

**REGULATIONS FOR  
POSTGRADUATE DENTAL EDUCATION  
(MDS PROGRAMS)  
2017**



**NEPAL MEDICAL COUNCIL  
Bansbari, Kathmandu, Nepal**

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## SECTION-A:



# NEPAL MEDICAL COUNCIL

## REGULATIONS FOR POSTGRADUATE DENTAL EDUCATION

### (MDS Programs)

2017



In exercise of the powers conferred by Nepal Medical Council Act, Third Amendment-2056 B.S., Article-33, Subarticle-2 (Binium-2), The Full House Meeting of Nepal Medical Council held on 21<sup>st</sup> Mangshir-2072, anonymously recommended to formulate "**Regulations for Postgraduate Dental Education, MDS ( Master in Dental Surgery) Programs-2017**" and after several discussions with the concerned subject-specialists, experts, medical educationist, representatives of Universities, Academies, Institutions, Ministry of Health and Ministry of Education of Government of Nepal, recommended to formulate the New Guidelines-2017, which was also anonymously passed from the Full House Meeting of Nepal Medical Council held on 26<sup>th</sup> Ashwin, 2074 and also recommended to forward these recommendations to the Ministry of Health, Government of Nepal for the approval. As per the same act, article and Binium-1 of Nepal Medical Council third amendment-2056 B.S., the Ministry of Health, Government of Nepal sanctioned/approved the recommendations forwarded by Nepal Medical Council on 12<sup>th</sup> Poush, 2074 and has made the following regulations:

#### 1. Title:

The regulations are titled as "**Regulations for Postgraduate Dental Education (MDS) Programs-2017**".

#### 2. Objective:

The basic objective of these regulations is to ensure quality assurance in *Postgraduate Dental Education (MDS) programs* in Nepal.

#### 3. Commencement:

They shall come into force immediately.



आ.व. ०७४।७५  
च.न.२/४२८

नेपाल सरकार

# स्वास्थ्य मन्त्रालय

(चिकित्सा सेवापुस्तकशाखा)  
स्वास्थ्य मन्त्रालय  
रामशाहपथ, काठमाडौं

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मिति: २०७४।०९।१२

विषय: स्वीकृत कार्यविधि निर्देशिका पठाईएको ।

श्री नेपाल मेडिकल काउन्सिल,  
बसबारी, काठमाण्डौ ।

वर्ग मिति: २०७४-९-१२  
वर्ग नं.: १२२  
विषय: गिरा  
वर्ग: गिरा

नेपाल सरकार (मा. मन्त्रीस्तर)बाट मिति २०७४।९।१२ को निर्णयानुसार स्वीकृत भएको तहाँ काउन्सिलबाट प्राप्त देहाएका कार्यविधि निर्देशिका यसैसाथ पठाईएको व्यहोरा छ ।

१. नेपालका विभिन्न विश्व विद्यालय तथा प्रतिष्ठानहरुमा सञ्चालित MDS कार्यक्रमको नियमनका लागि तर्जुमा गरिएको Regulation for Post Graduate Dental Education (MDS Programs 2017,
२. नेपालका विभिन्न विश्व विद्यालय तथा प्रतिष्ठानहरुमा सञ्चालित BDS (Bachelor of Dental Surgery) कार्यक्रमको नियमनका लागि तर्जुमा गरिएको Accreditation Standards for the BDS (Bachelor of Dental Surgery) Programs 2017,

कृष्ण प्रसाद सुवेदी  
शाखा अधिकृत

## Preface

Considering the respect of a Medical/Dental Doctor in the society (from ancient to modern society) and to consolidate, enhance and strengthen this respect, a Doctor must not only be a knowledgeable personal in the field of medical sciences, but also clinically skillful, professionally dedicated, empathic and a continuous research oriented personal.

Moreover, a Specialist Dental Doctor must be a sound scholar, professionally enough competent to analyze dental problems critically, lifelong learner; along with leadership qualities, good communicative skills, ability to work in a team and having capacity to mobilize the team whenever necessary, community understandable and oriented, health advocate, collaborative and most importantly, socially and ethically responsible towards the patients and members of the society.

In this Newly formulated "Regulations for Postgraduate Dental Education MDS program -2017", emphasis is given to Competency Based Learning, Computer Assisted Learning, Learning in Skill Laboratory and Simulation Based Learning to incorporate all above attributes, to adjust ongoing National, Regional and Global trend in Medical/Dental Education and to meet the expectation of patients/people of the society. Likewise, due to the innovations, penetration and utilization of modern technology including information technology in modern medicine/dentistry, the requirements and criteria which became unrealistic at present time are not included.

Therefore, the Regulations which are set herein, we hope, will ensure attainment of satisfactory level of all above attributes, expected from the modern Dental Specialists and will be easily salable not only within the territory of the Nation but also in the Regional and Global market.

**Prof. Dharma Kanta Baskota**

Chairman, Nepal Medical Council

Bansbari, Kathmandu

## **SECTION-B:**

### **Part-I**

#### **Conceptual framework:**

Nepal has made significant progress in assuring quality of medical and dental education. This, in turn, has contributed to the enhancement of the quality of health care services in Nepal. Nepal Medical Council (NMC) remains committed to learning and benefiting from the national, regional and international experiences and best practices.

NMC believes that the valuable lessons learned so far should be incorporated in its guiding principles in order to further improve the quality of medical and dental education in Nepal. In light of the continuing mismatch between health system needs and the responses of medical and dental institutions and the rising public aspiration for better health care, it is imperative that the NMC keeps on taking appropriate measures to address the emerging challenges in the area of quality assurance in medical and dental education in the country. There is a big mismatch in rural and urban human resource for health.

In this Regulations NMC has taken into consideration the revised 2012 World Federation of Medical Education (WFME) Global Standards Guideline for quality improvement, as well as recent guidelines recommended by South East Asia Public Health Education Institutes' Network (SEAPHEIN) and South East Asia Regional Association of Medical Education (SEARAME). The Second Long Term Health Plan -2017 (SLTHP-2017) of the Government of Nepal, global policy recommendations of World Health Organization (WHO) for increasing access to health workers in remote and rural areas through improved retention, Global Consensus for Social accountability in Medical and Dental Education and other innovations taking place in medical and dental education.

Every country needs to adjust medical and dental education to changing needs in the world but based on reality of the need of the country and the resources available in the country. WFME Guidelines are also flexible in this.

In line with the SLTHP-2017 focus on disparities in healthcare, assuring gender sensitivity and equitable community access to quality healthcare services NMC will facilitate and encourage the medical and dental schools to fulfill these objectives of SLTHP-2017.

As education is the foundation for producing competent health workers, it is therefore important to select the "right" residents i.e., those who are more likely to practice in remote and rural areas, and to train them in locations and using methods and curricula that are more likely to influence their future practice location. It is also important to support health workers' need to continue learning throughout their careers. Few of the education related recommendations of global policy documents like selection of residents from rural backgrounds, health professional schools outside of major cities, clinical rotations in rural areas during studies, curricula that reflect rural health issues and continuous professional development are incorporated in this guideline.

In line with this imperative, the NMC has formulated accreditation document to make the underlying principles of the accreditation of Postgraduate Dental education as objective, coherent, explicit and transparent as possible. The remaining part of this document is devoted to that very end.

The fundamental purpose of medical and dental education is to produce high quality medical and dental practitioners who are willing and able to meet the existing and emerging challenges of the national health care system.

