



GOVERNOR'S SECRETARIAT, BIHAR  
RAJ BHAVAN, PATNA-800022

Fax/E-mail/  
Speed Post

Letter No. -LNMU-14/2016 /GS(I) Dated-

From  
P.C. Choudhary  
O.S.D. (Judicial)

To  
The Vice Chancellor,  
L.N. Mithila University,  
Darbhanga

Sub:- Regarding approval of the Ordinance & Regulations of Master of Dental Surgery (MDS) course of L.N. Mithila University, Darbhanga for conducting the above course in Mithila Minority Dental College & Hospital, Darbhanga

Sir,

I am directed to invite a reference to the University's letter No. 5636/18 dated 07-04-2018 on the subject noted above and to inform that Hon'ble Chancellor after due consideration of the proposal and advise of the Advisory Committee, has been pleased to approve the Ordinance & Regulations of Master of Dental Surgery (MDS) course of L.N.Mithila University, Darbhanga for conducting the above course in Mithila Minority Dental College & Hospital, Darbhanga (copy enclosed) under the provisions of Section-38 (2) and 39 (2) of the Bihar State Universities Act, 1976 as amended up-to-date.

As such, the Governor Secretariat's letter No. LNMU-14/2016-2301/GS (I) dated 14-10-2016 may be treated as withdrawn.

Yours faithfully,

Encl: As above

Sd/-  
(P.C.Choudhary)  
Officer on Special Duty(Judl.)

Memo No. -LNMU-14/2016- /GS(I) Dated-  
Copy forwarded to the Principal Secretary, Education Department, Govt. of Bihar, Patna for information.

Sd/-  
Officer on Special Duty(Judl.)

Memo No. -LNMU-14/2016- /GS(I) Dated-  
Copy forwarded to Sri R.K. Giri, Honorary learned counsel to H.E. the Governor for information and needful.

Sd/-  
Officer on Special Duty(Judl.)

Memo No. -LNMU-14/2016-2482/GS(I) Dated- 01-10-2018  
Copy along with copy of Ordinance and Regulations of Master of Dental Surgery (MDS) course of L.N. Mithila University, Darbhanga forwarded to Sri Vijay Kumar, Technical Director -Cum-Incharge, Computer Cell for uploading on the website of Raj Bhavan.

*P.C. Choudhary*  
1-10-2018  
Officer on Special Duty(Judl.)

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# LALIT NARAYAN MITHILA UNIVERSITY

[KAMESHWARNAGAR, DARBHANGA]

## MDS COURSE REGULATIONS

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*Jayeshini*  
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*B.K. Mishra*  
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# LALIT NARAYAN MITHILA UNIVERSITY

[KAMESHWARNAGAR, DARBHANGA]

## MDS COURSE REGULATIONS

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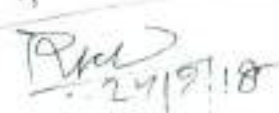
**LALIT NARAYAN MITHILA UNIVERSITY**  
**[KAMESHWARNAGAR, DARBHANGA]**

**MDS COURSE REGULATIONS**

**1. Name of Course: Master of Dental Surgery**  
**SPECIALITIES**

The following specialties for the post-graduate course to be followed by the university / institute are detailed as under:-

1. Prosthodontics and Crown & Bridge
2. Periodontology.
3. Oral & Maxillofacial Surgery
4. Conservative Dentistry and Endodontics
5. Orthodontics and Dentofacial Orthopedics
6. Oral & Maxillofacial Pathology and Oral Microbiology
7. Public Health Dentistry
8. Pediatric and Preventive Dentistry
9. Oral Medicine and Radiology

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 B. K. Mishra  
24.09.18  
 Jaseebhai  
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## 2. Duration of Course: 3 Years

The course shall be of three years duration for three academic years as full time candidates in an Institution:

Provided that the time period required for passing out MDS course shall be a maximum of six years from the date of admission in said course:

Provided further that for the post-graduate Diploma holders, the duration of the MDS Course shall be of two years in the respective speciality. The syllabus and curriculum shall be the same as MDS Course in the concerned speciality except they are not required (i) to undergo study and training in Basic Sciences and (ii) pass the PART-I Examination of MDS Course. However, they have to submit the dissertation work, as part of the PG programme.

### 1. STIPEND:

The MDS students shall be paid stipend only for duration of three years of the course, as may be fixed by the Central Government/respective State Government/Union Territory Administration or such authority as the respective government/administration may authorise. Where any dispute arises regarding any such stipend, including, quantum of stipend, it shall be considered and decided by the Central Government/respective State Government/Union Territory Administration at its own level and its decision shall be final.

### 2. MIGRATION:

Transfer of students undergoing post-graduate Degree/Diploma shall not be permitted by the university or the authority. No inter-change of the speciality in the same Institution or in any other Institution shall be permitted after the date of the commencement of session.

### 3. GENERAL:

(1) The institutions recognised by the Council shall be eligible for starting any postgraduate degree or diploma after a periodic inspection to ascertain the infrastructure related to BDS Course requirement in all aspects.

(2) The number of students for a postgraduate course, who can be registered in any speciality department, for training for the award of postgraduate degree or

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diploma by the affiliating university, shall be determined by the facilities available in the department in terms of infrastructure, teaching staff and clinical teaching material. However, to start with, a maximum of three postgraduate students, (1 Unit) will be permitted in a speciality department. The annual intake capacity recommended by the Council fixed and approved by the Central Government for the academic year shall be final. No Institution shall be permitted to increase more than three seats at a time in its annual intake capacity in particular speciality in a given academic year. However, maximum 2 Unit (six PG students) shall be permitted for each speciality.

- (3) The students undergoing post-graduate courses shall also be exposed to the following:-
  - (a) basics of bio-statistics and research methodology;
  - (b) basics of human behaviour studies;
  - (c) basics of pharmaco-economics;
  - (d) Introduction to the non-linear mathematics.

4. STAFFING PATTERN FOR POST-GRADUATE DEGREE PROGRAMME

TEACHING STAFF:

- (a) To strengthen and maintain the standards of post-graduate training, the following unit-wise staff pattern has been made mandatory. Each unit can enroll a maximum of three post-graduate students at a time in one academic year, out of which a maximum of two post-graduate students can be guided by a Professor and one PG student can be guided by the Reader/Associate Professor. Taking into consideration the training requirements in terms of infrastructure and clinical material, the Council recommends a maximum of two units in any post-graduate degree department. At a time, not more than six post-graduate students in one speciality can be enrolled in one academic year:-

Unit 1 :-

Departments	Minimum Faculty Requirement of 1 <sup>st</sup> Unit for starting of MDS Course which includes requirement of existing UG teaching with 50 admissions		
	Professor and HOD	Readers/ Associate Professors	Lecturers/Assistant Professor (MDS)
Prosthodontics and Crown & Bridge	1	3	4
Conservative Dentistry and Endodontics	1	3	4

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Periodontology	1	2	2
Orthodontics & Dentofacial Orthopedics	1	2	2
Oral & Maxillofacial Surgery	1	2	2
Oral & Maxillofacial Pathology and Oral Microbiology	1	2	2
Oral Medicine & Radiology	1	2	2
Pediatric Dentistry	1	2	2
Public Health Dentistry	1	2	2

Departments	Minimum Faculty Requirement of 1 <sup>st</sup> Unit for starting of MDS Course which includes requirement of existing UG teaching with <b>100 admissions</b>		
	Professor and HOD	Readers/Associate Professor	Lecturer/Assistant Professors (MDS)
Prosthodontics and Crown & Bridge	1	3	6
Conservative Dentistry and Endodontics	1	3	6
Periodontology	1	3	3
Orthodontics & Dentofacial Orthopedics	1	2	3
Oral & Maxillofacial Surgery	1	3	3
Oral & Maxillofacial Pathology and Oral Microbiology	1	2	3
Oral Medicine & Radiology	1	2	3
Pediatric Dentistry	1	2	3
Public Health Dentistry	1	2	3

Unit 2 :-

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 B. K. Gupta 24/9/18  
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Each department shall have the following additional teaching faculty, over and above the requirement of Unit 1.

Professor	1
Reader/Associate Professor	1
Lecturer/Asst. Professor	2

Note:- The department, which does not have the above staffing pattern, shall not start post-graduate course in that speciality.

5. PART-TIME TEACHERS:

Part-time post-graduate teaching faculty (Professors/Readers) are also eligible provided they put in four hours a day or at least eighty hours in a month and can have only one post-graduate student under them. Such teaching faculty shall be entitled for 50% of leave entitled for regular teaching faculty.

6. MINIMUM QUALIFICATIONS AND TEACHING EXPERIENCE FOR THE FACULTY OF THE POSTGRADUATE DEPARTMENT:-

(a) HEAD OF THE POSTGRADUATE DEPARTMENT:

A BDS Degree of an Indian University or an equivalent qualification with MDS degree / Diplomate of National Board / an equivalent qualification recognised by Council, in the speciality and with one year teaching experience as Professor, and shall have to acquire minimum points for publications as per the scheme given in Table-1.

(b) PROFESSOR:

A BDS Degree of an Indian University or an equivalent qualification with MDS degree / Diplomate of National Board / an equivalent qualification, recognized by Council, in the speciality and with five years of teaching experience as Reader/Associate Professor, and shall have to acquire minimum points for publications as per the scheme given in Table-1 below.

(c) READER/ASSOCIATE PROFESSOR:

A BDS Degree of an Indian University or an equivalent qualification with post-graduate qualification/ Diplomate of National Board / an equivalent qualification,

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- Signature: *S.P. Singh* Date: 20/12/18
- Signature: *A. Singh* Date: 24/9/18
- Signature: *B.K. Sharma* Date: 27.09.18
- Signature: *...* Date: 2.10



recognized by the Council, in the speciality and with four years of teaching experience after post-graduation, and shall have to acquire minimum points for publications as per the scheme given in Table-1.

(d) **LECTURER/ASST. PROFESSOR:**

A BDS Degree of an Indian University or an equivalent qualification with post-graduate qualification/ Diplomate of National Board / an equivalent qualification, recognized by the Council, in the speciality.

**Note:**

1. All the teaching faculty should be full time.
2. Faculty who has accepted as a PG teacher in a dental institution starting PG Courses will not be accepted for next one year in any other dental institution.
3. Teaching Experience gained in Medical College where dental courses are not running will not be accepted for PG Dental Teaching. Dental faculty with PG qualification in dentistry, shifting from the Dental Department of a Medical College shall have to complete minimum of 3 years of teaching experience in a Dental College/Institution before being accepted as P.G. faculty.
4. In exceptional cases, the teaching experience, gained in Government dental colleges, may be considered for further promotion on the basis of total teaching experience.
5. The teachers (upto the Reader/Associate Professor) in a dental college should attend teachers training program once in every three years.
6. The post of Senior Residents with Post-graduate qualification/ Diplomate of National Board / an equivalent qualification, recognized by the Council, in the speciality having teaching experience for Dental Courses may be considered equivalent to the post of Lecturer/Asst. Professor.

**Table 1**

Category	Points
Category I: (1) Journals Indexed to Pubmed – Medline	15

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*B. K. Singh*  
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Please see- <a href="http://www.ncbi.nlm.nih.gov/pubmed">www.ncbi.nlm.nih.gov/pubmed</a> (2) Journals published by Indian/International Dental Speciality Associations approved by Dental Council of India.	
<b>Category II:</b> (1) Medical / Dental Journals published by Government Health Universities <b>awarding</b> dental degree or Govt. Universities <b>awarding</b> dental degree (2) Original Research/Study approved by I.C.M.R/Similar Govt. Bodies (3) Author of Text / Reference Book concerned to respective specialty (4) PhD. or any other similar additional qualification after MDS	10
<b>Category III:</b> (1) Journals published by Deemed Universities / Dental Institutions / Indian Dental Association (2) Contribution of Chapters in the Text Book	5

Note:-

1. For any publication, except original research, first author (principal author) will be given 100% points and remaining authors (co-authors) will be given 50% points and upto a maximum of 5 co-authors will be considered.
2. For original research, all authors will be given equal points and upto a maximum of 6 authors will be considered.
3. Maximum of 3 publications would be considered for allotting points in Category III.
4. Publication in Tabloids / Souvenirs / Dental News magazines / abstracts of conference proceedings / Letter of acceptance etc. will not be considered for allotment of points.
5. For the purposes of this table, the crucial date for consideration of the publications shall be the last date for submission of application i.e. 30<sup>th</sup> of June of every year either for starting of MDS Course or increase of admission capacity in MDS Course, as the case may be, to the Central Government u/s 10A of the Dentists Act, 1948, for each academic year, as prescribed in the Time Schedule annexed to the Dental Council of India Regulations 2006 as amended from time to time.

**Total Score Required:**

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For Professor and HOD:	40 marks
Professor:	30 marks
Reader/Associate Professor:	20 marks

**IMPORTANT:**

1. A recognized post-graduate teacher would be re-evaluated for every three years and should have at least an additional 15 points in their score.
2. A **Journal Review Expert Committee** would be formed which shall enlist all the available international and Indian Dental Journals in various categories. The list would be displayed on the Council website. The Committee would also be responsible for making annual review of the list of Journals and would continuously monitor the standard of publications in various Journals and the categories of publications may be upgraded / downgraded, if the standard is not maintained by the Journal. In case of any dispute, the recommendation of the Expert Committee would be reviewed by Executive Committee and decision of the Executive Committee would be final.

