

SYLLABUS

**for Courses affiliated to the
Kerala University of Health Sciences**

Thrissur 680596



Master of Dental Surgery (MDS)

Public Health Dentistry

Course Code 249

(2016-17 admission onwards)

2016

2. COURSE CONTENT

2.1 Title of course:

MDS Public Health Dentistry

2.2 Objectives of course

1. Goals

The goals of postgraduate training in various specialties are to train the BDS graduate who will:

- Practice respective specialty efficiently and effectively, backed by scientific knowledge and skill.
- Exercise empathy and a caring attitude and maintain high ethical standards.
- Continue to evince keen interest in continuing professional education in the specialty and allied specialties irrespective of whether in teaching or practice.
- Willing to share the knowledge and skills with any learner, junior or a colleague.
- To develop the faculty for critical analysis and evaluation of various concepts and views, to adopt the most rational approach.

2. Objectives

The objective is to train a candidate so as to ensure higher competence in both general and special area of interest and prepare him for a career in teaching, research and specialty practice. A candidate must achieve a high degree of clinical proficiency in the subject matter and develop competence in research and its methodology as related to the field concerned.

The above objectives are to be achieved by the time the candidate completes the course.

The objectives may be considered as under –

1. Knowledge (Cognitive Domain)
2. Skills (Psychomotor Domain)
3. Human values, ethical practice and communication abilities.

2.1. Knowledge

- Demonstrate understanding of basic sciences relevant to the specialty.
- Describe etiology, pathophysiology, principles of diagnosis and management of common problem within the specialty in adults and children.
- Identify social, economic, environmental and emotional determinants in a given case and take them into account for planning treatment.
- Recognize conditions that may be outside the area of specialty/competence and to refer them to an appropriate specialist.
- Update knowledge by self-study and by attending courses, conferences and seminars relevant to specialty.
- Undertake audit; use information technology and carryout research both basic and clinical with the aim of publishing or presenting the work at various scientific gatherings.
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2.2. Skills

- Take a proper clinical history, examine the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the condition.
- Acquire adequate skills and competence in performing various procedures as required in the specialty.

2.3. Human values, ethical practice and communication abilities

- Adopt ethical principles in all aspects of practice.
- Foster professional honesty and integrity.
- Deliver patient care, irrespective of social status, caste, creed, or religion of the patient.
- Develop communication skills, in particular skill to explain various options available in management and to obtain a true informed consent from the patient.
- Provide leadership and get the best out of his team in congenial working atmosphere.
- Apply high moral and ethical standards while carrying out human or animal research.
- Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues when needed.
- Respect patient's rights and privileges including patient's right to information and right to seek a second opinion.

2.3 Medium of instruction:

The medium of instruction for the course shall be English.

2.4 Course outline

Public Health Dentistry is the science and art of preventing and controlling Dental diseases and promoting Dental health through organized community efforts

2.5 Duration

The course shall be of **three years** duration. All the candidates for the degree of MDS are required to pursue the recommended course for at least three academic years as full time candidates in an institution affiliated to and approved for Postgraduate studies by KUHS, observing the norms put forward by the DCI.

- i. There will be no reduction for the course duration for any of the students including service candidates, diploma holders and those who have done senior house surgeoncy or equivalent research experience.
- ii. No student shall be permitted to complete the course by attending more than 6 continuous years.
- iii. A candidate selected for admission in a Dental College is obliged to follow the curriculum, rules and regulations as approved by the Dental Council of India and the University. Curriculum, rules or regulations are subject to changes from time to time.



2.6 Syllabus

The syllabus for the theory of Public Health Dentistry should cover the entire field of the subject and the following topics may be used as guidelines.

PAPER –I: APPLIED BASIC SCIENCES

1. Applied anatomy and histology:

A. Applied Anatomy in relation to:

Development of face
Bronchial arches
Muscles of facial expression
Muscles of mastication
TMJ
Salivary gland
Tongue
Salivary gland
Tongue
Hard and soft palate
Infratemporal fossa
Para nasal air sinuses
Pharynx and larynx
Cranial and spinal nerves-with emphasis on trigeminal, facial, glossopharyngeal and hypoglossal nerve
Osteology of maxilla and mandible
Blood supply, venous and lymphatic drainage of head and neck ,Lymph nodes of head and neck
Structure and relations of alveolar process and edentulous mouth
Genetics – fundamentals