In order to meet this goal all the medical and dental colleges in Nepal should adopt the contemporary global trends and implement innovative approaches in medical and dental education such as SPICES (*Student Centered, Problem Based, Integrated, Community Based, Electives, Systematic*), PBL (*Problem Based Learning*), CPC (*Clinical Presentation Curriculum*) etc. The MDS curriculum should reflect the core principles advocated by the World Federation for Medical Education (WFME), International Institute of Medical Education (IIME), SEAPHEIN, SEARAME, General Medical Council (GMC)–UK, Association of American Medical Colleges (AAMC) and the Network of Medical Council of SEAR Countries including Nepal Medical Council. In this guideline emphasis is given to utilization of skill lab, Computer assisted teaching learning and Simulation based learning (whenever practicable).

Dental surgeons are an integral part of the total medical profession involved in the supervision and care of the comprehensive health of the people through oral health management. Nepal has made a significant progress in assuring quality of Dental Education which, in turn, has contributed to enhancing the quality of health care services in Nepal.

Nepal Medical Council (NMC) remains committed to learning and benefiting from the national and international experiences and best practices. NMC believes that the valuable lessons thus learned should be incorporated in this guideline, in order to further improve the quality of dental education in Nepal. In light of the continuing mismatch between health system needs and the responses of academic dental/medical institutions and the rising public aspiration for better health care, it is imperative that the NMC keeps on taking appropriate measures to address the emerging challenges in the area of quality assurance in dental education. This is not just an issue of paramount importance but is also the mandate that NMC is required to fulfill.

In line with this imperative, the NMC has prepared guidelines, to make the underlying principles of the accreditation of undergraduate dental education as objective, coherent, explicit and transparent as possible. NMC have designed the regulations to prepare dentists to become specialty practitioners, teachers, researchers and most lead to certification in the chosen area of training. The portfolio of the document has been designed to deliver up-to-date and relevant work-based education, embedded in real-world healthcare. The document is designed and delivered by a team of highly experienced senior dental/medical professionals, medical educationist and academicians. Working in partnership, our aim is to provide innovative education which supports the modernization of the medical and dental workforce.

The remaining part of this document is devoted to that very end. The fundamental purpose of dental education is to produce high quality dental practitioners/academicians who are willing and able to meet the existing and emerging challenges of the national health care system. In order to meet this goal all the dental/medical colleges running dental program in Nepal should adopt the contemporary global trends and implement innovative approaches in dental/medical education.

## Part – II

### OVERVIEW OF POSTGRADUATE DENTAL EDUCATION PROGRAM:

#### General Principles Regarding Postgraduate Dental Education (MDS) Program:

- ◆ The Postgraduate Dental Education Program should be conducted by the University/Institution/ Academy recognized by the Nepal Medical Council (NMC).
- Postgraduate Dental Education Program (MDS) shall award the degree of Master of Dental Surgery in the prescribed branches of various specialties of dental subjects, and shall be of a minimum of three years duration including examination period.
- ◆ It should be competency based.
- ◆ It should encourage independent and self-directed learning.
- ◆ A modular approach to the course curriculum is essential and clinical exposure to related subspecialties of a particular discipline.
- ◆ Teaching learning in ambulatory settings should be planned in the curriculum.
- ◆ There shall be a combination of formative and summative assessments with remedial measures during the course.
- ◆ Thesis is a mandatory part of the program.
- ◆ Skill development courses like Cardio Pulmonary Resuscitation-CPR, Research Methodology, Communication Skills and other relevant skill courses are the integral part of the program for all the specialties.
- ◆ There should be 3 months "Peripheral Health Facility Posting"(Community posting) of the post graduates residents in their relevant specialty for exposure to the peripheral hospitals, either run by Government or Semi Government or Institutes of Nepal; however the posting should be educationally and professionally meaningful.***(Details of posting is given in Annex- 1)***

#### Goal of the Postgraduate Dental Education Program:

The goal of the Postgraduate Medical Education Program is to produce professionals with:

- a. Required competency/ Academic excellence
- b. Teaching capability
- c. Research ability
- d. Leadership quality
- e. Communicative ability
- f. Collaborative ability
- g. Health advocacy ability

## **General Objectives of the Postgraduate Dental Education Programs:**

At the end of the Postgraduate Program the candidate should be able to:

- 1 Demonstrate sufficient level of theoretical knowledge and practical skills relevant to the given specialty.
- 2 Demonstrate sufficient level of understanding of the basic sciences relevant to the concerned specialty.
- 3 Diagnose and manage the conditions/problems in the specialty concerned
- 4 Acquire adequate knowledge on patient safety.
- 5 Practice the specialty concerned ethically.
- 6 Develop professional attitude and behavioral studies including human values.
- 7 Appraise review scientific literature critically.
- 8 Undertake research activity in the subject concerned.
- 9 Educate/teach members of his/her team regularly.
- 10 Use the effective methods of learning including information, communication and Tele-Medicine technology.
- 11 Recognize the importance of the concerned specialty in the context of national health needs/programs.
- 12 Demonstrate skills in medical record keeping in the relevant specialty.
- 13 Demonstrate empathy and humane approach towards patients and their families and exhibit appropriate interpersonal behavior in keeping with the norms and expectations of the society.
- 14 Develop skill as a self-directed learner, recognize continuous educational needs, and, select and use appropriate learning resources.
- 15 Acquire new knowledge and skills through continuous professional development (CPD).
- 16 Demonstrate relevant skills in using appropriate education methods and techniques as applicable to the teaching learning of Dental and other categories of health science residents.
- 17 Function as an effective leader/member of a health team engaged in health care, research and Dental education.
- 18 Develop the skills required to work in inter/multiprofessional team.

### **Statement of competencies:**

Keeping in view of the general objectives of Postgraduate Dental Education Program, each University/Institution/ Academy which is involved in the program should define specific competencies together with learning objectives to be acquired by the Postgraduate resident and should be spelt out in clear terms in the curriculum.

The statement of competencies shall be brought to the notice of Postgraduate residents at the beginning of the program so that they are aware of achieving the competencies expected of them in a given time period.

### **Postgraduate Dental Degrees:**

The award of Postgraduate Dental degrees shall include *Master of Dental Surgery (MDS)* in the related specialty of dental sciences. The award of the degree by different Universities/Institutions/ Academy throughout the country should be the same.

The **Master of Dental Surgery** degrees recognized by the Nepal Medical Council are awarded in the following specialties:

1. Oral Medicine and Maxillofacial Radiology
2. Conservative Dentistry and Endodontics
3. Periodontology
4. Oral and Maxillofacial Surgery
5. Prosthodontics and Maxillofacial Prosthesis
6. Pediatric and Preventive Dentistry
7. Orthodontics and Dentofacial Orthopaedics
8. Community Dentistry/Dental Public Health
9. Oral and Maxillofacial Pathology

### ***Attention:***

- ***Oral Implantology*** is designated as a separate specialty of dentistry and Nepal Medical Council can change the nomenclature of specialty whenever deemed necessary. However for the time being Implantology services and academics can be provided by faculties from Periodontics, Prosthodontics and Oral and maxillofacial Surgery
- ***To start any postgraduate new program in any University/Institution/Academy or in their constitutional or affiliated colleges/campuses, a prior permission from NMC has to be obtained.***