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### 3. ELIGIBILITY FOR ADMISSION

A candidate for admission to the Master in Dental Surgery course, must possess a recognised degree of Bachelor in Dental Surgery awarded by a university or institute in India and registered with the State Dental Council and has obtained provisional or permanent registration and has undergone compulsory rotatory internship of a year in an approved/recognised dental college:

Provided that in the case of a foreign national, the following procedure shall be followed:—

The Council may, on payment of the prescribed fee for registration, grant temporary registration for the duration of the post-graduate training restricted to the dental college/institution to which he or she is admitted for the time being exclusively for post-graduate studies: Provided further that temporary registration to such foreign national shall be subject to the condition that such person is duly registered as medical practitioner in his/her own country from which he/she has obtained his/her basics dental qualification and that his/her degree is recognized by the corresponding state dental council or concerned authority.

#### Eligibility Certificate from Lalit Narayan Mithila University, Darbhanga

No candidate shall be admitted to any postgraduate MDS course unless the candidate has obtained and produced eligibility certificate issued by University. The candidate has to make an application to the University with the following documents along with the prescribed fee:

1. BDS pass / degree certificate issued by the University.
2. Marks cards of all the university examinations passed (I to IV BDS year-course).
3. Attempt Certificate issued by the Principal.
4. Certificate regarding the recognition of the Dental College by the Dental Council of India.
5. Completion of paid rotatory internship certificate from a recognized college.
6. Registration by any State Dental Council and
7. Proof of SC/ ST or Category I, as the case may be. Candidates should obtain the Eligibility Certificate before the last date for admission as notified by the University. A candidate who has been admitted to postgraduate course should register his / her name in the University within a month of admission after paying the registration fee.

#### PROCEDURE FOR SELECTION OF CANDIDATE FOR POSTGRADUATE COURSES SHALL BE AS FOLLOWS:

Students for the MDS courses shall be selected on the basis of their merit. For determination of the merit for the student:

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- (1) there shall be uniform eligibility-cum-entrance examination, namely, "**National Eligibility-cum-Entrance Test (NEET) for admission to Postgraduate Medical Courses**" in each academic year to be conducted by Central Board of Secondary Examination (CBSE) or by any other authority as may be appointed by Government of India in this behalf from time to time. The overall superintendence, direction and control of National Eligibility-cum-Entrance Test shall vest with Dental Council of India.
- (2) for admission to any postgraduate course in a particular academic year, it shall be necessary for a candidate to obtain minimum of marks at 50<sup>th</sup> percentile in "National Eligibility-cum-Entrance Test for Postgraduate Courses" for the said academic year. However, in respect of candidates belonging to the Scheduled Castes, Scheduled Tribes, Other Backward Classes, the minimum marks shall be at 40<sup>th</sup> percentile. In respect of candidates as provided in clause (5) below with locomotory disability of lower limbs, the minimum marks shall be at 45th percentile. The percentile shall be determined on the basis of highest marks secured in the All-India common merit list in National Eligibility-cum-Entrance Test for Postgraduate courses.
- (3) Provided when sufficient number of candidates in the respective categories fail to secure minimum marks as prescribed in National Eligibility-cum-Entrance Test held for any academic year for admission to Post Graduate Courses, the Central Government in consultation with Dental Council of India may at its discretion lower the minimum marks required for admission to Post Graduate Course for candidates belonging to respective categories and marks so lowered by the Central Government shall be applicable for the said academic year only.
- (4) The reservation of seats in dental college/institutions for respective categories shall be as per applicable laws prevailing in States/Union territories. An all India merit list as well as State-wise merit list of the eligible candidates shall be prepared on the basis of the marks obtained in National Eligibility-cum-Entrance Test and candidates shall be admitted to Postgraduate courses from the said merit list only.
- (5) Provided that in determining the merit of candidates who are in service of Government/public authority, weightage in the marks may be given by the Government/competent authority as an incentive at the rate of 10% of the marks obtained for each year of service in remote and/or difficult areas upto the maximum of 30% of the marks obtained in National Eligibility-cum-Entrance Test. The remote and difficult areas shall be as defined by State Government / competent authority from time to time.
- (6) candidate who has failed to obtain the minimum eligibility marks as prescribed in clause (ii) shall not be admitted to any post-graduate courses in the said academic year.
- (7) 3% seats of the annual sanctioned intake capacity shall be filled up by candidates with locomotory disability of lower limbs between 50% to 70%.
- (8) Provided that in case any seat in this quota remains unfilled on account of unavailability of candidates with locomotory disability of lower limbs between 50% to 70% then any such unfilled seat shall be filled up by persons with locomotory disability of lower limbs between 40% to 50% - before they are included in the annual sanctioned seats for General Category candidates.
- (9) Provided further that this entire exercise shall be completed by each dental

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college/institution as per the statutory time schedule for admissions.

- (10) Allocation of Seats: shall be as per the rules, regulations, policies, guidelines, norms, orders as may be prescribed / framed / issued by the respective State Government from time to time.
- (11) The academic session shall be commenced from 1<sup>st</sup> of May and the cut-off date for admission, even for stray vacancies, in MDS Course shall be 31<sup>st</sup> of May, of every year or any other dates, as may be prescribed in DCI Regulations, 2006, as amended time to time. No admission in MDS Course shall be made by the Institution after commencement of the MDS session for a particular academic year. The Universities and other authorities concerned shall organize admission process in such a way that teaching in postgraduate courses starts by 1<sup>st</sup> May each year. For this purpose, they shall strictly adhere to the time schedule annexed with DCI Regulations, 2006 as amended from time to time.
- (12) There shall be no admission of students in respect of any academic session after beyond 31<sup>st</sup> May for postgraduate courses under any circumstances. The Universities shall not register any student admitted beyond the cut-off date and in violation of the provision of these Regulations.
- (13) The Dental Council of India may direct, that any student identified as having secured his/her admission after the last date for closure of admission be discharged from the course of study, or any dental qualification granted to such a student shall not be a recognized qualification for the purpose of Act, u/s 10B of the Dentist (Amendment) Act, 1993.
- (14) The institution which grants admission to any student after the last date specified for the same, and in violation of condition of admissions as prescribed by DCI or by the State Government/University/any Competent Authority of respective State Government, shall also be liable to face such action as may be prescribed by DCI in the facts and circumstances of each case.

## COMMON COUNSELING

There shall be a common counseling for admission to all Postgraduate Courses (PG Diploma/MDS) in all Dental Educational Institutions on the basis of merit list of the National Eligibility-cum-Entrance Test.

- (1) The designated authority for counseling for the 50% All India Quota seats of the contributing States shall be conducted by the Directorate General of Health Services. Such counseling as per the existing scheme shall be only for PG Diploma and MDS Course.
- (2) The counseling for all Postgraduate Course (Diploma/MDS) in all Dental Educational Institutions in a State/Union Territory, including Dental Educational Institutions established by the Central Government, State Government University, Deemed University, Trust, Society, Minority Institution and Corporation shall be conducted by the State Government. Such common counseling shall be under the over-all superintendence, direction and control of the State Government, strictly

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within the time Schedule prescribed by the respective Regulations and as modified by the Central Government from time to time.

- (3) In case any dispute arises regarding any such counseling arises, the respective State Government shall take its final decision as per law but subject to and conformity with the provision of these Regulations.

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### 4. FEE STRUCTURE

Fee Fixation Committee has been constituted by the State Govt. Fee structure will be decided by the Fee Fixation Committee.

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### 5. EXAMINATIONS

(a) ELIGIBILITY:

The following requirements should be fulfilled by every candidate to become eligible to appear for the final examination.

- (i) Attendance: Every candidate should have secured the minimum attendance prescribed by the Council and respective University (80% of the attendance during each academic year of the postgraduate course).
- (ii) Progress and conduct: Every candidate shall have to participate in seminars, journal review meetings, symposia, conferences, case presentations, clinics and didactic lectures during each year as designed by the concerned department as per the guidelines of the Council or concerned university.
- (iii) Work diary and log book: Every candidate shall maintain a work diary and log book for recording his/her participation in the training programmes conducted by the department. The work diary and log book shall be verified and certified by the Head of the Department and Head of the institution. The certification of satisfactory progress is based on the work diary and log book.

(b) UNIVERSITY EXAMINATION:

The examination shall consist of:

theory, practical & Clinical examination and viva-voce & Pedagogy

i) Theory:

Part-I:

There will be a university theory examination in the basic sciences at the end of 1<sup>st</sup> year of Course. The question papers will be set and evaluated only by the eligible faculty of concerned post-graduate speciality, as decided by the university. Candidate shall have to secure minimum of 50%. The student shall have to pass the **Part-I** examination at least six months prior to the final (Part-II) university examination.

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Part-II:

Part-II University examination consists of three papers.

ii) **Practical & Clinical Examination**

iii) **Viva-voce and**

iv) **Pedagogy**

A candidate who wishes to study for in a second speciality shall have to take the full course of three years in that speciality.

(c) **DISSERTATION:**

Every candidate appearing for the MDS degree examination for the first time shall submit with his application for the admission to the Examination, four typewritten copies of a dissertation undertaken by the candidate and prepared under the direction and guidance and to the satisfaction of his/her guide. The dissertation should be submitted six months prior to the examination. The dissertation shall be referred to the examiners for the examination and acceptance of it by the examiners shall be a condition precedent to allow the candidate to the written part of the examination.

A candidate whose dissertation has been accepted by the examiner, but declared failed at the examination, shall be permitted to re-appear at the subsequent MDS examination a new dissertation. In case, the dissertation is rejected by the examiner, the examiner shall assign reasons therefor with suggestion for its improvement to the candidate and such candidate shall re-submit his/ her dissertation to the examiner who shall accept it before appearing in the examination.

(d) **CLINICAL/PRACTICAL EXAMINATION:**

It is designed and aims at to test clinical skill, performance and competence of the candidate in skills such as communication, clinical examination, medical/dental procedures / prescription, exercise prescription, latest techniques, evaluation and interpretation of results so as to undertake independent work as a specialist. The affiliating university shall ensure that the candidate has been given ample opportunity to perform various clinical procedures.

The actual format may be made known to the students prior to the examination well in advance by the respective universities.

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The practical/clinical examination in all the specialities shall be for two days and six candidates, it may be extended to another day.

(e) **VIVA-VOCE EXAMINATION:**  
Viva voce examination shall aim at assessing depth of knowledge, logical reasoning, confidence and verbal communication skills of the students.

(f) **DISTRIBUTION OF MARKS AT THE UNIVERSITY EXAMINATION:**

Theory : 400 Marks

(1) Part I University Examination (100 marks):-

There shall be 10 questions of 10 marks each (Total of 100 Marks) in Part-I examination.

(2) Part II University Examination (3 papers of 100 marks each):-

- (i) Paper-I: Two long essay questions of 25 marks each and 5 short essays of 10 marks each. (Total of 100 Marks)
- (ii) Paper-II: Two long essay questions of 25 marks each and 5 short essays of 10 marks each. (Total of 100 Marks)
- (iii) Paper III: Will consist of 3 essay questions and the student has to attempt any two questions. (50 x 2 = 100 Marks)

**Practical & Clinical Examination :** 200 marks

**Viva-voce & Pedagogy :** 100 marks,

EXAMINERS:

**Part I Examination :** There shall be one internal examiner for three students appointed by the affiliating university for evaluating the answer scripts of the same speciality, however, the number of examiner/s may be increased with the corresponding increase in number of the students. There will be no practical exam for Part I Paper.

**Part II Examination :** There shall be four eligible examiners in each subject. Out of them, two (50%) shall be external examiners and two (50%) shall be internal examiners. Both external examiners shall be from a university other than the affiliating University and one shall be from a university of different State. First three examiners will be paper setter cum examiner. Remuneration for exam will be equally divided between the examiners.

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**QUALIFICATION AND EXPERIENCE FOR EXAMINERS:**

The qualification and teaching experience for appointment of an examiner shall be as under:-

- (i) shall possess qualification and experience not less than that recommended for Professor in a post-graduate degree programme;
- (ii) no person who is not an active postgraduate teacher in the subject can be appointed as examiner;
- (iii) in exceptional cases, in a Government Dental College, a teaching faculty having a total of nine years teaching experience may be considered, irrespective of designation;
- (iv) the internal examiner in a subject should not accept External Examinership for a college from which external examiner is appointed in his subject for the same academic year;
- (v) no person shall be an external examiner for the same institution for more than two consecutive years. However, if there is a break of one year, the person can be re-appointed.

**EXAMINATION CENTRE:**

In the event of university exam being conducted in the same city/town having more than one post-graduate institution under the same university, one central examination centre shall be fixed by the concerned university and the students from all the institutions of the city will take the examination in that centre. Centre/s can be rotated as per the direction of the university.

**VALUATION OF ANSWER BOOKS:**

- Part-I : Answer book/s shall be evaluated by the internal examiner/s
- Part-II : Answer books shall be evaluated by four examiners, two internal and two external and the average marks will be computed.

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**CRITERIA FOR PASS CERTIFICATE:**

To pass in the university examination, a candidate shall secure in both theory examination and in practical/clinical including viva voce independently with an aggregate of 50% of total marks allotted (50 out of 100 marks in Part I examination and 150 marks out of 300 in Part II examination in theory and 150 out of 300, clinical plus viva voce together). A candidate securing less marks as described above shall be declared to have failed in the examination.

A candidate who is declared successful in the examination shall be granted a Degree of Master of Dental Surgery in the respective speciality.

**SUPPLEMENTARY EXAM:**

Supplementary exam will be conducted within 3 to 6 months after publication of MDS result.

