.
- Solubility & disintegration.
- Thermal expansion & diffusivity.

[Signature]

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Advantages

- Adhesion to enamel & dentin
- Anticariogenic effect
- Acceptable esthetics
- Low solubility
- Biocompatibility
- Less technique sensitivity

6

2) Classification of pulpal diseases

- Inflammatory diseases of dental pulp
 - a. Reversible pulpitis
 - b. Irreversible pulpitis
- Pulp degeneration
 - a. Calcific
 - b. Others
- Necrosis

Clinical features of parulis abscess

- ∴ Tooth tender to touch
- Tooth elevated in socket
- Mucosa is sensitive to palpation
- Mucosa appears red
- Swelling is seen

Radiographic changes → Large area of radiolucency at the apex

7

Treatment:

- Establishment of drainage
- Once symptoms subside then perform RCT.

Short Essays

3) Any Tooth discoloration refers to any change in the colour or translucency of a tooth due to ~~extensive~~ or ~~internal~~ factors.

Walking bleed

- After cleaning the access cavity a thick paste of sodium perborate with water or 30% H_2O_2 is placed in the pulp chamber. Excess liquid is removed using a cotton pellet.
- A thick, well sealed temporary such as IRM or cavit should be placed to seal the access.
- The rubber dam is removed & patient discharged.

[Signature]

- The bleaching action occurs over the next 3-5 days.
- The patient is recalled after 1 week & the procedure is repeated.
- The bleaching effect is visible after 1-2 treatments.

4) Casting defects.

Ans

1) Distortion

- Due to distortion of the wax pattern during fabrication.

2) Surface roughness & Irregularities

- Surface roughness - This is generalized rough surface on the casting.
- Surface Irregularities - These are isolated imperfections like nodules or fins.

3) Discolouration of the casting

- After separation from the investment the casting usually appears dark due to coating of oxides.

These are due to

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- Underheating
- Prolonged heating
- Carbon Inclusion.

4) Porosity.

- Can occur on both internal & external surfaces of the casting.

Types - Solidification

Trapped gases

Residual air.

5) Incomplete Casting.

- This occurs if the molten alloy has been prevented from filling the mold space completely.

6) Welke's Classification

Pulpoperiapical disease.

7) Painful pulpoperiapical pathoses.

a) Incipient acute periapical periodontitis

b) Advanced acute periapical periodontitis

1. Acute periapical abscess
2. Recurrent abscess
3. Subacute periapical abscess.

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2) Non painful pulpoperiapical pathoses

a) Pulpoperiapic osteosclerosis

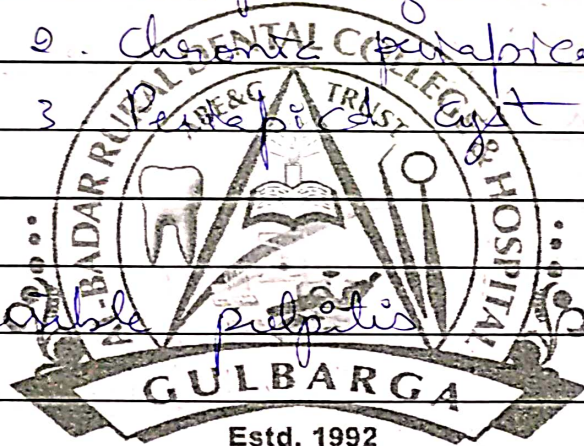
b) Incipient chronic pariapical
periodontitis

c) Advanced chronic pariapical
periodontitis

1. Pariapical granuloma

2. Chronic pariapical abscess

3. Pulpitis



5) Irreversible pulpitis

Ans.

C/P!

- Paroxysm of pain
- Pain often continues after the stimuli has been removed.
- Pain is sharp, piercing, or shooting & is severe
- It may be intermittent, continuous, or depending on the degree of pulpal involvement.

Patient complaints of pain while sleeping or bending over
Pain may also to adjacent teeth

Treatment

- Consist of complete removal of pulp
- Pulpectomy.
- In posterior teeth, in which time is a factor, the removal of the coronal pulp or pulpotomy should be performed as an emergency procedure.
- Surgical removal should be considered if the tooth is not restorable.