## Part - III

### MINIMUM REQUIREMENT FOR POSTGRADUATE DENTAL INSTITUTIONS:

#### General Principles for a Postgraduate Dental Institution:

- ◆ To start a postgraduate Dental education program (MDS) in any Institution, the first batch of the students must have completed one full cycle of BDS course including one year of compulsory rotatory internship. But for those public academy and specialty centers which are established by the act of parliament of Nepal, for the promotion of specialty services and post graduate medical education in the country, conduction of under graduate program will not be mandatory.
- ◆ To start a MDS Program, an institution should obtain the recognition from Nepal Medical Council.
- ◆ The institutions must be run either under a University or Academy of Government of Nepal.
- ◆ The institutions must have faculties of technical/medical/health science specialists in required numbers as per the NMC guidelines.
- ◆ The institutions must fulfill all requirements in terms of physical infrastructure, academic and administrative human resources, equipment and materials required for the education program.
- ◆ There must be an appropriate person heading such an institution.
- ◆ The number of residents that can be enrolled in a Postgraduate program in any recognized postgraduate institutions shall be determined by the facilities available in terms of infrastructure, faculties and other criteria as per the NMC guidelines.
- ◆ To increase the existing admission capacity of the Postgraduate residents, an institution must take prior permission from the Nepal Medical Council.
- ◆ The institution must have different protocols for the proper patient care, residents' training, patients safety and treatment providers safety, whenever or wherever applicable:
- ◆ An affiliated college of the university must have the approval of the concerned university prior to admission.

**NB: It is strongly recommended to all University/Institution/Academy that all postgraduation programs should preferably start on the same fixed date (common academic calender) throughout the country, to bring uniformity in entrance (common entrance) and exit examinations (common entrance). Likewise, it will also help Nepal Medical Council to organize specialty registration examination immediately after completion of their exit examination, so that after certification by the Council, specialist could serve the people immediately without any gap.**

### **Minimum requirements for a Postgraduate Dental Institution:**

- ◆ An institution conducting both undergraduate and postgraduate program should satisfy the minimum requirements for undergraduate education program (BDS) as well as fulfill additional requirements required for Postgraduate MDS program as determined by the NMC. But for those public academy and specialty centers which are established by the act of Parliament of Nepal, for the promotion of specialty services and post graduate medical education in the country, conduction of under graduate program will not be mandatory.
1. An institution imparting only Postgraduate program should:
    - a. Provide facilities consistent with the overall academic program including exposure in applied basic medical sciences and other related subjects/areas as prescribed by the NMC.
    - b. Must have faculties of related specialties in required number of their own and should have appropriate arrangement made with other institutions for imparting teaching/learning in basic sciences as per the NMC guidelines.
    - c. Must have facilities of other various supporting specialties related to the concerned subject as per the requirement of the curriculum.
  2. The Postgraduate institution should possess basic infrastructure required for teaching learning activities of post graduates residents. These include seminar room with separate rooms for PG residents in the department, audio-visual facility, library with required number of books, journals, periodicals, and internet facility with on-line journals, duty doctor's room in the hospital for duty, and departmental laboratories and museums specific to the concerned specialty.
  3. Space should be available for ambulatory Teaching - Learning in OPD set up.

### **Postgraduate Dental Faculty requirement:**

1. A clinical department or its unit for Postgraduate program shall have a minimum of 3 (three) fulltime faculty members belonging to the related subject/specialty, of whom one shall be a Professor, one Associate Professor/Reader, and one Assistant Professor/Lecturer, (or three postgraduate faculties of which one should be a Professor/ Associate Professor) possessing the qualification and experience as prescribed by the Nepal Medical Council.
2. To be recognized as a Postgraduate program faculty, one must have a minimum of five years of teaching experience after the Postgraduate Master Degree qualification (MDS).
3. Only Professor and Associate Professor/Reader will be eligible to become a preceptor (guide) for Postgraduate resident.
4. No Postgraduate faculty shall be a preceptor for more than one specialty.
5. All postgraduate faculties must be attended Research methodology workshops within five years, i.e. within 2023 AD.

### **Physical requirement of Postgraduate Dental Institutions:**

1. The Postgraduate institutions must fulfill all requirements in terms of physical infrastructure, clinical and administrative facilities required for the education program.
2. The institution should provide residential facility and avail related extra-curricular/recreational facilities for overall round development of the resident.
3. The Postgraduate Institutions should comprise of both academic and administrative infrastructure of its own required for education and administrative purpose.
4. The academic section should comprise of the following:
  - a. Lecture/Seminar rooms
  - b. Discussion/PG resident room
  - c. Examination hall: desirable
  - d. Library/Departmental Library
  - e. Clinical Laboratory
  - f. Research Laboratory/Division/Unit
  - g. Out-patient Department
  - h. In-patient Department: if applicable
  - i. Medical Education Department
  - j. Skill laboratory
  - k. Computer assisted learning facility
  - l. Simulation based learning facility
5. The administrative section should comprise of the following:
  - a. General administration
  - b. Personnel administration
  - c. Account
  - d. Medical record section
  - e. Store/Procurement
  - f. Meeting Hall
  - g. Planning & evaluation
  - h. Maintenance
  - i. Social welfare & counseling

### **Out-Patient Department:**

There shall be adequate space and sufficient number of dental units available for out-patient service. For the provision of ambulatory teaching learning activities, every out-patient department should have a separate teaching room for PG residents with the facilities to accommodate 8-10 residents besides other clinical facilities. Such departments should preferably provide the facilities for internet search and related books for reference.

### **Bed Strength:**

Dedicated beds are not applicable in most of the departments of dental specialties. Ten dedicated beds are required either independently or along with beds of Department of General Surgery where it is applicable.

**Bed occupancy:**

For normal teaching learning of Postgraduate Dental residents, the patient occupancy rate of the hospital bed in the concerned department (where applicable) for concerned subject should not be less than 60% in all medical college teaching hospitals. However, 50% bed occupancy is accepted for those medical colleges which are located in the hilly region, geographically difficult to access and their population coverage is small.

**Learning Resources/Library:**

Adequate reference books, journals, periodicals, internet search facility and on line journals for each postgraduate resident should be available for the Postgraduate program in the concerned institution. In addition, adequate number of books and specialty journals must be available in the departmental library.

**Equipment:**

The Postgraduate institution should possess required equipment, instruments, tools, materials and consumables specific to the concerned specialty including the latest ones as prescribed by the University/Institution/Academy as mentioned in the curriculum which should be updated from time to time. ***Minimum no of equipments for different dental Specialties are given in Annex-II.***

**Number of Postgraduate Dental Residents to be admitted:**

The number of residents that can be admitted in Postgraduate program shall be determined by the facilities available in terms of academic activities, infrastructure, faculties and other teaching materials as per the NMC guidelines.

A clinical department or its unit for Postgraduate program shall have a minimum of **3 (three) fulltime faculty members** belonging to the related subject/specialty, of whom one shall be a Professor, one Associate Professor/Reader, and one Assistant Professor (KU, PAHS, NAMS, BPKIHS)/Lecturer (TU), (or three postgraduate faculties of which one should be a Professor/ Associate Professor) possessing the qualification and experience as prescribed by the Nepal Medical Council.

- A unit having one Associate Professor and two Assistant Professors/Lecturers can admit **one resident** in one academic year.
- A unit having one Professor and two Assistant Professors/Lecturers can admit **two residents** in one academic year.
- A unit having one Professor, one Associate Professor and two Assistant Professors/Lecturers can admit **three residents** in one academic year.

The ratio of recognized Postgraduate faculty to residents shall preferably be maintained at 1:2 based on the yard stick developed by NMC.