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## 6. SYLLABUS

The syllabus for post-graduate course includes both Applied Basic Sciences and subjects of concerned speciality. The syllabus in Applied Basic Sciences shall vary according to the particular speciality, similarly the candidates shall also acquire adequate knowledge in other subjects related to their respective speciality.

### SYLLABUS FOR M.D.S. IN VARIOUS SPECIALITIES

#### 1. PROSTHODONTICS AND CROWN & BRIDGE

##### Part-I

**Paper-I: Applied Basic Sciences:** Applied anatomy, embryology, growth and development Genetics, Immunology, anthropology, Physiology, nutrition and Biochemistry, Pathology and Microbiology, virology, Applied pharmacology, Research Methodology and bio statistics, Applied Dental anatomy and histology, Oral pathology & oral Microbiology, Adult and geriatric psychology. Applied dental materials.

##### Part-II

##### Paper-I:

##### **Removable Prosthodontics and Implant supported prosthesis (Implantology) Geriatric dentistry and Cranio facial Prosthodontics:**

a. Prosthodontic treatment for completely edentulous patients - Complete denture, immediate complete denture, single complete denture, tooth supported complete denture, Implant supported Prosthesis for completely edentulous

b. Prosthodontic treatment for partially edentulous patients: - Clasp-retained partial dentures, intra coronal and extra coronal precision attachments retained partial dentures, maxillofacial prosthesis.

**Prosthodontic treatment for edentulous patients:** -Complete Dentures and Implant supported Prosthesis for Edentulous in both the arches

**Complete Denture Prosthesis** - Definitions, terminology, G.P.T., Boucher's clinical dental terminology

**Scope of Prosthodontics** - the Cranio Mandibular system and its functions, the reasons for loss of teeth and methods of restorations,

Infection control, cross infection barrier - clinical and laboratory and hospital and lab waste management

a) Edentulous Predicament, Biomechanics of the edentulous state, Support mechanism for the natural dentition and complete dentures, Biological considerations, Functional and Para functional considerations, Esthetic, behavioral and adaptive responses, Temporomandibular joints changes.

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b) Effects of aging of edentulous patients - aging population, distribution and edentulism in old age, impact of age on edentulous mouth - Mucosa, Bone, saliva, jaw movements in old age, taste and smell, nutrition, aging, skin and teeth, concern for personal appearance in old age

c) Sequelae caused by wearing complete denture - the denture in the oral environment - Mucosal reactions, altered taste perception, burning mouth syndrome, gagging, residual ridge reduction, denture stomatitis, flabby ridge, denture irritation hyperplasia, traumatic Ulcers, Oral cancer in denture wearers, nutritional deficiencies, masticatory ability and performance, nutritional status and masticatory functions.

d) Temporomandibular disorders in edentulous patients - Epidemiology, etiology and management, Pharmacotherapy, Physical modalities, and Bio-behavioral modalities

e) Nutrition Care for the denture wearing patient - Impact of dental status of food intake, Gastrointestinal functions, nutritional needs and status of older adults, Calcium and bone health, vitamin and herbal supplementation, dietary counseling and risk factor for malnutrition in patients with dentures and when teeth are extracted.

f. Preparing patient for complete denture patients - Diagnosis and treatment planning for edentulous and partially edentulous patients - familiarity with patients, principles of perception, health questionnaires and identification data, problem identification, prognosis and treatment identification data, problem identification, prognosis and treatment planning - contributing history - patient's history, social information, medical status - systemic status with special reference to debilitating diseases, diseases of the joint, cardiovascular, disease of the skin, neurological disorders, oral malignancies, climacteric, use of drugs, mental health - mental attitude, psychological changes, adaptability, geriatric changes - physiologic, pathological, pathological and intra oral changes. Intra oral health - mucosa membrane, alveolar ridges, palate and vestibular sulcus and dental health.

Data collection and recording, visual observation, radiography, palpation, measurement - sulci or fossae, extra oral measurement is the vertical dimension of occlusion, diagnostic casts. Specific observations - existing dentures, soft tissue health, hard tissue health -teeth, bone. Biomechanical considerations - jaw relations, border tissues, saliva, muscular development - muscle tones, neuromuscular co-ordination, tongue, check and lips.

Interpreting diagnostic findings and treatment planning

g. Pre prosthetic surgery - Improving the patients denture bearing areas and ridge relations: - non surgical methods - rest for the denture supporting tissues, occlusal correction of the old prosthesis, good nutrition, conditioning of the patients musculature, surgical methods - Correction of conditions, that preclude optimal prosthetic function - hyperplastic ridge - epulis fissuratum and papillomatosis, frenular attachments and pendulous maxillary tuberosities, ridge augmentation, maxillary and Mandibular oral implants, corrections of congenital deformities, discrepancies in jaw size, relief of pressure on the mental foramen, enlargement of denture bearing areas, vestibuloplasty, ridge augmentation, replacement of tooth roots with Osseo integrated denture implants.

h. Immediate Denture - Advantages, disadvantages, contra indication, diagnosis treatment plan and prognosis, Explanation to the patient, Oral examinations, examination of existing prosthesis, tooth modification, prognosis, referrals / adjunctive care, oral prophylaxis and other treatment needs.

First extraction / surgical visit, preliminary impressions and diagnostic casts, management of loose teeth, custom trays, final impressions and final casts two tray or sectional custom

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impression tray, location of posterior limit and jaw relation records, setting the denture teeth / verifying jaw relations and the patient try in, laboratory phase, setting of anterior teeth, Wax contouring, flasking and boil out, processing and finishing, surgical templates, surgery and immediate denture insertion, post operative care and patient instructions, subsequent service for the patient on the immediate denture, over denture tooth attachments, implants or implant attachments.

i. Over dentures (tooth supported complete dentures) - indications and treatment planning, advantages and disadvantages, selection of abutment teeth, lose of abutment teeth, tooth supported complete dentures. Non-coping abutments, abutment with copings, abutments with attachments, submerged vital roots, preparations of the retained teeth.

j. Single Dentures: Single Mandibular denture to oppose natural maxillary teeth, single complete maxillary denture to oppose natural Mandibular teeth to oppose a partially edentulous Mandibular arch with fixed prosthesis, partially edentulous Mandibular arch with removable partial dentures. Opposing existing complete dentures, preservation of the residual alveolar ridge, necessity for retaining maxillary teeth and mental trauma.

k. Art of communication in the management of the edentulous predicament -Communication - scope, a model of communication, why communication . important, what are the elements of effective communications, special significance of doctor / patient communication, doctor behavior, The iatrosedative (doctor & act of making calm) recognizing and acknowledging the problem, exploring and identifying the problem, interpreting and explaining the problem, offering a solution to the problem for mobilize their resources to operate most efficient way, recognizing and acknowledging the problem, interpreting and explaining the problem, offering a solution to the problem.

l. Materials prescribed in the management of edentulous patients - Denture base materials, General requirements of biomaterials for edentulous patients, requirement of an ideal denture base, chemical composition of denture base resins, materials used in the fabrication of prosthetic denture teeth, requirement of prosthetic denture teeth, denture lining materials and tissue conditioners, cast metal alloys as denture, bases - base metal alloys.

m. Articulators - Classification, selection, limitations, precision, accuracy and sensitivity, and Functional activities of the lower member of the articulator and uses,

n. Fabrications of complete dentures - complete denture impressions - muscles of facial expressions and anatomical landmarks, support, retention, stability, aims and objectives - preservation, support, stability, aesthetics, and retention. Impression materials and techniques - need of 2 impressions the preliminary impression and final impression.

Developing an analogue / substitute for the maxillary denture bearing area -anatomy of supporting structures - mucous membrane, hard palate, residual ridge, shape of the supporting structure and factors that influence the form and size of the supporting bones, incisive foramen, maxillary tuberosity, sharp spiny process, torus palatinus, Anatomy of peripheral or limiting structures, labial vestibule, Buccal vestibule, vibrating line, preliminary and final impressions, impression making, custom tray and refining the custom tray, preparing the tray to secure the final impression, making the final impression, boxing impression and making the casts

Developing an analogue / substitute for the Mandibular denture bearing area-Mandible - anatomy of supporting structure, crest of the residual ridge, the Buccal shelf, shape of supporting structure, mylohyoid ridge, mental foramen, genial tubercles, torus mandibularis, Anatomy of peripheral or limiting structure - labial vestibule, Buccal vestibule, lingual border, mylohyoid muscle, retromylohyoid fossa, sublingual gland region, alveolingual sulcus, Mandibular impressions - preliminary impressions, custom tray, refining, preparing the tray, final impressions.

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o. Mandibular movements, Maxillo mandibular relation and concepts of occlusion -Gnathology. identification of shape and location of arch form - Mandibular and maxillary, occlusion rim, level of occlusal plane and recording of trial denture base, tests to determine vertical dimension of occlusion, interocclusal, centric relation records, Biological and clinical considerations in making jaw relation records and transferring records from the patients to the articulator, Recording of Mandibular movements - influence of opposing tooth contacts, Temporomandibular joint, muscular involvements, neuromuscular regulation of Mandibular motion, the envelope of motion, rest position, Maxillo - Mandibular relations - the centric, eccentric, physiologic rest position, vertical dimension, occlusion, recording methods - mechanical, physiological, Determining the horizontal jaw relation - Functional graphics, tactile or interocclusal check record

method, Orientation / sagittal relation records, Arbitrary / Hinge axis and face bow record, significance and requirement, principles and biological considerations and securing on articulators.

p. Selecting and arranging artificial teeth and occlusion for the edentulous patient -anterior tooth selection, posterior tooth selection, and principles in arrangement of teeth, and factors governing position of teeth - horizontal, vertical. The inclinations and arrangement of teeth for aesthetics, phonetics and mechanics -to concept of occlusion.

q. The Try in - verifying vertical dimension, centric relation, establishment of posterior palatal seal, creating a facial and functional harmony with anterior teeth, harmony of spaces of individual teeth position, harmony with sex, personality and age of the patient, co-relating aesthetics and incisal guidance.

r. Speech considerations with complete dentures - speech production - structural and functional demands, neuropsychological background, speech production and the roll of teeth and other oral structures - bilabial sounds, labiodentals sounds, linguodental sounds, linguoalveolar sound, articulatoric characteristics, acoustic characteristics, auditory characteristics, linguopalatal and linguoalveolar sounds, speech analysis and prosthetic considerations.

s. Waxing contouring and processing the dentures their fit and insertion and after care - laboratory procedure - wax contouring, flasking and processing, laboratory remount procedures and selective, finishing and polishing. Critiquing the finished prosthesis - doctors evaluation, patients evaluation, friends evaluation, elimination of basal surface errors, errors in occlusion, interocclusal records for remounting procedures - verifying centric relation, eliminating occlusal errors, special instructions to the patient - appearance with new denture, mastication with new dentures, speaking with new dentures, speaking with new dentures, oral hygiene with dentures, preserving of residual ridges and educational material for patients, maintaining the comfort and health of the oral cavity in the rehabilitated edentulous patients. Twenty-four hours oral examination and treatment and preventive Prosthodontic - periodontic recall for oral examination 3 to 4 months intervals and yearly intervals.

t. Implant supported Prosthesis for partially edentulous patients - Science of Osseo integration, clinical protocol for treatment with implant supported over dentures, managing problems and complications, implant Prosthodontics for edentulous patients: current and future directions.

u. Implant supported prosthesis for partially edentulous patients - Clinical and laboratory protocol: Implant supported prosthesis, managing problems and implications.

- © Introduction and Historical Review
- © Biological, clinical and surgical aspects of oral implants
- © Diagnosis and treatment planning
- © Radiological interpretation for selection of fixtures
- © Radiological interpretation for selection of fixtures
- © Splints for guidance fort surgical placement of fixtures

- © Intra oral plastic surgery
- © Guided bone and Tissue generation consideration for implants fixture.
- © Implants supported prosthesis for complete edentulism and partial edentulism
- © Occlusion for implants support prosthesis.
- © Peri-implant tissue and Management
- © Peri-implant and management
- © Maintenance and after care
- © Management of failed restoration.
- © Work authorization for implant supported prosthesis - definitive instructions, legal aspects, delineation of responsibility.

**Prosthodontic treatment for partially edentulous patients - Removable partial Prosthodontics -**

a. Scope, definition and terminology, Classification of partially edentulous arches - requirements of an acceptable methods of classification, Kennedy's classification, Applegate's rules for applying the Kennedy classification.

b. Components of RPD - major connector - mandibular and maxillary, minor connectors, design, functions, form and location of major and minor connectors, tissue stops, finishing lines, reaction of tissue to metallic coverage

Rest and rest seats - from of the Occlusal rest and rest seat, interproximal Occlusal rest seats, internal Occlusal rests, possible movements of partial dentures, support for rests, lingual rests on canines and incisor teeth, incisal rest and rest seat.

Direct retainer- Internal attachment, extracoronary direct retainer, relative uniformity of retention, flexibility of clasp arms, stabilizing - reciprocal clasp are, criteria for selecting a given clasp design, the basic principles of clasp design, circumferential clasp, bar clasp, combination clasp and other type of retainers.

Indirect Retainer - denture rotation about an axis, factors influencing effectiveness of indirect retainers, forms of indirect retainers, auxiliary Occlusal rest, canine extensions from Occlusal rests, canine rests, continuous bar retainers and linguoplates, modification areas, rugae support, direct - indirect retention.