7)
Key

Etiology of Erosion

Extrinsic

1. Dietary acids

- Citrus fruits
- Fruit juices
- Carbonated drinks
- Pickled foods.

2. Environmental erosion

- Wine festing
- Metal plating

[Signature]

- Intermittent

- 1. Gastric disorders
 - Hiatus hernia
 - Chronic alcoholism.

- 2. Eating disorders
 - Anorexia nervosa

3. Chronic vomiting

4. Pregnancy morning sickness

Treatment options:

1) Datin desensitization

2) Restoration

3) Endodontic therapy

4) Periodontal therapy

5) Clinical features

Ans

- Tenderness of tooth
- Severe throbbing pain
- Attendant swelling
- Tooth painful

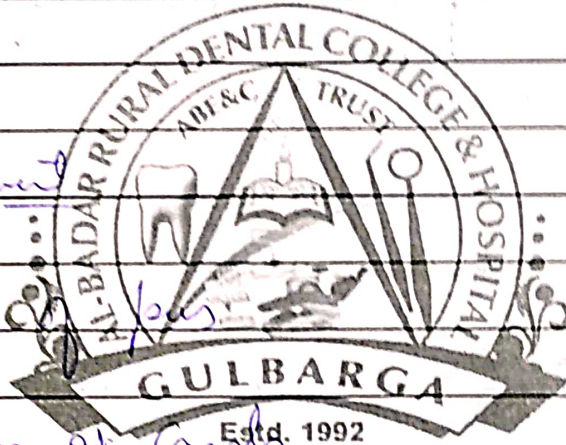

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- Elongated & mobile tooth.
- Pus may break through sinus
- Swelling is seen in adjacent tissues.
- Cupid - Swelling of upper lip
- Tissue at surface of swelling appears red & inflamed
- Patient appear pale
- Loss of sleep
- Irritable
- Chills & fever
- Headache
- Malaise.

Management

- Drainage of pus.
- Irrigation of canals
- Place cotton pack & wait till an hour
- Then pack calcium hydroxide medicament in canals.
- Advise saline hot rinses for 3 mhs each hour
- Then symptoms subside, perform root canal therapy.



9) Sealants

Ans

They are used to perigate the root canals.

Ideal requirements

- Antimicrobial activity
- Mechanically flushes out the debris from the root canal
- Non toxic & biocompatible in nature
- Dissolves necrotic & vital pulp tissues
- Serves as lubricant
- Removes the smear layer
- Low surface tension

Agents used

- Sodium hypochlorite
- EDTA
- Chlorhexidine digluconate

10) Indications of Pulay

- Cavity width does not exceed $\frac{1}{3}$ rd the intercuspal distance.
- In case of extensive proximal caries involving buccal & lingual lines angles of the tooth

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- Proximal margins extend subgingivally.
- Ideal contact, contours & embrasures
- In grossly carious tooth.
- Pt with good oral hygiene.

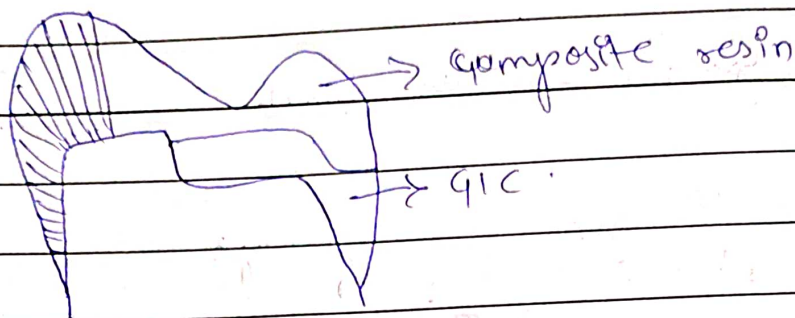
Contraindications

- Class Abutment for FPD/RPD
- Post endodontic restorations
- Young permanent teeth
- High plaque & caries incidence
- Adjacent / opposing teeth have dissimilar metallic restoration
- Cost effective.
- Grossly decayed teeth with weak cusps.