If preceptor leaves the program in between, the university/institution should have alternate preceptor for the resident within 35 days.

## Essentials of Postgraduate Dental Academic Program:

1. All candidates joining the Postgraduate program shall work as full time residents during the period of program attending not less than 90% (ninety percent) of the training during each academic year and should be given full time responsibility, assignments and participation in all facets of the educational process.
2. All Postgraduate residents shall be paid stipends as per the rule of the University/ Institution/ Academy; similar procedure shall be followed in the matter of grant of leave. Generally Postgraduate residents should not have more than two 24 hour duties along with their regular duties in a week.
3. Every institution undertaking postgraduate program shall set up a **Postgraduate subject committee**, under the chairmanship of a senior faculty member, which shall work out the details of the academics program and also coordinate and monitor its implementation.
4. Postgraduate residents shall maintain a record (log) book of the work carried out by them and the training undergone during the period of academic programs.
5. The record (log) books shall be checked, assessed and counter signed periodically by the faculty members imparting the training.
6. The Postgraduate residents are required to participate in the teaching of undergraduate students and interns wherever applicable.
7. In all postgraduate Dental academic programs, emphasis to be given on preventive, promotive, rehabilitative and social aspects and emergency care.
8. Exposure in Medical Audit, Management, Leadership, Health Economics, Health Information System, Health Advocacy, Basics of Statistics preferably Biostatistics, Exposure to Human Behavioral Studies, Medical Ethics, Communication Skill, Research Methodology, Information Technology, Innovations in Medical Education and Practices. Management is imparted to the Postgraduate residents.
9. Skill development courses like Cardio Pulmonary Resuscitation should be integral part of the program for all the specialties.
10. The methods of teaching learning for Postgraduate residents in specialties like Basic dental Oral Pathology should include Problem Based Learning, Lectures, Seminars, Journal Clubs, and Group Discussion, Participation in Laboratory and Experimental Work, Learning in Skill Lab, Computer Assisted Learning, Simulation Based Learning and involvement in research studies in the concerned specialty and exposure to the applied aspects of the subject relevant to clinical specialties.
11. For residents in Dental clinical disciplines; in-service training, with the residents being given graded responsibility in the management and treatment of patients entrusted to their care, Participation in Seminars, Journal Clubs, Group Discussions, Clinical Meetings, Case Presentation, Problem Based Learning and interspecialty conferences , Clinico- Radiological Conferences, Practical trainings in the Basic Medical Sciences, as well as in Allied Clinical Specialties and Community Exposure is recommended.
12. Residents should be rotated in major related clinical sub-specialties preferably during the second year of their training as per curriculum of the concern University/Academy/institution. As per

example, for Oral Medicine: rotation in Radiology, Internal Medicine and Dermatology; for Maxillofacial Surgery: rotation in Neurosurgery, Plastic Surgery, Internal Medicine, General Surgery, Anaesthesia, Emergency, ICU, ENT-Head and Neck Surgery, and Oncology; and for Oral Pathology: rotation in General Pathology, Biochemistry and in Oncology is usually preferred.

- 13. To facilitate the research activities of the college/hospital and to facilitate statistical part of thesis of the postgraduate residents, employment of a biostatistician is mandatory for every medical college.**

## Part -IV

### POSTGRADUATE DENTAL CURRICULUM:

- ◆ There should be a curriculum committee, to make the curriculum well implemented, suggests concern authority to revise it whenever deemed necessary and to make it as uniform as possible among all Universities/Institutions/Academies of Nepal for the same subject.
- ◆ The time frame and competencies expected of the Postgraduate residents is to be defined by the University/Institution/Academy concerned in the curriculum.
- ◆ The curriculum is to be evaluated periodically by the concerned University/Institution/Academy and necessary amendments to be made as and when required.

#### Requirement of Postgraduate Dental Curriculum:

1. It should be competency based. The strategy to assess such competencies should be built into the program.
2. It should encourage independent, self-directed and problem based learning
3. A modular approach to the course curriculum is essential for achieving a systemic exposure to the various sub-specialties related to a discipline
4. Teaching learning in ambulatory setting should be planned in the curriculum
5. There shall be a combination of formative and summative assessments with remedial measures during the program
6. Thesis should be a mandatory part of the curriculum
7. In all dental disciplines, there should be 3 months "Peripheral Health Facility Posting"(Community posting), preferably second half of the training period of the post graduate residents in their relevant specialty, for exposure to the peripheral hospitals, either run by Government or Semi Government or Institutes of Nepal; however the posting should be educationally and professionally meaningful. **(Details of posting is given in Annex- 1)**
8. Cardio Pulmonary Resuscitation (CPR)/Basic Life support (BLS,) and other relevant skill courses should be integral part of all the programs.
9. Teaching learning of undergraduates, residents and other health professional should be built in into the program

**Postgraduate Dental Curriculum must include:**

1. Theoretical knowledge related to the subject concerned
2. Practical and clinical skills
3. Proper knowledge in the applied basic sciences pertaining to the specialty
4. Thesis writing including research methodology and basic biostatistics
5. Evidence based learning and critical analysis of the literature
6. Communication skill training for both core communication skill and skill required in special circumstances
7. Development of professional attitudes and behavioral studies including ethical issues, human values
8. Information technology including medical informatics
9. Basic understanding of the pharmaco-economics and health economics

**Methods of learning should include:**

1. Dental Chair side learning
1. Structured ambulatory learning with specific learning objectives
2. Seminars/Tutorials/ Presentation/ Journal club/ CME
3. Clinical audit
4. Problem based learning
5. Literature review / use of information technology
6. Project work/Research undertaking
7. Patient care and management
8. Computer assisted learning/Skill lab/ Simulation based learning

## Part – V

### POSTGRADUATE DENTAL FACULTY

#### Eligibility criteria for Postgraduate Faculty:

All Dental faculties must possess a basic university postgraduate degree (MDS) or above (PhD.) after basic dental degree) or equivalent qualifications to be eligible to become a Postgraduate teaching faculty. They should be duly registered with the Nepal Medical Council.

Age of the faculty should not be more than 75 years in Dental disciplines and 73 years in clinical disciplines. But after 70 years, approval of faculties will be provided only after assessment of physical fitness of the faculties by NMC. This provision will remain till July, 2024. Thereafter (after July, 2024), maximum age of the faculty would not be more than 70 years, in both clinical/dental and basic sciences disciplines.

Foreign faculties are allowed to do only hospital based practice within the premises of Teaching hospital and satellite centres of allocated medical college. They are not allowed to do private practice neither in any other medical college – hospitals nor in any other hospitals.

For Postgraduate program in basic science subjects like Anatomy, Physiology, Pharmacology, Biochemistry, Microbiology, and Community Medicine, non-clinical faculties with master degree may be appointed in the entry position of the faculty, to the extent of 30 % as per NMC norms.

The qualification of Master of Science (MSc in Dental Materials), shall be sufficient for appointment in an entry faculty position.

Faculty with Master degree (Clinical or Medical or Human Sciences) qualification must possess Ph.D. or equivalent degree in the concerned subject for the promotion to the post of Associate Professor and above. She/he must also have three years teaching experience as Assistant Professor (KU, PAHS, NAMS BPKIHS,) or six years as Lecturer in a medical institution for the post of Associate Professor. For the post of Professor minimum five years teaching experience in a medical institution as Associate Professor is required. Other requirements will be same as for the clinical faculties.