Principles of removable partial Denture design - bio mechanic considerations, and the factors Influence after mouth preparations - Occlusal relationship of remaining teeth, orientation of Occlusal plane, available space for restoration, arch integrity, tooth morphology, response of oral structure to previous stress, periodontal conditions, abutment support, tooth supported and tooth and tissue supported, need for indirect retention, clasp design, need for rebasing, secondary impression, need for abutment tooth modification, type of major connector, type of teeth selection, patients past experience, method of replacing single teeth or missing anterior teeth.

Difference between tooth supported and tissue supported partial dentures, essential of partial denture design, components of partial denture design, tooth support, ridge support, stabilizing components, guiding planes, use of splint bar for denture support, internal clip attachments, overlay abutment as support for a denture base, use of a component partial to gain support.

- c. Education of patient
- d. Diagnosis and treatment planning
- e. Design, treatment sequencing and mouth preparation
- f. Surveying - Description of dental surveyor, purposes of surveyor procedure of survey,

Aims and objectives in surveying of diagnostic cast and master cast, Final path of placement, factors that determine path of placement and removal, Recording relation of cast to surveyor, measuring retention, Blocking of master cast - paralleled blockout, shaped blockout, arbitrary blockout and relief.

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- g. Diagnosis and treatment planning - Infection control and cross infection barriers - clinical and laboratory and hospital and lab waste management, Objectives of prosthodontic treatment, Records, systemic evaluation, Oral examination, preparation of diagnostic cast, interpretation of examination data, radiographic interpretation, periodontal considerations, caries activity, prospective surgical preparation, endodontic treatment, analysis of occlusal factors, fixed restorations, orthodontic treatment, need for determining the design of components, impression procedures and occlusion, need for reshaping remaining teeth, reduction of unfavorable tooth contours, differential diagnosis: fixed or removable partial dentures, choice between complete denture and removable partial dentures, choice of materials
- h. Preparation of Mouth for removable partial dentures - Oral surgical preparation, conditioning of abused and irritated tissues, periodontal preparation - objectives of periodontal therapy, periodontal diagnosis, control therapy, periodontal surgery.
- i. Preparation of Abutment teeth - Classification of abutment teeth, sequence of abutment preparations on sound enamel or existing restorations, conservative restoration using crowns, splinting abutment teeth, utilization, temporary crowns to be used as abutment.
- j. Impression Materials and Procedures for Removable Partial Dentures - Rigid materials, thermoplastic materials, Elastic materials, Impressions of the partially edentulous arch, Tooth supported, tooth tissue supported, Individual impression trays.
- k. Support for the Distal Extension Denture Base - Distal extension removable partial denture, Factors influencing the support of distal extension base, Methods for obtaining functional support for the distal extension base.
- l. Laboratory Procedures - Duplicating a stone case, Waxing the partial denture frame work, Anatomic replica patterns, Spruing, investing, burnout, casting and finishing of the partial denture framework, making record bases, occlusion rims, making a stone occlusal template from a functional occlusal record, arranging posterior teeth to an opposing cast or template, types of anterior teeth, waxing and investing tinW partial denture before processing acrylic resin bases, processing the denture, remounting and occlusal correction to an occlusal template, polishing the denture.
- m. Initial placement, adjustment and servicing of the removable partial denture - adjustments to bearing surfaces of denture framework, adjustment of occlusion in harmony with natural and artificial dentition, instructions to the patient, follow - up services
- n. Relining and Rebasing the removable partial denture - Relining tooth supported dentures bases, relining distal extension denture bases, methods of reestablishing occlusion on a relined partial denture.
- o. Repairs and additions to removable partial dentures - Broken clasp arms, fractured occlusal rests, distortion or breakage of other components - major and minor connectors, loss of a tooth or teeth not involved in the support or retention of the restoration, loss of an abutment tooth necessitating its replacement and making a new direct retainer, Other types of repairs, Repair by soldering.
- p. Removable partial denture considerations in maxillofacial prosthetics - Maxillofacial prosthetics, intra oral prosthesis, design considerations, maxillary prosthesis. Obturators, speech aids, palatal lifts, palatal augmentations, mandibular prosthesis, treatment planning, framework design, class I resection, Class II resection, mandibular flange prosthesis, jaw relation record
- q. Management of failed restorations, work authorization.

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**MAXILLOFACIAL REHABILITATION:**

Scope, terminology, definitions, cross infection control and hospital waste management, work authorization.

Behavioral and psychological issues in Head and neck cancer, Psychodynamic interactions - clinician and patient - Cancer Chemotherapy: Oral Manifestations, Complications, and management, Radiation therapy of head and neck tumors: Oral effects, Dental manifestations and dental treatment: Etiology, treatment and rehabilitation ( restoration)- Acquired defect of the mandible, acquired defects of hard palate, soft palate, clinical management of edentulous and partially edentulous maxillectomy patients, Facial defects, Restoration of speech, Velopharyngeal function, cleft lip and palate, cranial implants, maxillofacial trauma, Lip and cheek support prosthesis, Laryngectomy aids, Obstructive sleep apnoea, Tongue prosthesis, Esophageal prosthesis, Vaginal radiation carrier, Bum stents, Nasal stents, Auditory inserts, trismus appliances, mouth controlled devices for assisting the handicapped, custom prosthesis for lagophthalmos of the eye. Osseo integrated supported facial and maxillofacial prosthesis. Resin bonding for maxillofacial prosthesis, Implant rehabilitation of the mandible compromise by radiotherapy, Craniofacial Osseo integration, Prosthodontic treatment, Material and laboratory procedures for maxillofacial prosthesis.

**Paper-II:**

**Fixed Prosthodontics, occlusion, TMJ and esthetics:**

**OCCLUSION**

**Evaluation, Diagnosis and Treatment of Occlusal Problems**

Scope, definition, terminology, optimum oral health, anatomic harmony, functional harmony, occlusal stability, causes of deterioration of dental and oral health, Anatomical, physiological, neuro - muscular, psychological, considerations of teeth, muscles of mastication, temporomandibular joint, intra oral and extra oral and facial musculatures, the functions of Cranio mandibular system.

Occlusal therapy, the stomatognathic system, centric relation, vertical dimension, the neutral zone, the occlusal plane, differential diagnosis of temporomandibular disorders, understanding and diagnosing intra articular problems, relating treatment to diagnosis of internal derangements of TMJ, Occlusal splints, Selecting instruments for occlusal diagnosis and treatment, mounting casts, Pankey-mann-schuyler philosophy of complete occlusal rehabilitation, long centric, anterior guidance, restoring lower anterior teeth, restoring upper anterior teeth, determining the type of posterior occlusal contours, methods for determining the plane of occlusion, restoring lower posterior teeth, restoring upper posterior teeth, functionally generated path techniques fro recording border movements intra orally, occlusal equilibration, Bruxism, Procedural steps in restoring occlusions, requirements for occlusal stability, solving occlusal problems through programmed treatment planning, splinting, solving - occlusal wear problems, deep overbite problems, anterior overjet problems, anterior open bite problems. Treating - end to end occlusion, splayed anterior teeth, cross bite patient, Crowded, irregular, or interlocking anterior bite, using Cephalometric for occlusal analysis, solving severe arch malrelationship problems, transcranial radiography, postoperative care of occlusal therapy.

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**FIXED PROSTHODONTICS**

Scope, definitions and terminology, classification and principles, design, mechanical and biological considerations of components - Retainers, connectors, pontics, work authorization.

© **Diagnosis and treatment planning** - patients history and interview, patients desires and expectations and needs, systemic and emotional health, clinical examinations -head and neck, oral - teeth, occlusal and periodontal, Preparation of diagnostic cast, radiographic interpretation, Aesthetics, endodontics considerations, abutment selection - bone support, root proximities and inclinations, selections of abutments, for cantilever, pier abutments, splinting, available tooth structures and crown morphology, TMJ and muscles mastication and comprehensive planning and prognosis.

© **Management of carious teeth** - caries in aged, caries control, removing infected carious materials, protection of pulp, reconstruction measure for compromising teeth - retentive pins, horizontal slots, retention grooves, prevention of caries, diet, prevention of root caries and vaccine for caries.

© **Periodontal considerations** - attachment units, ligaments, gingivitis, periodontal Microbiological aspect of periodontal diseases, marginal lesion, occlusal trauma, periodontal pockets attached gingiva, interdental papilla, gingival embrasures, radiographic interpretations of Periodontia, intraoral plastics, periodontal splinting -Fixed prosthodontics with periodontially compromised dentitions, placement of margin restorations.

© **Biomechanical principle of tooth preparations** - individual tooth preparations - Complete metal Crowns - P.F.C., All porcelain - Cerestore crowns, dicor crowns, incerem etc. porcelain jacket crowns partial 3/4, half and half, ridiculer, telescopic, telescopic, pin - hole, pin - ledge, laminates, inlays, onlays and preparations for restoration of teeth - amalgam, glass ionomer and composite resins, Resin Bond retainer, Gingival marginal preparations - Design, material selection, and biological and mechanical considerations - intracoronal retainer and precision attachments -custom made and ready made

© **Isolation and fluid control** - Rubber dam applications, tissue dilation - soft tissue management for cast restoration, impression materials and techniques, provisional restoration, interocclusal records, laboratory support for fixed Prosthodontics' Occlusion, Oclusal equilibration, articulators, recording and transferring of occlusal relations, cementing of restoration.

© **Resins, Gold and gold alloys, glass ionomer, restorations.**

© **Restorations of endodontically treated teeth, Stomatognathic Dysfunction and managements**

© **Management of failed restorations**

© **Osseo integrated supported fixed Prosthodontics** - Osseo integrated supported and tooth supported fixed Prosthodontics

**TMJ - Temporomandibular joint dysfunction - Scope, definitions, and terminology**

Temporomandibular joint and its function, Orofacial pain, and pain from the temporomandibular joint region, temporomandibular joint dysfunction, temporomandibular joint sounds, temporomandibular joint disorders

Anatomy related, trauma, disc displacement, Osteoarthritis/Osteoarthritis, Hyper mobility and dislocation, infectious arthritis, inflammatory diseases, Eagle's syndrome (Styloid -stylohyoid syndrome), Synovial chondromatosis, Osteochondrosis disease, Osteonecrosis, Nerve entrapment process, Growth changes, Tumors, Radiographic imaging

© Etiology, diagnosis and cranio mandibular pain, differential diagnosis and management, orofacial pain - pain from teeth, pulp, dentin, muscle pain, TMJ pain -psycho logic, physiologic -

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- Right side: "B. R. Mishra" written above a signature and date "20.12.18".
- Bottom right: "Anand Singh" written above a signature and date "02.11.19".

endogenous control, acupuncture analgesia, Placebo effects on analgesia, Trigeminal neuralgia, Temporal arteritis

© Occlusal splint therapy - construction and fitting of occlusal splints, management of occlusal splints, therapeutic effects of occlusal splints, occlusal splints and general muscles performance, TMJ joint uploading and anterior repositioning appliances, use and care of occlusal splints.

© Occlusal adjustment procedures - Reversible - occlusal stabilization splints and physical therapies, jaw exercises, jaw manipulation and other physiotherapy or irreversible therapy - occlusal repositioning appliances, orthodontic treatment, Orthognathic surgery, fixed and removable prosthodontic treatment and occlusal adjustment, removable prosthodontic treatment and occlusal adjustment, Indication for occlusal adjustment, special nature of orofacial pain, Indication for occlusal adjustment, special nature of orofacial pain, Psychopathological considerations, occlusal adjustment philosophies, mandibular position, excursive guidance,, occlusal contact scheme, goals of occlusal adjustment, significance of a slide in centric, Preclinical procedures, clinical procedures for occlusal adjustment.

**AESTHETIC**

Morpho psychology and esthetics, structural esthetic rules - facial components, dental components, gingival components physical components. Esthetics and its relationship to function - Crown morphology, physiology of occlusion, mastication, occlusal loading and clinical aspect in bio esthetic aspects, Physical and physiologic characteristic and muscular activities of facial muscle, perioral anatomy and muscle retaining exercises Smile - classification and smile components, smile design, esthetic restoration of smile, Esthetic management of the dentogingival unit, intraoral plastic for management of gingival contours, and ridge contours, Periodontal esthetics, Restorations - Tooth colored restorative materials, the clinical and laboratory aspects, marginal fit anatomy, inclinations, form, size, shape, color, embrasures, contact point.

Paper-III:

**Descriptive and analysing type question:**

Removable Prosthodontics and Implant supported prosthesis (Implantology) Geriatric dentistry and Cranio facial Prosthodontics, Fixed Prosthodontics, occlusion, TMJ and esthetics, Recent Advancement in Prosthodontics

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- B. K. / 29.12  
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- Anu Singh / 24/9/18

## 2. PERIODONTOLOGY

### Part-I

**Paper-I :** Applied Basic Sciences: Applied Anatomy, Physiology, and Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics.