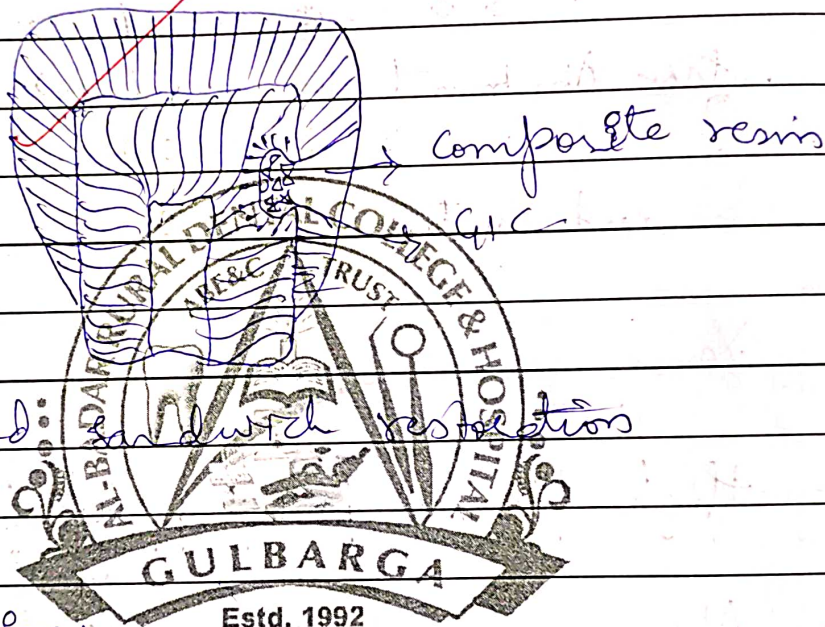
Short answers

11) Sandwich technique

Ans



Open Sandwich technique



Closed: sandwich restoration

12) Indications

Ans

- Stained teeth
- Hypocalcification
- Multiple diastemas
- Chipped teeth

Contraindications

- High Caries Index
- Compromised periodontal health
- Teeth with gum recession

(13) - Sealing the defect with MTA after
Ans obturating the canal apical to the
preparation

- clean & shape the canals then, after
hemostasis has been achieved, use a
space maintainer to protect the canal
from obstruction with repair material

(14) LASER

Ans - Used for

- Caries detection
- Caries prevention
- Disinfection of prepared cavities.
- Cavity preparation using lasers
- Laser cutting of composite resin

(15) Incision & drainage

Ans Occlusal reduction

Antibiotics

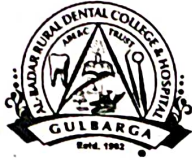
Aspiration

Non-narcotic analgesics

2

S. S. S.

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AL-BADAR DENTAL COLLEGE & HOSPITAL, GULBARGA

INTERNAL ASSESSMENT THEORY EXAMINATION : Ist / IInd / IIIrd

1. Degree : BDS IVth (Prefinal)
2. Exam & Subject : Conservative & endodontics
3. Candidate Name : Atifa Rooni
5. Register No. 17D0404

4. Exam Date

21 / 08 / 21

6. Q P Code

1	7	0	0	4	0	4	1	1	9	4
0	0	A	N	0	0	0	0	0	0	0
1	1	B	O	1	1	1	1	1	1	1
2	2	C	P	2	2	2	2	2	2	2
3	3	D	Q	3	3	3	3	3	3	3
4	4	E	R	4	4	4	4	4	4	4
5	5	F	S	5	5	5	5	5	5	5
6	6	G	T	6	6	6	6	6	6	6
7	7	H	U	7	7	7	7	7	7	7
8	8	I	V	8	8	8	8	8	8	8
9	9	J	W	9	9	9	9	9	9	9
		K	X							
		L	Y							
		M	Z							

Maximum Mark's 70 Mark's obtained 35

Question No.	Marks obtained	Question No.	Marks obtained
01	5	09	1
02	6	10	2
03	2	11	2
04	1	12	2
05	2	13	2
06	2	14	2
07	2	15	2
08	2	Total Marks :	35

Maximum marks :

70

Signature of the Candidate :

Atifa

Marks obtained :

35

Signature of the Staff :

h

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Long Essays

1)

Class I :- Simple fracture with enamel

Class II :- Simple fracture with enamel & dentin

Class III :- Extensive fracture with enamel & dentin & pulp.

Class IV :- Nonvital tooth, without loss of crown structure

Class V :- Tooth total loss.