#### Designation of Postgraduate Dental faculty:

The nomenclatures of the designation for faculty positions are:

- 1) Professor
- 2) Associate Professor/Reader
- 3) Assistant Professor(KU, PAHS, BPKIHS, NAMS)/Lecturer(TU)
- 4) Lecturer (KU, PAHS, BPKIHS, NAMS)/Assistant Lecturer/Teaching Assistant (TU).

**NB: NMC strongly suggests that the designation/nomenclature of all the faculties should preferably be the same among the Universities/Institutions/Academies throughout the country as far as and as soon as possible.**

### **Basic requirement of Postgraduate Dental faculty:**

All affiliated institutions must have the teaching faculty appointment approved by the parent University/Institution/Academy. Similarly, the academic qualifications required for faculty position will be according to the rules and regulations of the University/Institutions/Academy.

Visiting faculties are not counted for the allocation of (seat) i.e. enrolment of resident. However, they may be appointed for the upliftment of overall academic standard and betterment of the training institution.

**A faculty under whom a PG resident has been enrolled and has not completed his/her course shall not be recognized as Faculty in any other institution during the stipulated period of the course.**

Basic requirements and broad principles for appointment of faculties with medical qualifications to different levels are as follows:

#### **Professor:**

1. Should have Doctorate(after BDS) or Postgraduate Master degree(MDS) or equivalent qualification in the respective subject or specialty from University/Institution/Academy, recognized and registered by the Nepal Medical Council, together with teaching/working experience of minimum **five** years as Associate Professor/Reader or equivalent post. But the total duration of service counted under different faculty appointments held should not **be less than ten years** for becoming eligible for the post of Professor **and**
2. Should have minimum of two research/original researches as main author and two other publications in national/international indexed/peer reviewed scientific journal as main/co-author at the level of Associate Professor.

#### **Associate Professor/Reader:**

1. Should have Doctorate (after BDS) or Postgraduate Master degree (MDS) or equivalent qualification in the respective subject or specialty from University/Institution/Academy, recognized and registered by the Nepal Medical Council, together with teaching/working experience of minimum **three years** as Assistant Professor and another **two years** as Lecturer (KU, PAHS, BPKIHS, NAMS) or **five years** teaching/working experience as Lecturer (TU) or equivalent post. But the total duration of service counted under different faculty appointments held should not **be less than five years** for becoming eligible for the post of Associate Professor/Reader **and**
2. Should have minimum of two research/original researches as main author and two other publications in national/international indexed/peer reviewed scientific journal as main/ co-author at the level of Assistant Professor(KU,PAHS,BPKIHS,NAMS)/Lecturer (TU).

#### **Assistant Professor (KU, PAHS, BPKIHS, NAMS)/Lecturer (TU):**

1. Should have Doctorate (after BDS) or Postgraduate Master Degree (MDS) or equivalent qualification in the respective subject or specialty, from University/Institution/Academy, recognized and registered by the Nepal Medical Council, together with teaching/working experience of minimum two years as Lecturer for (KU,PAHS,BPKIHS,NAMS), where as for TU it should be at the level of Assistant Lecturer/Teaching Assistant.

2. Should have minimum of two research/original researches, published as main author in national/international indexed/peer reviewed scientific journal at the level of Lecturer (KU, PAHS, BPKIHS, NAMS) and at the level of Assistant Lecturer/Teaching Assistant (TU).

**Lecturer (KU, PAHS, BPKIHS, NAMS)/ Assistant Lecturer/Teaching Assistant (TU):**

Should have Doctorate (after BDS) or Postgraduate Master Degree (MDS) or equivalent qualification in the respective subject or specialty from University/Institution/Academy, recognized and registered by the Nepal Medical Council.

**Note:**

- 1) Research and publications already considered for the previous post shall not be taken into consideration.
- 2) Case reports, case series and book review are not counted as a research article.
- 3) For the entry faculty position, requirement of publication is not mandatory.

**Criteria for Visiting Faculty:**

- The posts of Professor Emeritus and Visiting Faculty may be conferred upon the teaching faculties holding posts in other University/Institutions/Academy.
- The same criteria which are applicable for appointment of regular Postgraduate subspecialty faculties will be also applicable to the visiting faculties.
- The Visiting Faculty title may be awarded to a teacher involved in teaching/training of the Postgraduate subspecialty program run by the University/Institution/Academy provided the candidate fulfills the following criteria:
  1. Requirement of academic qualifications, teaching/working experiences and publications: as per regular faculty position, recognized by the Nepal Medical Council.
  2. The appointment should be institution specific and be time limited.
  3. In case, the Visiting Faculty is no longer involved in the teaching/training program of the institution or is transferred to another institution, this title should be automatically cancelled.
  4. **Visiting faculties are not counted for the allocation of (seat) i.e. enrolment of specialty resident.** They may be appointed for the upliftment of overall academic standard and betterment of the training institution.
  5. **A faculty under whom a PG resident has been enrolled and has not completed his/her course shall not be recognized as PG-faculty in any other institution during the stipulated period of the course**

## Part – VI

### POSTGRADUATION ENTRY CRITERIA:

#### Selection criteria for Postgraduate Dental residents:

1. Candidate must have completed BDS or equivalent degree including compulsory Rotatory internship.
2. Candidate must be registered with Nepal Medical Council.
3. Candidate must have one year clinical experience after completion of BDS.
4. Selection should be on the basis of the candidate's academic merit.

#### Criteria for Foreign candidate:

1. The registration to foreign national applying for Postgraduate studies shall be subject to the condition that such person is duly registered as practitioner in his/her own country and that his/her degree is recognized by the corresponding Medical/Dental Council or concerned authority of respective country of origin.
2. Foreign candidates must be provisionally registered with NMC for the period of their study exclusively for the college/institution where they are admitted.
3. The entrance requirement for foreign candidates will be according to the rules and regulations of the concerned University/Institutions/Academy; however they should appear in competitive entrance examinations and must qualify in the competitive entrance examination and pass with a minimum score of 50%, conducted by them.

#### Selection procedure for Postgraduate Dental residents:

1. Candidates for Postgraduate Dental academic programs shall be selected on merit basis. The criteria for merit will be according to the University/Institution/Academy rules based on the competitive entrance examination.
2. For determining the academic merit, the University/Institution/Academy may adopt any of the following procedures:
  - a. On the basis of academic merit as determined by a competitive entrance test conducted by the University/ Institution/Academy/ National PG Eligibility Test.
  - b. On the basis of merit as determined by a centralized competitive entrance test held at the national level; the Postgraduate Dental residents may be enrolled in the Postgraduate Dental institutions on the basis of central allotment system.
  - c. In order to be selected for the Postgraduate Dental program, the candidate must **qualify in the competitive entrance examination with a minimum score of 50%.**

- d. To qualify to enroll Postgraduate Dental study abroad, the candidate must qualify in the competitive entrance examination with a minimum score of 50% taken by University/Institution/Academy of Nepal, which will be valid for only two years.

**Or**

- e. They have to pass the entry exam (qualifying exam) taken by the National Board (eg. USMLE, DNB, Royal Colleges of UK, College of Physicians and Surgeons Pakistan (CPSP), Bangladesh College of Physicians and Surgeons (BCPS) or other National State Exam/Board of the respective countries, in which the candidate will be enrolled for PG.
  - f. Candidates going abroad for Postgraduate Dental study, must pass entry examination (either as mentioned in above 2-"d" or "e"), complete minimum 3 years of residential training, approve clinical thesis/dissertation and pass qualifying exit examination, conducted by University/Academy/Board of the respective countries. But in those countries/Universities/Academies/Board where Clinical thesis/dissertation is not mandatory, the candidate must publish two original research articles in indexed journal, as first author, during the prescribed training period, in lieu of the thesis/dissertation.
3. The candidates with academic merit should be given an opportunity to select an institution and course of their choice on the merit basis as and when applicable.