### Part-II

#### Paper I:

**Normal Periodontal structure, Etiology and Pathogenesis of Periodontal diseases, epidemiology as related to Periodontics:**

#### **Etiopathogenesis**

1. Classification of periodontal diseases and conditions
2. Epidemiology of gingival and periodontal diseases
3. Defense mechanisms of gingiva
4. Periodontal microbiology
5. Basic concepts of inflammation and immunity
6. Microbial interactions with the host in periodontal diseases
7. Pathogenesis of plaque associated periodontal diseases
8. Dental calculus
9. Role of iatrogenic and other local factors
10. Genetic factors associated with periodontal diseases
11. Influence of systemic diseases and disorders of the periodontium
12. 12: Role of environmental factors in the etiology of periodontal disease
13. 13.Stress and periodontal diseases
14. 14.Occlusion and periodontal diseases
15. 15.Smoking and tobacco in the etiology of periodontal diseases
16. 16.AIDS and periodontium
17. 17.Periodontal medicine
18. 18.Dentinal hypersensitivity

#### Paper II:

**Periodontal diagnosis, disease, therapy, Oral implantology and Laser**

#### **1. GINGIVAL DISEASES**

2. Gingival inflammation
3. Clinical features of gingivitis
4. Gingival enlargement
5. Acute gingival infections

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- 6. Desquamative gingivitis and oral mucous membrane diseases
- 7. Gingival diseases in the childhood

**2. PERIODONTAL DISEASES**

- 1. Periodontal pocket
- 2. Bone loss and patterns of bone destruction
- 3. Periodontal response to external forces
- 4. Masticatory system disorders
- 5. Chronic periodontitis
- 6. Aggressive periodontitis
- 7. Necrotising ulcerative periodontitis
- 8. Interdisciplinary approaches
- 9. Orthodontic
- 10. Endodontic
- 11. Periodontic considerations

**TREATMENT OF PERIODONTAL DISEASES**

- A. History, examination, diagnosis, prognosis and treatment planning
  - 1. Clinical diagnosis
  - 2. Radiographic and other aids in the diagnosis of periodontal diseases
  - 3. Advanced diagnostic techniques
  - 4. Risk assessment
  - 5. Determination of prognosis
  - 6. Treatment plan
  - 7. Rationale for periodontal treatment
  - 8. General principles of anti-infective therapy with special emphasis on infection control in periodontal practice
  - 9. Halitosis and its treatment
  - 10. Bruxism and its treatment

**B. Periodontal instrumentation**

- 1. Instrumentation
- 2. Principles of periodontal instrumentation
- 3. Instruments used in different parts of the mouth

**C. Periodontal therapy**

- 1. Preparation of tooth surface
- 2. Plaque control
- 3. Anti microbial and other drugs used in periodontal therapy and wasting diseases of teeth
- 4. Periodontal management of HIV infected patients
- 5. Occlusal evaluation and therapy in the management of periodontal diseases
- 6. Role of orthodontics as an adjunct to periodontal therapy
- 7. Special emphasis on precautions and treatment for medically compromised patients
- 8. Periodontal splints
- 9. Management of dentinal hypersensitivity

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**D. Periodontal surgical phase - special emphasis on drug prescription**

1. General principles of periodontal surgery
2. Surgical anatomy of periodontium and related structures
3. Gingival curettage
4. Gingivectomy technique
5. Treatment of gingival enlargements
6. Periodontal flap
7. Osseous surgery (resective and regenerative;
8. Furcation; Problem and its management
9. The periodontic - endodontic continuum
10. Periodontic plastic and esthetic surgery
11. Recent advances in surgical techniques

**E. Future directions and controversial questions in periodontal therapy**

1. Future directions for infection control
2. Research directions in regenerative therapy
3. Future directions in anti-inflammatory therapy
4. Future directions in measurement of periodontal diseases

**F. Periodontal maintenance phase**

1. Supportive periodontal treatment
2. Results of periodontal treatment

**ORAL IMPLANTOLOGY**

1. Introduction and historical review
2. Biological, clinical and surgical aspects of dental implants
3. Diagnosis and treatment planning
4. Implant surgery
5. Prosthetic aspects of dental implants
6. Diagnosis and treatment of Peri implant complications
7. Special emphasis on plaque control measures implant patients
8. Maintenance phase

**Paper III:**

**Descriptive and analysing type question:**

Normal Periodontal structure, Etiology and Pathogenesis of Periodontal diseases, epidemiology as related to Periodontics, Periodontal diagnosis, disease, therapy, Oral implantology and Laser, Recent Advancement in Periodontics

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### 3. ORAL & MAXILLOFACIAL SURGERY

#### Part-I

**Paper-I :** Applied Basic Sciences: Applied Anatomy, Physiology, & Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics.

#### Part- II:

#### Paper-I:

#### Minor Oral Surgery and Trauma:

#### MINOR ORAL SURGERY

**Principles of Surgery:** Developing a surgical diagnosis, basic necessities! Surgery, Aseptic technique, Incisions, Flap Design Tissue handling, Haemostas dead space management, decontamination and debridment, Suturing, Oedema control, patient general health and nutrition.

**Medical Emergencies:** prevention and management of altered consciousness (syncope, orthostatic hypotension, seizures, diabetes mellitus, adrenal insufficiency hypersensitivity reactions, chest discomfort, and respiratory difficulty.

1. **Examination and Diagnosis:** clinical history, physical and radiographic, clinical and laboratory diagnosis, oral manifestations of systemic diseases, implications
2. systemic diseases in surgical patients.
3. **Haemorrhage and Shock :** applied physiology, clinical abnormalities coagulation, extra vascular hemorrhage, and hemorrhagic lesions, management
4. secondary hemorrhage, shock.
5. **Exodontia:** principles of extraction, indications and contraindications, types of extraction, complications and their management, principles of elevators and elevators used in oral surgery.
6. **Impaction:** surgical anatomy, classification, indications and contraindications, diagnosis, procedures, complications and their management.
7. **Surgical Aids to Eruption Of Teeth:** surgical exposure of unerupted teeth, surgical repositioning of partially erupted teeth.
8. **Transplantation of Teeth**
9. **Surgical Endodontics :** indications and contraindications, diagnosis, procedures of periradicular surgery
10. **Preprosthetic Surgery:** requirement types (alvoplasty, tuberosity reduction, mylohyoid ridge reduction, genial reduction, removable of exostosis vestibuloplasty)
11. **Procedures to Improve Alveolar soft Tissues:** hypermobile tissues- operative / sclerosing method, epulis fissuratum, frenectomy and frenotomy
12. **Infection of Head and Neck:** Odontogenic and non Odontogenic infections, factors affecting spread of infection, diagnosis ad differential diagnosis, management of facial space infections, Ludwig angina, cavernous sinus thrombosis.
13. **Chronic Infections of the Jaws :** Osteomyelitis (types, etiology, pathogenesis, management) osteoradionecrosis

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- 14. **Maxillary Sinus:** maxillary sinusitis - types, pathology, treatment, closure of Oro - antral fistula. Caldwell-luc operation
- 15. **Cysts of the Orofacial region:** classification, diagnosis, management of OKC, dentigerous, radicular non Odontogenic, ranula
- 16. **Neurological Disorders of the maxillofacial region:** diagnosis and management of trigeminal neuralgia, MPDS, bell's palsy, Frey's syndrome, nerve injuries.
- 17. **Implantology:** definition, classification, indications and contraindications, advantages and disadvantages, surgical procedure.
- 18. **Anesthesia**  
**Local Anesthesia:** classification of local anesthetic drugs, modes of action indications and contra indications, advantages and disadvantages, techniques, complications and their management.  
**General Anesthesia:** classification, stages of GA, mechanism of action, indications, and contra indications, advantages and disadvantages, post anesthetic complications and emergencies, anesthetic for dental procedures in children, pre medication, conscious sedation, legal aspects for GA
- 19. **Trauma**
- 20. **Surgical Anatomy of head and Neck**
- 21. **Etiology of Injury**
- 22. **Basic Principles of Treatment**  
**Primary Care:** resuscitation, establishment of airway, management of hemorrhage, management of head injuries and admission to hospital.  
**Diagnosis:** clinical, radiological  
**Soft Tissue Injury of Face and Scalp:** classification and management of soft tissue wounds, injuries to structure requiring special treatment.
- 23. **Dento Alveolar Fractures:** examination and diagnosis, classification, treatment, prevention.
- 24. **Mandibular Fractures:** classification, examination and diagnosis, general principles of treatment, complications and their management
- 25. **Fracture of Zygomatic Complex:** classification, examination and diagnosis, general
- 26. principles of treatment, complications and their management.
- 27. **Orbital Fractures:** blow out fractures
- 28. **Nasal Fractures**
- 29. **Fractures of Middle third of the Facial Skeleton:** emergency care, fractured maxilla, and treatment of le fort I, II, III, fractures of Naso orbito ethmoidal region, .
- 30. **Ophthalmic Injuries:** minor injuries, non-perforating injuries, perforating injuries, retinobulbar hemorrhage, and traumatic optic neuropathy.
- 31. **Traumatic Injuries to Frontal sinus:** diagnosis, classification, treatment
- 32. **Maxillofacial injuries in Geriatric and pediatric Patients**
- 33. **Gun shot wounds and War Injuries**
- 34. **Osseointegration in Maxillofacial Reconstruction**
- 35. **Metabolic response to Trauma:** neuro endocrine responses, inflammatory mediators clinical implications
- 36. **Healing of Traumatic Injuries:** soft tissues, bone, cartilage, response of peripheral nerve to injury
- 37. **Nutritional Consideration following Trauma**
- 38. **Tracheostomy:** indications and contraindications, procedure, complications and their management.

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Paper-II:

Maxillo-facial Surgery:

Salivary gland

- Sialography
- Salivary fistula and management
- Diseases of salivary gland - developmental disturbances, cysts, inflam and sialolithiasis
- Mucocele and Ranula
- Tumors of salivary gland and their management
- Staging of salivary gland tumors
- Parotidectomy

Temporomandibular Joint

- Etiology, history signs, symptoms, examination and diagnosis of temporomandibular joint disorders
- Ankylosis and management of the same with different treatment modalities
- MPDS and management
- Condylectomy - different procedures
- various approaches to TMJ
- Recurrent dislocations - Etiology and Management

Oncology

- Biopsy
- Management of pre-malignant tumors of head and neck region
- Benign and Malignant tumors of Head and Neck region
- Staging of oral cancer and tumor markers
  - Management of oral cancer
- Radial Neck dissection
- Modes of spread of tumors
- Diagnosis and management of tumors of nasal, paranasal, neck, tongue, cheek, maxilla and mandible
- Radiation therapy in maxillofacial regions.
- Lateral neck swellings

Orthognathic surgery

- Diagnosis and treatment planning
- Cephalometric analysis
- Model surgery
- Maxillary and mandibular repositioning procedures
- Segmental osteotomies
- Management of apertognathia
- Genioplasty
- Distraction osteogenesis

Cysts and tumor of oro facial region

- Odontogenic and non-Odontogenic tumors and their management
- Giant lesions of jawbone
- Fibro osseous lesions of jawbone
- Cysts of jaw

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**Laser surgery**

- © The application of laser technology in surgical treatment of lesions Cryosurgery
- © Principles, applications of cryosurgery in surgical management of Cleft lip and palate surgery
- © Detailed knowledge of the development of the face, head and neck
- © Diagnosis and treatment planning
- © Current concepts in the management of cleft lip and palate deformity
- © Knowledge of Naso endoscopy and other diagnostic techniques in the evaluation of speech and hearing
- © Concept of multidisciplinary team management

**Aesthetic facial surgery**

- © Detailed knowledge of the structures of the face and neck including skin and underlying soft tissue
- © Diagnosis and treatment planning of deformities and conditions affecting facial skin
- © Underlying facial muscles, bone. Eyelids external ear
- © Surgical management of post acne scarring, facelift, blepharoplasty, otoplasty, facial bone recontouring, etc

**Craniofacial surgery**

- © Basic knowledge of developmental anomalies of the face, head and neck
- © Basic concepts in the diagnosis and planning of various head and neck anomalies including facial clefts, craniosynostosis, syndromes, etc.
- © Current concept in the management of Craniofacial anomalies

**Paper-III:**

**Descriptive and analysing type question:**

Minor Oral Surgery and Trauma, Maxillo-facial Surgery, Recent Advancement in Maxillo-facial Surgery

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## 4. CONSERVATIVE DENTISTRY AND ENDODONTICS

### Part-I

**Paper-I:** Applied Basic Sciences: Applied Anatomy, Physiology, Pathology including Oral Microbiology, Pharmacology, Biostatistics and Research Methodology and Applied Dental Materials.

### Part-II

#### Paper-I:

#### Conservative Dentistry:

1. Examination, diagnosis and treatment plan
2. Occlusion as related to conservative dentistry, contact, contour, its significance. Separation of teeth, matrices, used in conservative dentistry.
3. Dental caries- epidemiology, recent concept of etiological factors, pathophysiology, Histopathology, diagnosis, caries activity tests, prevention of dental caries and management - recent methods.
4. Hand and rotary cutting instruments, development of rotary equipment, speed ranges hazards.
5. Dental burs and other modalities of tooth preparation- recent developments (air abrasions, lasers etc)
6. Infection control procedures in conservative dentistry, isolation equipments etc.
7. Direct concepts in tooth preparation for amalgam, composite, GIC and restorative techniques, failures and management.
8. Direct and indirect composite restorations.
9. Indirect tooth colored restorations- ceramic, inlays and onlays, veneers, crowns, recent advances in fabrication and materials.