Class VI :- Displacement of tooth without fracture of crown or root

Class VII :- Fracture of root without / with loss of loss of crown root structure

Class VIII :- Fracture of crown enamel & its displacement

Class IX :- Traumatic injuries to primary teeth

Management

1) Extruded time less than 30 mins.

Rinse the root carefully with saline water then soak into the doggyline and for 5 mins then rinse it off & carefully placed into the socket


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1) Extraoral time b/w 20 mins - 60 mins.

- Rinse the root then soak in doxycycline for 30 mins then rinse then place back in the socket

2) Extraoral time more than 60 mins

- Rinse the root then soak in citric acid & doxycycline for 5 mins then do set extraorally then place it back

Follow up every 8 months.

3) Preparation of socket

- Remove any debris & accumulation from the socket before placing tooth back.

4) Classification.

Ans

Based on use - Anterior

Posterior

Care build up

Curing.

Based on mode of presentation

- Two paste system

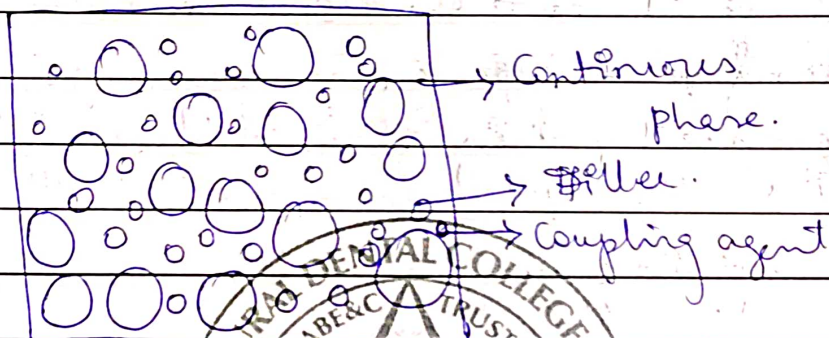
- Single paste system

- Powder - liquid system.


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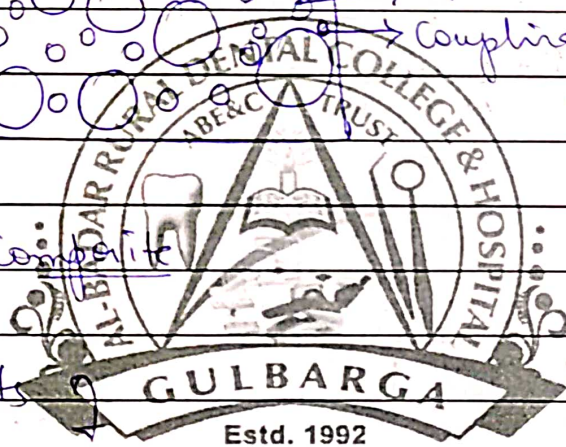
Composition.

- Resin matrix
- Fillers
- Coupling agent
- Activator - Initiator system
- Inhibitors
- Optical modifiers / colouring agents



Smart Composite

It consists



- 1) Controller - Control strategies
- 2) Interface - Analog to Digital Converters
CAN BUS Converters
- 3) Instrumentation - Power amplifiers
+ Actuators
- 4) Physical process to be controlled -
Composite structures.

Signature

Short Essays

3) Gingival tissue management

1) Physicomechanical
Rubber dam

2) & blooder wedges
- Rolled cotton twills
- Retraction cords.

2) Chemicomechanical
- Vasoconstrictors
- Astringents
- Tissue Coagulants

3) Chemical
- Sulfuric acid
- Trichloroacetic acid

4) Rotary Aetage
- Chamfer diamond point in high speed handpiece.

5) Surgical method
- Sharp knife & conventional periodontal surgical procedure.