#### **4. Commencement of the Subspecialty Postgraduate programs:**

Nepal Medical Council strongly recommends to all University/Institution /Academy that the academic session of all Subspecialty/Specialty Postgraduate programs shall start from the same date in all University/Institution/Academy throughout the country, so that the council could organize the Subspecialty/Specialty registration examinations immediately after the completion of their Subspecialty/Specialty training and they can serve the people as a Subspecialist/Specialist immediately without any gap.

#### **Recommended dates to start Undergraduate programs:**

**15 October (~ 2<sup>nd</sup> Kartik) for Undergraduate programs (MBBS/BDS)**

#### **Recommended dates to start Postgraduate programs:**

**15 April (~2<sup>nd</sup> Baisakh) for Postgraduate Master programs (MD/MS/MDS)**

**15 October (~ 2<sup>nd</sup> Kartik) for Subspecialty Postgraduate programs (DM/MCh)**

## Part – VII

### POSTGRADUATE DENTAL EVALUATION SCHEME:

#### **Assessment Guidelines for Postgraduate Dental Academic Program:**

The methods of assessment for Postgraduate Dental residents should include Logbook, Formative assessment, Summative assessment, and Thesis.

The weightage of formative and summative assessments will be as per the norms of the University/Institution/Academy concerned.

#### **Formative Assessment:**

There shall be adequate weightage given to the formative assessment as per the university regulations.

Constructive feedback on the performance of the postgraduate Dental resident must be given on an ongoing basis during the formative assessment. It should carry support and counseling to the Dental resident as well.

Formative evaluation shall allow/disallow the Dental resident for the appearance in summative (final) examinations as per University/Institution/Academy regulation.

#### **Attendance of Postgraduate Dental Residents:**

All Postgraduate Dental residents should work as full time residents during the period of program attending not less than **90% (ninety percent)** of the training during each academic year.

#### **Evaluation of the Postgraduate Dental Residents:**

1. Evaluation of the Postgraduate Dental residents should be on the basis of grading or marking system as per the norms of the University/Institution/Academy concerned.
2. The Dental resident should be adequately tested for the knowledge, skill and competencies required for the program concerned and obtain a minimum of 50% marks in theory as well as Clinical/Practical separately.

#### **Composition of Postgraduate Dental Examinations:**

Postgraduate examinations of Dental Surgery (MDS), in any subject shall consist of Theory papers, Clinical/Practical and Oral examinations, and Thesis.

## **Theory Papers:**

Papers comprising the subjects of basic science and behavioral humanities, different systems, concern specialties and recent advances related to the subject as per the norms of the University/ Institution/ Academy concerned.

## **Clinical/Practical and Oral Examinations:**

1. Clinical examination for the subjects in clinical sciences shall be conducted to test the competence of the candidates for undertaking independent work as a specialist/faculty, for which the candidate shall be examined on an objective and structured format.
2. Clinical competency of the candidate should be tested with long case / short cases / Procedures/ Objective Structured Clinical Examinations (OSCE) or Objective Structured Practical Examination (OSPE) as per the University/Institution/Academy regulations. Must know skills should be individually tested and recorded in log books.
3. The oral examinations shall be comprehensive structured and be aimed at assessing the candidate's competency about the subject matter, treatment procedures, and other aspects of the specialty, which form a part of the examination.

***NB: As the postgraduate programs are competency based, all the concern University/Institution/ Academy are requested to shift from their traditional evaluation system to competency based evaluation system as soon as possible.***

## **Thesis:**

1. Every candidate shall carry out research work on an assigned topic following standard research methodology under the guidance of recognized Postgraduate Guide (Preceptor), the results of which shall be written up and submitted in the form of a thesis. The provision of Co-guide may be undertaken whenever necessary.
2. Professor, Additional Professor and Associate Professor of concern Specialty shall be eligible to be the thesis guide (preceptor) and Assistant Professor/Lecturer and above shall be eligible for the thesis co-guide of the Postgraduate Dental residents.
3. Research proposal should be submitted to the Institutional review board and clinical committee then to the post graduate subject committee of the University/ Institute/Academy concerned department before undertaking the thesis.
4. Work for thesis writing is aimed at contributing to the development of a spirit of enquiry, besides exposing the candidate to the techniques of research, critical analysis, acquaintance with the latest advances in medical sciences and the manner of identifying and consulting available literature.
5. Thesis should be reviewed and approved by the concern Department/Division/Unit of the college and shall be submitted at least six months before the theory and clinical/practical examinations. The acceptance of the thesis is pre-requisite to appearing in the final examinations.
6. Evaluation of thesis should be done on a structured basis including the appropriate statistical review as per the University/Academy/Institution regulations.

### **Number of Candidates to be examined:**

The maximum number of candidates to be examined in Clinical/Practical and Oral examination on any day shall be as per University/Institution/Academy regulation. However, the maximum number of candidates to be examined in clinical/practical/oral, on any day shall **not exceed eight** for postgraduate degree programs (MDS).

### **Guidelines on appointment of Postgraduate Examiners:**

1. Postgraduate examiner shall be appointed in the related subject on the fulfillment of the requirements and on the basis as laid down by the Nepal Medical Council & University/Institution/Academy concerned.
2. All the Postgraduate examiners shall be appointed from Postgraduate teaching faculty, working in University/Institution/Academy, recognized by Nepal Medical Council. Only Professor shall be appointed as an External examiner where as Professor as well as Associate Professor shall be appointed as an internal examiner.
3. For all Postgraduate examinations, the minimum required number of examiners shall be four, out of which at least two (50%) shall be External Examiners, who shall be invited from other recognized Universities/Academies/Institutions other than one's own University.
4. The external examiner who fulfils the condition as stated shall be invited from another recognized university or from outside the country. In exceptional circumstances, examinations may be held with 3 (three) examiners out of which two should be external. In such conditions Nepal Medical Council should be intimated with the justification of such examination.
5. Where there is more than one centers of examination, there shall be co-coordinator appointed by the University/Academy/Institution who shall supervise and co-ordinate the examination on behalf of the University with independent authority.
6. An external examiner shall ordinarily be appointed for not more than **two** consecutive terms in the same University/Institution/Academy.

## PART-VIII

### Specialty Registration Examination for the Dental Specialties:

*(Implemented from 10<sup>th</sup> February, 2012)*

Candidates, who obtain the Postgraduate Dental Degree, will have to appear in a competency based examination (comprising of testing Knowledge, Skill, and Attitude), for their specialty registration with NMC. An expert team of examiners under NMC will be constituted for this purpose. Only qualified candidates in Specialty Registration Examination, conducted by Nepal Medical Council will be provided Specialist Registration Certificate from Nepal Medical Council.

### Format of Dental Specialty Registration Examination:

For the reference, followings are the composition and question pattern of Dental specialist registration examination which is not constant and may change on time to time.

#### ***Aims and objectives of questions of specialist registration examination:***

- MCQs to evaluate the range of knowledge of subject specialty.
- CSQs to evaluate the depth of knowledge of subject specialty.