#### a. Tissue management

1. Impression procedures used for direct restorations.
2. Cast metal restorations, indications, contraindications, tooth preparation for class I inlay, Onlay full crown restorations.
3. Restorative techniques, direct and indirect methods of fabrication including materi used for fabrication like inlay wax, investment materials and
4. Direct gold restorations.
5. Recent advances in restorative materials and procedures.
6. Management of non-cariou lesion.
7. Advance knowledge of minimal intervention dentistry.
8. Recent advances in restoration of endodontically treated teeth and grossly mutilated teeth
9. Hypersensitivity, theories, causes and management.
10. Lasers in Conservative Dentistry
11. CAD-CAM & CAD-CIM in restorative dentistry
12. Dental imaging and its applications in restorative dentistry (clinical photography)
13. Principles of esthetics
  - Facial analysis
  - Smile design
  - Principles of esthetic integration
  - Treatment planning in esthetic dentistry

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Paper-II:

**Endodontics:**

1. Rationale of endodontics.
2. Knowledge of internal anatomy of permanent teeth, anatomy of root apex and its implications in endodontic treatment.
3. Dentin and pulp complex.
4. Pulp and periapical pathology
5. Pathobiology of periapex.
6. 6. Diagnostic procedure - recent advances and various aids used for diagnosis-  
a. Orofacial dental pain emergencies: endodontic diagnosis and management
7. Case selection and treatment planning
8. Infection control procedures used in endodontics (aseptic techniques such as rubber dam, sterilization of instruments etc.)
9. Access cavity preparation - objectives and principles
10. Endodontic instruments and instrumentation - recent developments, detailed description of hand, rotary, sonic, ultra sonic etc..
11. Working length determination / cleaning and shaping of root canal system and recent development in techniques of canal preparation.
12. Root canal irrigants and intra canal medicaments used including non - surgical endodontics by calcium hydroxide.
13. Endodontic microbiology.
14. Obturating materials, various obturation techniques and recent advances in obturation of root canal.
15. Traumatic injuries and management - endodontic treatment for young permanent teeth. Pediatric endodontics - treatment of immature apex.
16. Endodontic surgeries, recent developments in technique and devices, endosseous endodontic implants - biology of bone and wound healing.
17. Endoperio interrelationship, endo + Perio lesion and management
18. Drugs and chemicals used in endodontics
19. Endo emergencies and management.
20. Restoration of endodontically treated teeth, recent advances.
21. Geriatric endodontics
22. Endo emergencies and management.
23. Biologic response of pulp to various restorative materials and operative procedures.
24. Lasers in endodontics.
25. Multidisciplinary approach to endodontic situations.
26. Endodontic radiology- digital technology in endodontic practice.
27. Local anesthesia in endodontics.
28. Procedural errors in endodontics and their management.
29. Endodontic failures and retreatment.
30. Resorptions and its management.
31. Microscopes in endodontics.
32. Single visit endodontics, current concepts and controversies.

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Paper-III:

**Descriptive and analysing type question:**

Conservative Dentistry, Endodontics, Recent Advancement in Conservative & Endodontics

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## 5. ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS

### Part-I

**Paper-I** :Applied Basic Sciences: Applied anatomy, Physiology, Dental Materials, Genetics, Pathology, Physical Anthropology, Applied Research methodology, Bio-Statistics and Applied Pharmacology.

### Part-II

#### Paper-I:

Orthodontic history, Concepts of occlusion and esthetics, Child and Adult Psychology, Etiology and classification of malocclusion, Dentofacial Anomalies, Diagnostic procedures and treatment planning in Orthodontics, Practice management in Orthodontic

#### ORTHODONTIC HISTORY:

- a. Historical perspective,
- b. Evolution of orthodontic appliances,
- c. Pencil sketch history of Orthodontic peers
- d. History of Orthodontics in India

#### CHILD AND ADULT PSYCHOLOGY

#### CONCEPTS OF OCCLUSION AND ESTHETICS:

- a. Structure and function of all anatomic components of occlusion,
- b. Mechanics of articulation,
- c. Recording of masticatory function,
- d. Diagnosis of Occlusal dysfunction,
- e. Relationship of TMJ anatomy and pathology and related neuromuscular physiology.

#### ETIOLOGY AND CLASSIFICATION OF MALOCCLUSION:

- a. A comprehensive review of the local and systemic factors in the causation of malocclusion
- b. Various classifications of malocclusion

#### DENTOFACIAL ANOMALIES:

- a. Anatomical, physiological and pathological characteristics of major groups of developmental defects of the orofacial structures.

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DIAGNOSTIC PROCEDURES AND TREATMENT PLANNING IN ORTHODONTICS

- a. Emphasis on the process of data gathering, synthesis and translating it into a treatment plan
- b. Problem cases – analysis of cases and its management
- c. Adult cases, handicapped and mentally retarded cases and their special problems
- d. Critique of treated cases.

CEPHALOMETRICS

- a. Instrumentation
- b. Image processing
- c. Tracing and analysis of errors and applications
- d. Radiation hygiene
- e. Advanced Cephalometrics techniques
- f. Comprehensive review of literature
- g. Video imaging principles and application.

PRACTICE MANAGEMENT IN ORTHODONTICS:

- a. Economics and dynamics of solo and group practices
- b. Personal management
- c. Materials management
- d. Public relations
- e. Professional relationship
- f. Dental ethics and jurisprudence
- g. Office sterilization procedures
- h. Community based Orthodontics.

Paper II:

**Clinical Orthodontics**

**Myofunctional Orthodontics:**

- a. Basic principles
- b. Contemporary appliances – their design and manipulation
- c. Case selection and evaluation of the treatment results
- d. Review of the current literature.

**Dentofacial Orthopedics**

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- a. Principles
- b. Biomechanics
- c. Appliance design and manipulation
- d. Review of contemporary literature

**Cleft lip and palate rehabilitation:**

- a. Diagnosis and treatment planning
- b. Mechanotherapy
- c. Special growth problems of cleft cases
- d. Speech physiology, pathology and elements of therapy as applied to orthodontics
- e. Team rehabilitative procedures.

**Biology of tooth movement:**

- a. Principles of tooth movement-review
- b. Review of contemporary literature
- c. Applied histophysiology of bone, periodontal ligament
- d. Molecular and ultra cellular consideration in tooth movement

**Orthodontic / Orthognathic surgery:**

- a. Orthodontist's role in conjoint diagnosis and treatment planning
- b. Pre and post-surgical Orthodontics
- c. Participation in actual clinical cases, progress evaluation and post retention study
- d. Review of current literature

**Ortho / Perio / Prosthо inter relationship**

- a. Principles of interdisciplinary patient treatment
- b. Common problems and their management

**Basic principles of Mechanotherapy** Includes Removable appliances and fixed appliances

- a. Design
- b. Construction
- c. Fabrication
- d. Management
- e. Review of current literature on treatment methods and results

**Applied preventive aspects in Orthodontics**

- a. Caries and periodontal disease prevention

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- b. Oral hygiene measures
- c. Clinical procedures

**Interceptive Orthodontics**

- a. Principles
- b. Growth guidance
- c. Diagnosis and treatment planning
- d. Therapy emphasis on:
  - i. Dento-facial problems
  - ii. Tooth material discrepancies
  - iii. Minor surgery for Orthodontics

**Retention and relapse**

- a. Mechanotherapy – special reference to stability of results with various procedures
- b. Post retention analysis
- c. Review of contemporary literature

**Recent advances like:**

- a. Use of implants
- b. Lasers
- c. Application of F.E.M.
- d. Distraction Osteogenesis

**Paper III:**

**Descriptive and analysing type question**

Orthodontic history, Concepts of occlusion and esthetics, Child and Adult Psychology, Etiology and classification of malocclusion, Dentofacial Anomalies, Diagnostic procedures and treatment planning in Orthodontics, Practice management in Orthodontic, Clinical Orthodontics, Recent advancement in Orthodontics

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# 6. ORAL AND MAXILLOFACIAL PATHOLOGY AND ORAL MICROBIOLOGY:

## Part-I

**Paper-I** :Applied Basic Sciences: Applied anatomy, Physiology (General and oral), Cell Biology, General Histology, Biochemistry, General Pathology, General and Systemic Microbiology, Virology, Mycology, Basic Immunology, Oral Biology (oral and dental histology), Biostatistics and Research Methodology

## Part-II:

### Paper-I:

Oral pathology, Oral Microbiology and Immunology and Forensic Odontology

- Developmental defects of oral and maxillofacial region and abnormalities of teeth
- Dental caries (Introduction, Epidemiology, microbiology, cariogenic bacterial including properties, acid production in plaque, development of lesion, response of dentine - pulp unit, histopathology, root caries, sequelae and immunology).
- Pulpal and Periapical diseases
- Infections of oral and Para oral regions (bacterial, viral and fungal infection)
- Non - neoplastic disorders of salivary glands
- Bone pathology
- Hematological disorders
- Physical and chemical injuries, allergic and Immunological diseases.
- Cysts of odontogenic origin
- Dermatologic diseases.
- Periodontal diseases
- Oral manifestations of systemic diseases
- Facial pain and neuromuscular disorders including TMJ disorders
- Regressive alterations of teeth
- Oral Microbiology and immunology**
- Normal Oral microbial flora
- Defense mechanism of the oral cavity
- Microbiology and immunology of Dental caries and Periodontal diseases
- Dental caries (Introduction, epidemiology, microbiology, cariogenic bacteria including properties, acid production in plaque, development of lesion, response of dentin-pulp unit, histopathology, root caries, sequelae and immunology)
- Tumor immunology
- Infections of Pulp and Periapical and periodontal tissues
- Oral sepsis and Bacterimia
- Microbial genetics
- Infections of oral and Para oral regions (bacterial, viral and fungal infections)

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**Forensic Odontology:**

Legal procedures like inquest, medico-legal evidences post mortem examination of violence around mouth and neck, identification of deceased individual-dental importance.

Bite marks rugae patterns and lip prints.

**Recent advances in Oral Pathology.**

**Paper-II:**

**Laboratory techniques and Diagnosis and Oral Oncology**

**Clinical Pathology:**

- ⊙ Laboratory investigations - Hematology, Microbiology and Urine analysis
- ⊙ Postings to Clinical Pathology for relevant training
- ⊙ Record book to be maintained.

**Specialized histotechniques and special stains:**

Special staining techniques for different tissues.

Immunohistochemistry

Preparation of frozen sections and cytological smears

**Laboratory techniques and Diagnosis**

- ⊙ Routine hematological tests and clinical significance of the same
- ⊙ Microtome and principles of microtomy
- ⊙ Routine stains, principles and theories of staining techniques
- ⊙ Microscope, principles and theories of microscopy
- ⊙ Light microscopy and various other types including electron microscopy
- ⊙ Methods of tissue preparation for ground sections, decalcified sections.
- ⊙ Special stains and staining techniques for different tissues
- ⊙ Immunohistochemistry
- ⊙ Preparation of frozen sections and cytological smears

**Oral oncology**

Detailed study including Pathogenesis, molecular and biochemical changes of tumor like lesions and

Premalignant lesions affecting the hard and soft tissues of oral and paraoral tissues

Tumour markers

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Paper-III:

**Descriptive and analysing type question**

Oral pathology, Oral Microbiology and Immunology and Forensic Odontology, Laboratory techniques and Diagnosis and Oral Oncology, Recent advancement in Oral Pathology Microbiology & Forensic Odontology.

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### 7. PUBLIC HEALTH DENTISTRY

#### Part-I

**Paper-I:** Applied Basic Sciences: Applied Anatomy and Histology, Applied Physiology and Biochemistry, Applied Pathology, Microbiology, Oral Pathology, Physical and Social Anthropology, Applied Pharmacology and Research Methodology and Biostatistics.

#### Part-II:

##### Paper-I:

##### Public Health

1. Public Health
2. Health
3. Disease
4. General Epidemiology
5. Environmental Health:
6. Public Health Education:
7. Public Health Practice and Administration System In India
8. Ethics And Jurisprudence
9. Nutrition In Public Health:
10. Behavioral Sciences
11. Hospital Administration:
12. Health Care Delivery System:
13. Oral Biology And Genetics:

##### Paper-II:

##### Dental Public Health

1. Epidemiology of Oral Diseases and Conditions
2. Oral Survey Procedures:
3. Delivery of Dental Care
4. Payment for Dental care
5. Evaluation of Quality of Dental care
6. Preventive Dentistry
7. Practice Management

##### Paper-III:

##### Descriptive and analysing type question

Public Health, Dental Public Health, Recent advancement in Public Health

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### 8. PEDIATRIC DENTISTRY

#### Part-I

**Paper I:** Applied Basic Sciences : Applied Anatomy, Physiology, and Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics Growth and Development and Dental plaque, Genetics.

#### Part-II:

#### Paper-I:

##### Clinical Pedodontics

1. Conscious sedation, Deep Sedation & General Anesthesia in Pediatric Dentistry
2. Gingival & Periodontal Diseases in Children
3. Pediatric Operative Dentistry
4. Pediatric Endodontics
5. Traumatic Injuries in Children Interceptive Orthodontics
6. Oral Habits in children
7. Dental Care of Children with special needs
8. Oral Manifestations of Systemic Conditions in Children & their Management
9. Management of Minor Oral Surgical Procedures in Children
10. Dental Radiology as Related to Pediatric Dentistry
11. Pediatric Oral Medicine & Clinical Pathology
12. Congenital Abnormalities in Children
13. Dental Emergencies in Children & Their Management
14. Dental Materials Used in Pediatric Dentistry
15. Case History Recording
16. Setting up of Pedodontic & Preventive Dentistry Clinic

#### Paper-II:

##### Preventive and Community Dentistry as applied to pediatric dentistry

1. Child Psychology
2. Behavior Management
3. Child Abuse & Dental Neglect
4. Preventive Pedodontics
5. Cariology
6. Preventive Dentistry
7. Dental Health Education 8s School Dental Health Programmes
8. Fluorides
9. Epidemiology
10. Comprehensive Infant Oral Health Care/Comprehensive cleft care
11. Principles of Bio-Statistics 8s Research Methodology 8s Understanding of Computers and Photography

#### Paper-III:

##### Descriptive and analysing type question

Clinical Pedodontics, Preventive and Community Dentistry as applied to pediatric dentistry, Recent advancement in Pedodontics.