6) Electrosurgical
- Electrosurgery used for removal of hypertrophied gingiva

S. S. S.

4) Step back technique

1. Root canal enlarged 1st in apical $\frac{1}{3}$, no. 25/35 instrument then each larger RCI used for shaping middle $\frac{1}{3}$ & coronal part of root canal
cleaning & shaping begins with gross debridement & determination of exact working length



File no 10 & 15 inserted through office then engaged against distal walls with lateral pressure & re withdrawn (circumferential filing)



Apical $\frac{1}{3}$ is enlarged to develop apical stop & step back preparation

↑ in size of files & in length i.e. 5-30, 35, 40, 45 to produce coronal taper



To prepare body of canal, each seq. large file insert until it makes unforced contact with walls & walls are filed circumferentially



Patency of apical canal segment, which enlarged to size 25 must be continued use of this file after each step back (recapitulation)

for a body prepⁿ is complete

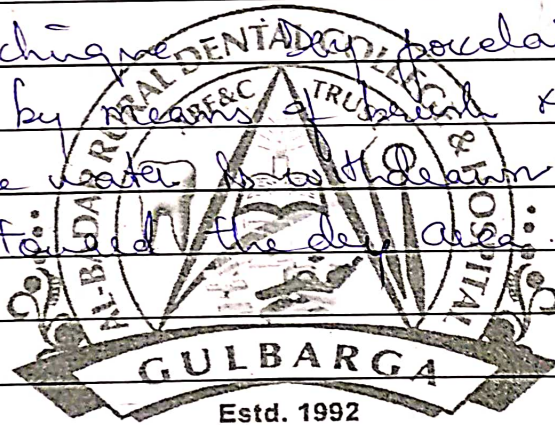


No. 2 & 3 G.L. Drills are used to further funnel preparation coronally. Instrumentation is finished when walls are smooth & clean & shows continuous taper in apical direction.

5) Condensation of Porcelain & firing
Ans. ↓

- Vibration - In this, the wet porcelain mix is applied with a spatula & vibrated gently till the particles settle together.
- Spatulation :- Here wet porcelain mix is smoothened with a spatula to bring the excess water to surface which is absorbed with a time.
- Brush technique :- Here wet porcelain powder is applied by means of brush on wet porcelain & as the water is withdrawn by capillary action towards the dry area.

7) Firing



- Porcelain are fired in special ceramic furnace.

1) Temperature Control method

2) Temperature time Control method.

3/3/2018

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6) Indcs of endodontic surgery
Ans .

- Failure of nonsurgical endodontic treatment
- Failure of nonsurgical endodontic retreatment
- Failure of previous surgery
- Anatomical problems
- Isotogenic errors
- ✓ Horizontal apical root fracture
- Exploratory surgery & biopsy
- Periodontal considerations.

7) Porosities.
Ans

- It can occur both on internal & on external surface of casting
- Porosity weakens the casting eventually
- ✓ resulting in failure of the cast gold restoration.

Different types .

1) Solidification defects

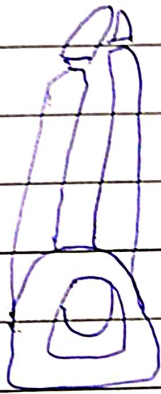
- Localized shrinkage
- Microporosity.

of same

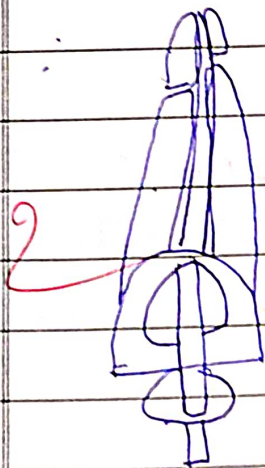
- 2) Trapped gases .
- pin hole
 - Gas inclusion
 - subsurface

- 3) Residual air
- Back pressure .

Q) Ans Lateral Condensation obturation technique



Root canal after
completion of cleaning
& shaping



checking the fit of spreader to
be within mm of
working length



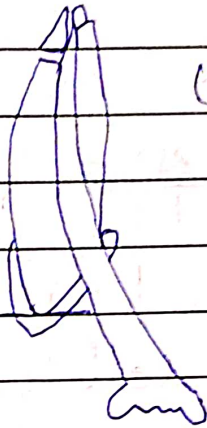
Placement of master cone .