#### ***Subject distribution:***

Subject	No. of questions
Basic medicine/science	30%
Principle and practice of specialty	45%
Subspecialty and recent advances	25%

#### ***Marks distribution:***

Subject	No. of questions
MCQs	60%
CSQs	40%

## PART-IX

### Annex- I: Peripheral Health Facility (Community) Posting:

- "Peripheral Health Facility Posting"(Community posting), means posting of the residents of clinical and Para - clinical disciplines of post graduate program in District, Zonal, Sub-regional and Regional level Hospitals, under Ministry of Health, Government of Nepal or other semi-governmental hospitals located far from the site of Academic institutions/Medical colleges in underserved areas.
- All MDS residents should be preferably posted in those hospitals where there is availability of "Dental Chairs".
- At the same time, supervision of these residents to be considered either from University/Institutions/Academy side or Hospital side.

### Annex- II: MINIMUM REQUIREMENT OF EQUIPMENTS IN DIFFERENT DENTAL SPECIALTIES:

#### 1. DEPARTMENT: Prosthodontics and Maxillofacial Prosthesis

NAME	SPECIFICATION	QUANTITY
Electrical Dental Chairs and Units	With shadow less lamp, spittoon, 3 way syringe, instrument tray and suction, micromotor, airotor	One chair per PG resident
Articulators	Semi adjustable with Face-bow	Two per unit
Airotor&AirmotorHandpieces		One per resident
Micromotor		One per resident
Light Cure unit		One per unit
Pulp tester		One
Alginate mixer		One
Sterilization : - Hot Air oven, Autoclave, Needle destroyer		one
Ultrasonic cleaner		one
Water boiler		One
Surveyor with micromotor attachment provision		one

Refrigerator		One
X-ray viewer		One
Phantom head complete set		Two per unit
Hanging motor		Two per unit
Plaster Dispenser		One
Cast Trimmer		One
Polishing buff		One
Lathe		One
Vibrator		One
Acrylizer		One
Acrylic Dewaxing Unit		One
Hydraulic/ mechanical Press		One
Vacuum Mixing machine		One
Steam cleaner		One
Micro motor lab type		One per resident
Curing pressure pot		One
Pressure molding machine/ vacuum former		One
Electro – Polisher		One
Duplicator		one
Spindle Grinder		One
Welder		one
Sandblaster (micro & macro)		two
Electrical Wax Heater		one
Electrical Wax Carver		one
Pindex/ any die system		one
Palatal Trimmer		one
Die cutting machine		one
Casting Machine motorized		one

Dewaxing Furnace		one
Programmable Porcelain Furnace with Vacuum pump	Metal /metal free	One per unit
Ceramic building Kit		
Lab compressor		One
Ultrasonic cleaner		one
Lab magnification work lamp		one
Indirect resin curing unit (lab type)		one
Injection moulding unit		One
<b>Implant Equipments:</b>		
Physio-dispenser		One
Implant surgical Kit		One
Implants prosthetic kit		One
Prosthetic Components		One
Sinus lift instruments set		One
Educational Models		adequate

**NB:** Implantology will be considered separate specialty of dentistry whenever NMC feels necessary. One system is mandatory and can be used by faculties from Prosthodontics, Periodontics and Oral and Maxillofacial Surgery. NMC recommends establishing a separate Implantology Department for the smooth running of clinical and academic activities for the residents.

## 2. DEPARTMENT: Conservative Dentistry and Endodontics

NAME		SPECIFICATION	QUANTITY
<b>Dental Chairs and Units</b>	Electrically operated with shadowless lamp, spittoon, 3 way syringe, instrument tray and high volume suction, micromotor, airtor.		One chair & unit per PG resident & Two chairs with unit for faculty
Endoscaler			2
Mechanized rotary instruments including hand pieces and hand instruments(endomotor)			3

Glass bead sterilizers		1
Autoclaves for bulk instrument sterilization Vacuum preferably		1
Autoclaves for hand piece sterilization		1
Apex locators		3
Equipments for injectable thermoplasticized guttapercha		Different systems(1+1)
Amalgamator for capsulated amalgam		1
Operating microscopes	45 and 90 degrees	1
Surgical endo kits		2
RVG		1
Laser	desirable	1
Set of hand instruments		20
Electric pulp tester		2
Light cure units		6
Endodontic irrigation system		1
LCD projector		1
Instrument retrieval system		1
Computer with Internet Connection with attached Printer & Scanner		1
Clinical micro motors		6
High speed hand pieces		6
Composite kits with different shades and polishing kits	3 different system	3
Ceramic finishing kits		2
Amalgam finishing kits		2
<b>LABORATORY EQUIPMENTS:</b>		
Vibrator		1
Model trimmer		1
Marathon		1

### 3. DEPARTMENT: Oral Medicine and Maxillofacial Radiology

NAME	SPECIFICATION	QUANTITY
Dental Chairs and Units	Electrically operated with shadow less lamp, spittoon, 3 way syringe, instrument tray and motorized suction.	One chair & unit per PG resident
Intra Oral Radiography Machine	55-70 kVp with Digital Compatibility	1
IOPA film holders(Snap-A-Ray, XCP holders),bitewing holders		10-15, 3 sets
Panoramic Radiography (OPG) Machine with skull views with film printer	Digital Compatibility	1
Intra-Oral Camera		1
Pulp Tester		1
Autoclave		1
Punch Biopsy Tool		2
Biopsy Equipment		2
Surgical Trolley		2
Emergency Medicines Kit		1
Thyroid collar		1
Lead Screens/Proper barrier Radiation protection		1
Lead Aprons		2
Cyto brush		
TENS		1
Dark Room with Safe light facility		1
Automatic Radiographic Film Processors		1
U-V cabinet		2
X-ray Viewer boxes		2
Lacrimal Probes		2 sets
Sialography kit		2 sets
Computer with Internet Connection with attached Printer & Scanner		1
Intraoral photographic mirrors		1 set

#### 4. DEPARTMENT: Oral and Maxillofacial Pathology

NAME		SPECIFICATION	QUANTITY
Dental Chairs and Units	Electrically operated with shadow less lamp, spittoon, 3 way syringe, instrument tray and suction.		2chairs
Laboratory glassware's as required for processing of biopsy specimens & staining.			Adequate
Tissue capsules / Tissue embedding cassettes			25 – 30
Paraffin wax bath (thermostatically controlled)			1
Leuckhart pieces			10
Block holders			25
Semi automatic microtome/Automatic			1
Automatic Microtome knife Sharpner			1 (desirable)
Tissue floatation water bath (thermostatically controlled)			1
Slide warming table/hot plate			1
Steel slide racks for staining			1+2
Diamond glass marker			2
Research microscope with phase contrast, dark field, polarization, CCTV & photomicrography attachments			1
Binocular Compound Microscope			1/PG
Aluminum slide trays			5
Wooden / Plastic slide boxes			5
Wax block storing cabinet			1+2
Slide storing cabinet			1 of 10,000 capacity
Refrigerator			1
Micropipettes			2
Computer with Internet Connection with attached Printer & Scanner			1
<b>Desirable equipments:</b>			
Cryostat			1
Fluorescent Microscope			1

Image analysis software		1
Automatic processing equipment		1
Hard tissue microtome		1
Stereo microscope		1
Microwave		1
Tissue storing cabinet (Frozen state)		1