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## 9. ORAL MEDICINE AND RADIOLOGY

### Part-I

**Paper I :** Applied Basic Sciences: Applied Anatomy, Physiology, and Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics

### Part-II:

#### Paper-I :

#### Oral and Maxillofacial Radiology

#### Study includes Seminars / lectures / Demonstrations

1. History of radiology, structure of x - ray tube, production of x - ray, property of x rays
2. Biological effects of radiation
3. Filtration of collimation, grids and units of radiation
4. Films and recording media
5. Processing of image in radiology
6. Design of x -ray department, dark room and use of automatic processing units
7. Localization by radiographic techniques
8. Faults of dental radiographs and concept of ideal radiograph
9. Quality assurance and audit in dental radiology
10. Extra - oral-imaging techniques
11. OPG and other radiologic techniques
12. Advanced imaging technique like CT Scan, MRI, Ultras one & thermo graphic
13. Radio nucleotide techniques
14. Contrast radiography in salivary gland, TMJ, and other radiolucent pathologies
15. Radiation protection and ICRP guidelines
16. Art of radiographic report, writing and descriptors preferred in reports
17. Radiograph differential diagnosis of radiolucent, radio opaque and mixed lesions
18. Digital radiology and its various types of advantages

#### Paper-II :

#### Oral Medicine, therapeutics and laboratory investigations

1. Study includes seminars / lectures / discussion
2. Methods of clinical diagnosis of oral and systemic diseases as applicable to oral tissue including modern diagnostic techniques
3. Laboratory investigations including special investigations of oral and bro - facial diseases
4. Teeth in local and systemic diseases, congenital, and hereditary disorders
5. Oral manifestations of systemic diseases
6. Oro - facial pain
7. Psychosomatic aspects of oral diseases
8. Management of medically compromised patients including medical emergencies in the dental chair
9. Congenital and Hereditary disorders involving tissues of oro facial region


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10. Systemic diseases due to oral foci of infection
11. Hematological, Dermatological, Metabolic, Nutritional, & Endocrinal conditions with oral manifestations
12. Neuromuscular diseases affecting oro -facial region
13. Salivary gland disorders
14. Tongue in oral and systemic diseases
15. TMJ dysfunction and diseases
16. Concept of immunity as related to oro - facial lesions, including AIDS
17. Cysts, Neoplasms, Odontomes, and fibro - osseous lesions
18. Oral changes in Osteo - dystrophies and chondro - dystrophies
19. Pre malignant and malignant lesions of oro facial region
20. Allergy and other miscellaneous conditions
21. Therapeutics in oral medicine -clinical pharmacology
22. Forensic odontology
23. Computers in oral diagnosis and imaging
24. Evidence based oral care in treatment planning
25. Molecular Biology

**Paper-III :**

**Descriptive and analysing type question**

Oral and Maxillofacial Radiology, Oral Medicine, therapeutics and laboratory investigations, Recent advancement in Oral Medicine and Radiology


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### 7. ETHICS IN DENTISTRY

There is a definite shift from the traditional patient and doctor relationship and delivery of dental care. With the advances in science and technology and the increasing needs of the patient, their families and community, there is a concern for the health of the community as a whole. There is a shift to greater accountability to the society. Dental specialists like the other health professionals are confronted with many ethical problems. It is therefore absolutely necessary for each and every one in the health care delivery to prepare themselves to deal with these problems. To accomplish this and develop human values, it is desired that all the trainees undergo ethical sensitization by lectures or discussion on ethical issues, discussion of cases with an important ethical component.

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# 8. INFRASTRUCTURE AND FUNCTIONAL REQUIREMENTS:

(1) **Space:** In addition to the undergraduate functional, facilities, the following physical facilities shall be made available to start a post-graduate training programme, namely:—

(a) a minimum of 125 sq ft. area for each dental chair in the clinic. The area of the clinic shall be in accordance with the number of dental chairs required to be placed in the department;

(b) each department shall be equipped with a seminar hall, library, sterilization room, (800 to 1000 sq. ft.)

(2) **Equipment:** Each department shall have adequate number of standard equipments available in the market as approved by the ISI.

The details of equipments specialities / unit wise is annexed as Schedule -VII to these regulations.

### (3) Library:

(a) There shall be a central library which shall provide the latest editions of books pertaining to the speciality and allied subjects. In additions to this, the departmental library shall be equipped with the latest books in the subjects concerned. In case, the central library is shared with the medical college, there shall be provision for additional space and separate budget for the dental college.

(b) In addition to books and journals in the library, internet, CDs, audio-visual facilities should be available.

(c) Minimum 15-20 titles of renowned authors, 4-6 international journals of the concerned speciality, alongwith 8-10 volumes of back issues of atleast 3 international journals of the concerned speciality should be available.

(d) All the journals of the speciality and allied subjects shall be available out of which 50% should be in print form.

**Note:** All the existing dental institutions shall comply with these requirements except the land requirement of five acres within a period of three years from the date of publication of these regulations in the Official Gazette.

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## EQUIPMENTS

## DEPARTMENT: PROSTHODONTICS AND CROWN &amp; BRIDGE

S. No.	NAME	SPECIFICATION	Quantity		Availability
1.	Electrical Dental Chairs and Units	With shadowless lamp, spittoon, 3 way syringe, instrument tray and motorized suction, micromotor and airtor attachment with handpieces	One chair and unit per PG student and two chairs with unit for the faculty		
			1 Unit	2 Units	
2.	Articulators - semi adjustable/ adjustable with face bow		6	12	
3.	Micromotor - (Lab Type can also be attached (fixed) to wall		2	4	
4.	Ultrasonic scaler		2	2	
5.	Light cures		2	2	
6.	Hot air oven		1	1	
7.	Autoclave		2	2	
8.	Surveyor		2	2	
9.	Refrigerator		1	1	
10.	X-ray viewer		1	2	
11.	Pneumatic, Crown bridge remover		2	3	
12.	Needle destroyer		1	2	
13.	Intra oral camera		1	1	
14.	Digital SLR camera		1	1	
15.	Computer with internet connection with attached printer and scanner		1	1	
16.	LCD projector		1	1	
<b>Clinical Lab for Prosthetics</b>					
1.	Plaster dispenser		2	2	
2.	Model trimmer with carborandum Disc		1	2	
3.	Model trimmer with diamond disc		1	2	
4.	High speed lathe		2	3	
5.	Vibrator		2	4	
6.	Acrylizer		1	2	
7.	Dewaxing unit		1	2	
8.	Hydraulic press		1	1	
9.	Mechanical press		1	1	
10.	Vacuum mixing machine		1	1	
11.	Micro motor lab type		2	3	

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12.	Curing pressure pot		1	1	
13.	Pressure molding machine		1	1	
<b>Chrome - Cobalt Lab Equipment</b>					
1.	Duplicator		1	1	
2.	Pindex system		1	1	
3.	Burn-out furnace		1	1	
4.	Welder		1	1	
5.	Sandblaster	Micro and macro	1	1	
6.	Electro - polisher		1	1	
7.	Model trimmer with carborandum disc		1	1	
8.	Model trimmer with diamond disc		1	1	
9.	Model trimmer with double disc (one Carborandum and one diamond disc)		1	1	
10.	Casting machine, motor cast with the safety door closure, gas blow torch with regulator		1	1	
11.	Dewaxing furnace Induction casting machine with vacuum pump, capable of casting titanium chrome cobalt precision metal		1	1	
12.	Spot welder with soldering, attachment of cable		1	1	
13.	Steam cleaner		1	1	
14.	Vacuum mixing machine		1	1	
15.	Spindle grinder 24,000 ROM with vacuum suction		1	1	
16.	Wax heater		2	3	
17.	Wax carvers (Full PKT Set)		2	3	
18.	Milling machine		1	1	
19.	Stereo microscope		1	1	
20.	Magnifying work lamp		1	1	
21.	Heavy duty lathe with suction		1	1	
22.	Preheating furnace		1	1	
23.	Dry model trimmer		1	1	
24.	Die cutting machine		1	2	
25.	Ultrasonic cleaner		1	1	
26.	Composite curing unit		1	1	
<b>Ceramic Lab Equipment</b>					
1.	Fully programmable porcelain furnace with vacuum pump		1	1	
2.	Ceramic kit (instruments)		3	3	
3.	Ceramic materials (kit)		1	1	
4.	Ceramic polishing kit		2	2	
<b>Implant Equipment</b>					
1.	Electrical dental chair and unit		1	1	

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2.	Physio dispenser		1	1
3.	Implant kit	Minimum systems	2	2
4.	Implants		10	10
5.	Prosthetic components		10	10
6.	Unit mount light cure		1	2
7.	X-ray viewer		1	2
8.	Needle destroyer		1	2
9.	Ultrasonic cleaner capacity 3.5 lts		1	1
10.	Autoclave programmable for all recommended cycles		1	2
11.	X-ray machine with RVG		1	1
12.	Refrigerator		1	1
13.	Surgical kit/prosthetic kit		2	2
14.	Educating models		1	1
15.	Implant removing instruments		1	1

## DEPARTMENT: PERIODONTOLOGY

S. No.	NAME	SPECIFICATION	Quantity		Availability
1.	Dental Chairs and Units	Electrically operated with shadowless lamp, spittoon, 3 way syringe, instrument tray and motorized suction, micromotor attachment with contra angle handpiece, airoter attachment, ultrasonic scaler (Piezo) with detachable autoclavable hand piece	One chair and unit per post-graduate student and Two chairs with unit for the faculty		
			1 Unit	2 Units	
2.	Auto clave (fully automatic) front loading		1	2	
3.	Steel bin		4	6	
4.	Airoter hand pieces		2	2	
5.	UV chamber		1	1	
6.	Formalin chamber		1	1	
7.	W.H.O probe		2	2	
8.	Nabers probe		2	2	

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9.	Williams probe		2	2	
10.	UNC-15 probe		4	4	
11.	Gold Man fox probe		1	1	
12.	Pressure sensitive probe		1	1	
13.	Marquis color coded probe		1	1	
14.	Supra gingival scalers	set	2	2	
15.	Sub gingival scaler	set	2	2	
16.	Arkansas sharpening stone		1	1	
<b>Surgical Instruments</b>					
1.	Routine surgical instrument kit (Benquis periosteal elevator, periosteal)	set	2	3	
2.	Surgery trolleys		6	6	
3.	X ray viewer		1	2	
4.	Surgical cassette with sterilisation pouches				
5.	Electro surgery unit				
<b>Special Surgical Instruments</b>					
1.	Kirkland's knife	set	1	1	
2.	Orban's knife	set	1	1	
3.	Paquette blade handle		1	1	
4.	Krane kaplan pocket marker	set	1	1	
5.	Mc Calls universal curettes	set	1	1	
6.	Gracey's curettes (No.1-18)	set	2	2	
7.	Mini five curettes	set	1	1	
8.	Cumine scalar		1	1	
9.	Mallet		1	1	
10.	Chisel		1	1	
11.	Oschenbein chisel	straight, curved	1	1	
12.	Schluger bone file		1	1	
13.	Bone fixation screw kit		1	1	
14.	Bone scraper		1	1	
15.	Bone trephines for harvesting autografts	1 set	1	1	
16.	Bone regenerative materials	Bone graft and GTR membranes	5	5	
17.	Local drug delivery systems	At least two different agents	1 each	1	
18.	Root conditioning agent	At least two different agents	2	2	
19.	Micro needle holder		1	1	
20.	Micro scissors		1	1	
21.	Magnifying loop (2.5 - 3.5)		1	2	
22.	Operating microscope	optional	1	1	
23.	3rd generation digital probe	optional	1	1	

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24.	Bone expander and bone crester	optional	1	1	
25.	Distraction osteogenesis kit	optional	1	1	
26.	Bone mill	optional	1	1	
27.	Bone graft / membrane placement spoon		1	1	
28.	Bone condenser		1	1	
29.	Peizo-surgery unit	optional	1	1	
30.	Centrifuge for PRP/PRF preparation	optional	1	1	
31.	Soft tissue laser (8 watt)		1	1	
32.	Osteotome	set optional	1	1	
<b>MISCELLANEOUS INSTRUMENTS</b>					
1.	Composite gun with material kit		1	1	
2.	Splinting kit with material		2	3	
3.	Composite finishing kit		1	1	
4.	Glass Ionomer cement		1	1	
5.	Digital camera		1	1	
6.	Intra Oral camera		1	1	
7.	Ultrasonic cleaner		1	1	
8.	Emergency kit		1	1	
9.	Refrigerator		1	1	
10.	X-ray viewer		2	2	
11.	LCD projector		1	1	
12.	Computer with internet connection with attached printer and scanner		1	1	
13.	Implant Equipment				
14.	Electrical dental chair and unit		1	1	
	Physio dispenser		1	1	
15.	Implant kit	At least two different systems	2	2	
16.	Implants		10	10	
17.	Implant maintenance kit (plastic instruments)		1 set	1 set	
18.	Implant guide		1	1	
19.	X-ray viewer		1	2	
20.	Needle destroyer		1	2	
21.	Ultrasonic cleaner capacity 3.5 lts		1	1	
22.	Autoclave programmable for all recommended cycles		1	1	
23.	RVG with x-ray machine		1	1	

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24.	Refrigerator		1	1	
25.	Surgical kit		2	2	
26.	Sinus lift kit		1	1	
27.	Educating models		1	1	
28.	Implant removing kit		1	1	