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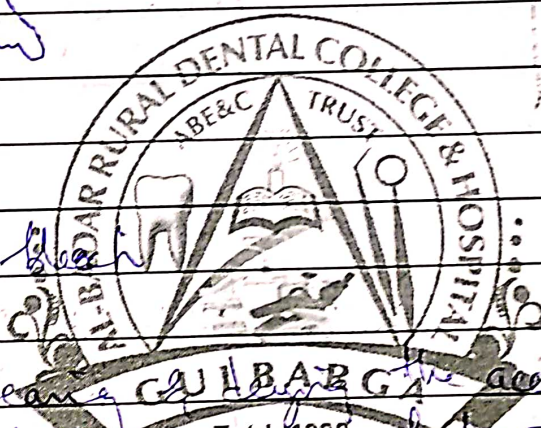
Placement of spreader alongside the master cone to a length of 1mm distal of master cone to compact the apical part of the cone.



Lateral Compaction of additional cones - sequentially.

9)
 Ans

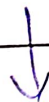
Walking Bleach



After cleaning the access cavity a thick paste of sodium perborate with water or 3% H_2O_2 is placed in the pulp chamber. Excess liquid is removed using cotton pellet.



A thick, well sealed temporary such as Irm or cavit should be placed to seal the access.



The rubber dam is removed & patient discharged.

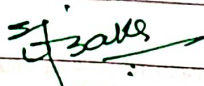
The bleaching action occurs ~~of~~ over the next
3-5 days
↓

The patient is recalled after week & the
procedure is repeated
↓

The bleaching effect is visible after 1-2
treatments

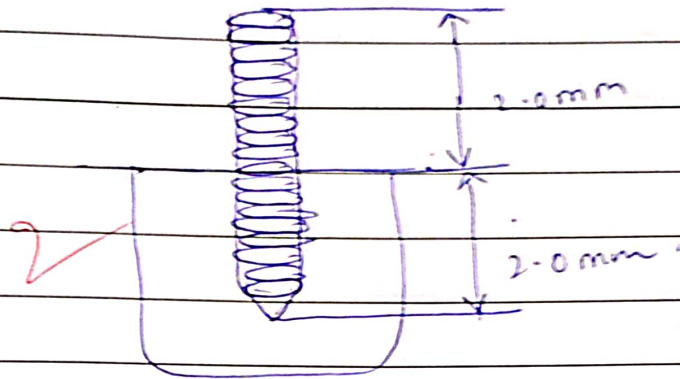
10) Root canal sealer ideal properties
Ans

- Provide excellent seal when set
- Produce adequate adhesion among it, the canal walls & the filling materials
- Be radiopaque
- Be non staining
- Be dimensionally stable
- Be easily mixed and introduced into the canals
- Be easily removed if necessary
- Be insoluble in tissue fluids
- Be bactericidal or discourage bacterial growth
- Be non-irritating to periradicular tissues
- Be slow setting to ensure sufficient working.



Short answers

1) Self threaded pins.



12) Mechanism of action of Sodium hypochlorite agent.

Ans It is a sealant.

It causes biosynthetic alterations in cellular metabolism & phospholipid destruction.

Formation of chloramines that interfere in cellular metabolism.

✓ Oxidative action with irreversible enzymatic inactivation.

13) Flare & bevel

Ans

Flare :- Flat / Concave peripheral portions of facial / lingual proximal walls.

✓ Bevel - Plane of cavity wall / floor which is directed away from the cavity preparation.

14) Management of paronychia abscess

Ans

Drainage & controlling the systemic reaction.

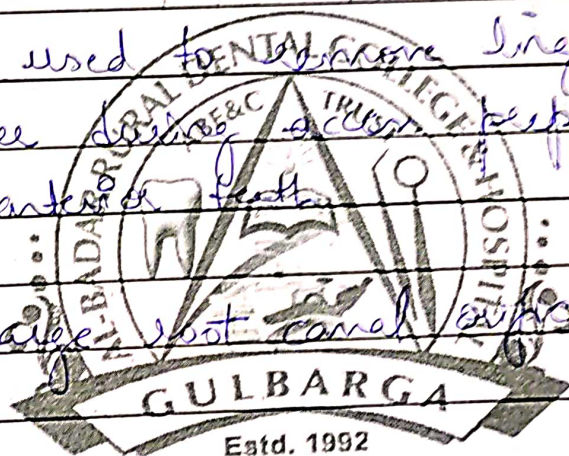
✓ - Once treatment symptoms subside then RCT is done

15) GG drills.

Ans

✓ These are used to remove lingual shoulder of anterior teeth of anterior teeth.

✓ To enlarge root canal apices.



Principal
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