## 5. DEPARTMENT: Periodontology

NAME		SPECIFICATION	QUANTITY
Dental Chairs and Units	Electrically operated with shadowless lamp, spittoon, 3 way syringe, instrument tray and suction, micromotor, ultrasonic scaler.		One chair & unit per PG student
Auto Clave			1
W.H.O Probe			2
Nabers Probe			2
Williams Probe			20
UNC15 Probe			2
Marquis color coded Probe			1
Supra gingival scalers(Manual)			6 set
Sub gingival scalers (area specific)			6 set
<b>Surgical Instruments:</b>			
Routine Surgical Instrument kit			6 set
Surgery Trolleys			6
Electro surgery unit			1
Kirkland's Knife			1 set
Orban Knife			1 set
Paquette Blade Handle			1
Pocket Marker			1
Krane Kaplan			1

Miscellaneous Instruments:		
Composite and Splinting material		1 set
Digital camera and intra-oral camera		1 set
Emergency kit		1 set
Refrigerator		1 set
X-ray viewer		1
LCD projector		1
Computer with Internet with attached Printer & Scanner		1

**NB:** Implantology equipments are mandatory for this department.

## 6. DEPARTMENT: Oral and Maxillofacial Surgery

NAME		SPECIFICATION	QUANTITY
Dental chairs and units	Electrically operated with shadowless lamp, spittoon, instrument tray and high vacuum suction, micromotor /Air motor	One chair & unit per PG resident and Two chairs & unit for Faculty	
Autoclave	Front loading		1
Fumigators			1
Oscillating saw	With all hand pieces		1
<i>Surgical instruments</i>			
a. General surgery kit			2
b. Tracheotomy kit (with set of disposable tubes consisting of six)			1
c. Minor oral surgery kit			10
d. Osteotomy kit			1
e. Cleft surgery kit			1
f. Bone grafting kit			1
g. Emergency kit			1
h. Trauma set including bone plating kit			1
i. Implantology kit			1
Minor OT		with all necessary equipments	
Distraction osteogenesis kit (desirable)			1
Operating microscope and Microsurgery kit	(desirable)		1
Dermatomes			2
Formalin chamber			1
Pulse oxymeter			1
Ventilator			1

Major operation theatre with all facilities		1
Recovery I.C.U. with all necessary life support equipments		With 2 beds
Fiber optic light		1
Inpatient beds		10
Fiber optic laryngoscope		1
Computer with Internet Connection with attached Printer & Scanner		1

**NB:** Major Operation Theatre setup is mandatory for this Department.

## 7. EPARTMENT: Orthodontics and Dentofacial Orthopedic

Dental Chairs and Unit	Electrically operated with shadow less lamp, spittoon, 3 way syringe, instrument tray and suction.	One chair & unit per PG Resident
Vacuum/Pressure Moulding Unit		1
Soldering torches		2
Lab Micromotor		2
Spot Welders		2
Model Trimmer(Double Disc)		2
Light Curing Unit		3
Polishing Lathes		2
Tracing Tables		6
Digital Camera		1
Computers with all accessories and software for orthodontic image manipulation		1
X-ray Veiwier		2
LCD Projector		1
Autoclave		1
Vibrators		2
Plaster dispensers		2
Dry Heat Sterilizer		1
Ultrasonic Scaler		1
Sets of Orthodontic Pliers		4
Orthodontic Impression trays		10
Typodonts with full teeth set		1 set per PG intake
Anatomical Articulator with face bow attachments		1
Three Plane Articulators		5
Lockers for PG resident		As per number of PG
Sand blasting unit		1
Computer with printer and scanner with internet facilities		1

### 8. DEPARTMENT: Paediatric and Preventive Dentistry

NAME	SPECIFICATION	QUANTITY
Dental Chairs and Units	Electrically operated, spittoon attachment, Halogen Light with 2 intensity, high power motorized evacuation system, Air rotor with miniature hand piece, Micro motor with miniature contrangle Hand piece, 3 way syringe, ultrasonic scaler with 3 tips, light cure unit LED based heat free, X-ray viewer, instrument tray, Dental Operator's stool with height adjustment (40% should pedo chair)	One chair & unit per PG resident and Two chairs & unit for Faculty
Rubber Dam Kit		1 set per PG resident
Pedo extraction forceps		2 sets
Adult extraction forceps		2 sets
Amalgamator		1
Endomotor		1
Injectable GP condensation		1
Pulp Tester		2
Apex Locator		2
SS crown kit		4
Poly carbonate / strip crown kit		4
Endodontic pressure syringe		2
X-ray Viewer		1
Hydro solder		1
Spot welder		2
Chemo mechanical caries removal system		2
Typhodont		1 set (Pedo + Permanent) per PG resident
Pliers: i) Band forming ii) Band pinching iii) Ball and socket (No. 112) iv) Band removing v) Proximal contouring (No. 114) vi) Crimping plier		2 sets each
Computer with internet, Scanner and Printer	Pentium IV	1

<b>Sterilization:</b>	Front loading	
i) Autoclave		1
ii) Glass bead sterilizer		3
iii) Ultrasonic cleaner		2
iv) Needle destroyer		2
v) Fomalin chamber		2
<b>Minor OT Equipments/Instruments:</b>		
RVG		1
X-ray machine		1
Automatic developer		1
Conscious sedation unit	(Desirable)	1
Electronic anaesthesia		1
Pulse oxymeter		1
Emergency drugs tray		1
Magnifying louns		3
<b>Pedo PG Laboratory:</b>		
Phantom table with phantom heads with attached light, airtor and micromotor		3
Plaster dispenser	1 for plaster and 1 for stone	2
Vibrator		2
Model trimmer	double disc one diamond & one carborandum disc	1
Lab micromotor		2
Acrylizer		1

## 9. Public Health Dentistry/Dental Public Health

NAME	SPECIFICATION	QUANTITY
Clinics	Well-ventilated, well-illuminated, spacious, with concealed water, compressed-air and electric supply. Amenable to high wash and regular disinfection	One

Dental chairs	Electrically operated with shadow-less lamp, spittoon, 3 way syringe, Micro motor, Airtor, ultrasonic scaler, light cure unit, instrument tray and suction	One chair per PG resident
Extraction instruments	For basic exodontia	4 sets
Restorative instruments		4 sets
Endodontic instruments	For basic endodontics	4 sets
Ultrasonic scaling instruments		2 sets
Prosthetic instruments	For basic dentures	4 sets
Pulp tester		2
Autoclave		2
Sterilizer		2
X-ray viewer		1
Instrument cabinet		1
Discussion room	Spacious, well-ventilated, well-illuminated (natural and artificial lighting), furnished	One
Library (department)	Spacious, well-ventilated, well-illuminated (natural and artificial lighting), furnished with cabinets and almirah. Adequate collection of text and reference books, and journals	One
Museum	Spacious, well-ventilated, well-illuminated (natural and artificial lighting), furnished with cabinets and almirah. Adequate collection of dental exhibition models, posters, etc.	One
LCD or DLP multimedia projector	Portable	1
Computer set (desktop and/or laptop)	Computer set with up-to-date operating system and good memory and data storage capacity; Internet Connection with attached Printer & Scanner	2
Staff bus		(desirable)
Mobile dental clinic	Clinic fitted with at least 2 dental chairs with complete dental unit	1 (desirable)
Air Compressor		1
Ultrasonic scaler	Built-in compressor with LED guiding light and changeable scaler tips	1
IOPAR unit	Portable	1
Generator		1
Public address system, audio-visual aids	Portable	1
Television/LCD projector	Portable	1
DVD Player	Portable	1
Instrument cabinet, emergency medicine kits, BP Apparatus		1
Portable oxygen cylinder portable chair		1