DEPARTMENT: ORAL & MAXILLOFACIAL SURGERY

S. No.	NAME	SPECIFICATION	Quantity		Availability
1.	Dental Chairs and Units	Electrically operated with shadowless lamp, spittoon, 3 way syringe, instrument tray and high otorized suction, with micromotor and micro motor attachment	One chair and unit per post-graduate student and Two chairs with unit for the faculty		
			1 Unit	2 Units	
2.	Autoclave	Front loading	2	3	
3.	Fumigators	With all hand pieces pieces	1	1	
4.	Oscillating saw		1	1	
5.	Surgical instruments General surgery kit including tracheotomy kit Minor oral surgery kit Osteotomy kit		2 5 1	2 10 1	
	Cleft surgery kit Bone grafting kit Emergency kit Trauma set including bone plating kit Implantology kit with implants	Minimum systems	2 1 1 2 1 2 10	1 1 1 2 1 2 10	
6.	Distraction osteogenesis kit		1	1	
7.	Peizo surgical unit		1	1	
8.	Magnifying loops		1	1	
9.	Operating microscope and Microsurgery kit	desirable	1	1	
10.	Dermatomes		1	1	
11.	Needle destroyer		2	3	
12.	Ultrasonic Cleaner capacity 3.5 lts		1	1	

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13.	Formalin chamber		1	1	
14.	Pulse oxymeter		1	1	
15.	Ventilator		1	1	
16.	Major operation theatre with all facilities		1	1	
17.	Recovery and Intensive Care Unit with all necessary life support equipments		2 beds	2 beds	
18.	Fibrooptic light		1	1	
19.	Inpatient beds		20	20	
20.	Fiber optic laryngoscope		1	1	
21.	Computer with internet connection with attached printer and scanner		1	1	
22.	LCD projector		1	1	
23.	Refrigerator		1	1	

**DEPARTMENT : CONSERVATIVE DENTISTRY AND ENDODONTICS**

S. No.	NAME	SPECIFICATION	Quantity		Availability
1.	Dental Chairs and Units	Electrically operated with shadowless lamp, spittoon, 3 way syringe, instrument tray and motorized	One chair & unit per post-graduate student and two chairs with unit for the faculty		
		Suction micromotor, airtor attachment with hand pieces			
			1 Unit	2 Units	
2.	ENDOSONIC HANDPIECES - Micro endosonic Tips, retro treatment		2	3	
3.	Mechanised rotary instruments including hand pieces (speed and torque control) and hand instruments various systems		3	6	
4.	Rubber dam kit		1 per chair	1 per chair	
5.	Autoclaves for bulk instrument sterilization vacuum (Front loading)		2	3	
6.	Autoclaves for hand piece		1	1	

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7.	Apex locators one for every two chairs		2	4
8.	Pulp tester		2	4
9.	Equipments for injectable thermoplasticized gutta percha		1	2
10.	Operating microscopes 3 step or 5 step magnification		1	1
11.	Surgical endo kits (Microsurgery)		2	2
12.	Set of hand instruments (specifications required)		1	2
13.	Sterilizer trays for autoclave		4	4
14.	Ultrasonic cleaner capacity 3.5 lts		1	1
15.	Variable Intensity polymerization equipments - VLC units	Desirable	1	1
16.	Conventional VLC units one for every two chairs		2	4
17.	Needle destroyer		2	2
18.	Magnifying loupes one for students and one for faculty		1	2
19.	LCD projector		1	1
20.	Composite kits with different shades and polishing kits		2	4
21.	Ceramic finishing kits, metal finishing kits	In ceramic labs	2	3
22.	Amalgam finishing kits		2	3
23.	RVG with x-ray machine developing kit		1	1
24.	Chair side micro abrasion		1	1
25.	Bleaching unit		1	1
26.	Instrument retrieval kits		1	1
27.	Computer with internet connection with attached printer and scanner		1	1
28.	Refrigerator		1	1
29.	Equipments for casting procedures			
30.	Equipments for ceramics including induction casting machines/ burnout preheat furnaces/ wax elimination furnaces		1	1

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31.	Lab micro motor/ metal grinders / sand blasters/ polishing lathes/ duplicator equipment/ vacuum investment equipments		1	1	
32.	Laser (preferably hard tissue)		1	1	
33.	Face bow with semi adjustable articulator		1	2	

**DEPARTMENT : ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS**

S. No.	NAME	SPECIFICATION	Quantity		Availability
1.	Dental Chairs and Unit	Electrically operated with shadow less lamp, spittoon, 3 way syringe, instrument tray and motorized suction	One chair & unit per PG student and Two chairs with unit for the faculty		
2.			1 Unit	2 Units	
3.	Vacuum /pressure moulding unit		1	1	
4.	Hydrogen soldering unit		1	1	
5.	Lab micromotor		3	5	
6.	Spot welders		3	5	
7.	Model trimmer (Double disc)		2	3	
8.	Light curing unit		2	2	
9.	High intensity light curing unit		1	2	
10.	Polishing lathes		2	3	
11.	Tracing tables		3	5	
12.	SLR digital camera		1	1	
13.	Scanner with transparency adapter		1	1	
14.	X-ray viewer		3	4	
15.	LCD projector		1	1	
16.	Autoclaves for bulk instrument Sterilization vacuum (Front loading)		1	1	
17.	Needle destroyer		1	1	
18.	Dry heat sterilizer		1	1	
19.	Ultrasonic scaler		1	1	
20.	Sets of Orthodontic pliers		3	3	
21.	Orthodontic impression trays		3	5	
22.	Ultrasonic cleaner capacity		1	1	

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23.	Electropolisher		1	1
24.	Typodonts with full teeth set		3	3
25.	Anatomical articulator with face bow attachments		1	1
26.	Free plane articulators		1	1
27.	Hinge articulators		4	4
28.	Computer software for cephalometrics		1	1
29.	Computer with internet connection with attached printer and scanner		1	1
30.	Refrigerator		1	1

**DEPARTMENT: ORAL & MAXILOFACIAL PATHOLOGY AND ORAL MICROBIOLOGY**

S. No.	NAME	SPECIFICATION	Quantity		Availability
			1 Unit	2 Units	
1.	Dental Chairs and Units	Electrically operated with shadow less lamp, spittoon, 3 way syringe, instrument tray and suction			
2.	Adequate laboratory glassware's as required for processing of biopsy specimens and staining.	Reasonable quantity should be made available			
3.	Adequate tissue capsules / tissue embedding cassettes	Reasonable quantity should be made available			
4.	Paraffin wax bath	thermostatically controlled	1	1	
5.	Leuckhart pieces		10	10	
6.	Block holders		25	25	
7.	Microtome	Manual	1	1	
8.	Microtome	semi - automated	1	1	
9.	Tissue floatation water bath	thermostatically controlled	1	1	
10.	Slide warming table		1	1	
11.	Steel slide racks for staining		5	5	
12.	Diamond glass marker		2	2	
13.	Research microscope with phase contrast, dark field, polarization, image		1	1	

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	analyzer , photomicrography attachments				
14.	Multi head microscope	Penta headed	1	1	
15.	Binocular compound microscope		2 for faculty and one per student	4 for faculty and one per student	
16.	Stereo microscope		1	1	
17.	Aluminum slide trays		5	5	
18.	Wooden / plastic slide boxes		5	5	
19.	Wax block storing cabinet		5,0100 capal city	10,000 capacity	
20.	Slide storing cabinet		5,0010 capacilty	10,000 capacity	
21.	Refrigerator		1	1	
22.	Pipettes		5	5	
23.	Surgical kit for biopsy		3	6	
24.	Immuno histo chemistry lab		1	1	
25.	Computer with Internet Connection with attached printer and scanner		1	1	
26.	LCD projector		1	1	
27.	<b>Desirable Equipment</b>				
28.	Cryostat		1	1	
29.	Fluorescent microscope		1	1	
30.	Hard tissue microtome		1	1	
31.	Tissue storing cabinet (frozen)		1	1	
32.	Microwave		1	1	

**DEPARTMENT : PUBLIC HEALTH DENTISTRY**

S. No.	NAME	SPECIFICATION	Quantity	Availability
	<b>Instruments in the department for comprehensive Oral health care programme</b>			
1.	Dental chairs	Electrically operated with shadowless lamp, spittoon, 3 way syringe, instrument tray and motorized suction,	One chair and unit per postgraduate student and one chair with unit for the faculty	


  
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		micromotor attachment with contra angle handpiece, airoter attachment, ultrasonic scaler (Piezo) with detachable autoclavable hand piece with min 3 tips		
2.			<b>1 Unit</b>	<b>2 Units</b>
3.	Extraction forceps		4 sets	6 sets
4.	Filling instruments		4 sets	6 sets
5.	Scaling instruments Supra gingival scaling		4 sets	6 sets
6.	Amalgamator		1	1
7.	Pulp tester		1	1
8.	Autoclave		1	1
9.	X-ray viewer		1	1
10.	Instrument cabinet		1	1
11.	LCD or DLP multimedia projector		1	1
	Computer with internet connection with attached printer and scanner		1	1
13.	<b>For peripheral dental care or field programme</b>			
14.	Staff bus		1	1
15.	Mobile dental clinic fitted with at least 2 dental chairs with complete dental unit with fire extinguisher		1	1
16.	Ultrasonic scaler		1	2
17.	Ultrasonic cleaner capacity 3.5 lts		1	1
18.	Compressor One with chair			
19.	Generator		1	1
20.	Public address system, audiovisual aids		1	1
21.	Television		1	1
22.	Digital Versatile Disc Player		1	1
23.	Instrument cabinet, emergency medicine kits, Blood pressure apparatus		1	1

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24.	Portable oxygen cylinder		1	1	
25.	Portable chair		1	1	
26.	Refrigerator		1	1	

**DEPARTMENT: PAEDODONTICS AND PREVENTIVE DENTISTRY**

S. No.	NAME	SPECIFICATION	Quantity		Availability
1.	Dental Chairs and Units	Electrically operated with shadowless lamp, spittoon, 3 way syringe, and motorised suction, micromotor attachment with contra angle miniature handpiece, airtor attachment with miniature handpiece, dental operator stool (40% dental chairs shall be pedo chairs)	One chair and unit per post-graduate student and Two chairs with unit for the faculty		
2.			<b>1 Unit</b>	<b>2 Units</b>	
3.	Pedo extraction forceps sets		3	4	
4.	Autoclaves for bulk instrument sterilization vacuum (Front loading)		1	2	
5.	RVG with intra oral x-ray unit		1	1	
6.	Automatic developer		1	1	
7.	Pulp tester		2	3	
8.	Apex locator		1	1	
9.	Rubber dam kit	One set per student	1	1	
10.	Injectable GP condenser		1	1	
11.	Endodontic pressure syringe		1	1	
12.	Glass bead steriliser		2	4	
13.	Spot welder		2	3	
14.	Ultrasonic scalers		2	4	
15.	Needle destroyer		1	1	
16.	Formalin chamber		1	1	

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17.	Ultrasonic cleaner capacity 3.5 lts		1	1	
18.	X-ray viewer		2	3	
19.	Amalgamator		1	2	
20.	Plaster dispenser		2	2	
21.	Dental lathe		1	2	
22.	Vibrator		2	3	
23.	Typodonts	One set per student	1	1	
24.	Soldering unit		1	1	
25.	Band pinching beak pliers		2 sets	2 sets	
26.	Proximal contouring pliers		2	3	
27.	Crown crimping pliers		2	3	
28.	Double beak pliers anterior and posterior		2	3	
29.	Lab micro motor		2	3	
30.	Acryliser		1	2	
31.	Magnifying loupes		1	1	
32.	Conscious sedation unit	Desirable	1	1	
33.	Pulse oxymeter		1	1	
34.	Phantom head table with attached Light, Airtor and micro motor	One set per each P.G. Student	1	1	
35.	Computer with internet connection with attached printer and scanner		1	1	
36.	LCD projector		1	1	
37.	Refrigerator		1	1	

## DEPARTMENT: ORAL MEDICINE AND RADIOLOGY

S. No.	NAME	SPECIFICATION	Quantity		Availability
1.	Dental Chairs and Units	Electrically operated with shadowless lamp, spittoon, 3 way syringe, and motorised suction,	One chair and unit per post-graduate student and One chairs with unit for the faculty		
2.			1 Unit	2 Units	
3.	RVG with intra oral radiography machine (FDA Approved)	55-70 kVp with digital compatibility			
4.	Extra oral radiography machine	100 kVp			
5.	Panoramic radiography (OPG) machine with	Digital compatibility			

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	cephalometric and TMJ attachment with printer			
6.	Intra-oral camera			
7.	Pulp Tester			
8.	Autoclave			
9.	Punch biopsy tool			
10.	Biopsy equipment			
11.	Surgical trolley			
12.	Emergency medicines kit			
13.	Extra oral cassettes with intensifying screens (Conventional and rare earth)			
14.	Lead screens			
15.	Lead aprons			
16.	Lead gloves			
17.	Radiographic filters (Conventional and rare earth)			
18.	Dark room with safe light facility			
19.	Automatic radiographic film processors			
20.	Radiographic film storage lead containers			
21.	Thyroid collars			
22.	Digital sphygmomanometer			
23.	Digital blood glucose tester			
24.	Digital camera			
25.	X-ray viewer boxes			
26.	Lacrimal probes	2 sets	2 Sets	
27.	Sialography cannula	2 sets	2 Sets	
28.	Illuminated mouth mirror and probe			
29.	Computer with internet connection with attached printer and scanner			
30.	LCD projector			
31.	Refrigerato			

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