B. Oral Histology

Development of dentition, innervations of dentin and pulp

Periodontium-development, histology, blood supply and lymphatic drainage
Oral mucous membrane

Pulp – periodontal complex

11. APPLIED PHYSIOLOGY AND BIOCHEMISTRY:



Cell

Mastication and deglutition

Food and nutrition

Metabolism of carbohydrates, proteins and fats

Vitamins and minerals

Fluid and electrolyte balance

Pain pathway and mechanism – types, properties

Blood composition and functions, clotting mechanism and erythropoiesis, blood groups and transfusions, pulse and blood pressure,

Dynamics of blood flow

Cardiovascular homeostasis –heart sounds

Respiratory system: Normal physiology and variations in health and diseases, Asphyxia and artificial respiration

Endocrinology: thyroid, parathyroid glands, pituitary, sex hormones and pregnancy, Endocrine regulation of blood sugar.

111.A.APPLIED PATHOLOGY:

Pathogenic mechanism of molecular level

Cellular changes following injury

Inflammation and chemical mediators

Oedema, thrombosis and embolism

Hemorrhage and shock

Neoplasia and metastasis

Blood disorders

Histopathology and pathogenesis of dental caries, periodontal disease, oral mucosal lesions, and malignancies, HIV

Propagation of dental infection

B.MICROBIOLOGY:

Microbial flora of oral cavity

Bacteriology of dental caries and periodontal disease

Methods of sterilization

Virology of HIV, herpes, hepatitis

Parasitology

Basic immunology – basic concepts of immune system in human body -cellular and humoral immunity

- antigen and antibody system

- Hypersensitivity

- Autoimmune diseases



C. ORAL PATHOLOGY

Detailed description of diseases affecting the oral mucosa, teeth, supporting tissues and jaws

1V. PHYSICAL AND SOCIAL ANTHROPOLOGY:

Introduction and definition

Appreciation of the biological basis of health and disease

Evolution of human race, various studies of different races by anthropological methods

V. APPLIED PHARMACOLOGY:

Definition scope and relations to other branches of medicine, mode of action, bioassay, standardization, pharmacodynamics, pharmacokinetics.

Chemotherapy of bacterial infections and viral infections –sulphonamides and antibiotics Local anaesthesia

Analgesics and anti – inflammatory drugs

Hypnotics, tranquilizers and antipyretics

Important, hormones – ACTH, cortisone, insulin and oral ant diabetics. Drug addiction and tolerance

Important pharmacological agents in connection with autonomic nervous system –adrenaline, noradrenalin atropine

Brief mention of antihypertensive drugs

Emergency drugs in dental practice

Vitamins and haemopoietic drugs

V1. RESEARCH METHODOLOGY AND BIOSTATISTICS:

HEALTH INFORMATICS – basic understanding of computers and its components, operating software (windows), Microsoft office, preparation of teaching materials like slides, project, multimedia knowledge.

RESEARCH METHODOLOGY – definitions, types of research, designing written protocol for research, objectivity, in methodology, quantification, records and analysis.

BIOSTATISTICS – introduction, applications, uses and limitations of bio – statistics in public Health Dentistry, collection of data, presentation of data , measures of of central tendency, measures of dispersion methods of summarizing, parametic and non paramedic tests of significance, correlation and regression, multivariate analysis, sampling and sampling techniques – types, errors, bias, trial and calibration.

COMPUTERS - basic operative skills in analysis of data and knowledge of multimedia.



PAPER-II – Public Health

1. Public Health

Definition concepts and philosophy of dental health History of public health in and at international level Terminologies used in public health

2. HEALTH:

Definition , concepts and philosophy of health
Health indicators
Community and its characteristics and relation to health

3. DISEASE:

Definition, concepts
Multifactorial causation, natural history, risk factors
Disease control and eradication, evaluation and causation, infection of specific diseases
Vaccines and immunization

4. GENERAL EPIDEMIOLOGY

Definition and aims, general principles
Multifactorial causation, natural history, risk factors
Methods in epidemiology, descriptive analytical, experimental and classic epidemiology of specific diseases, uses of epidemiology
Duties of epidemiologist
General idea of method of investigating chronic diseases, mostly non – infectious nature, epidemic, endemic, and pandemic.
Ethical conversation in any study requirement
New knowledge regarding ethical subjects
Screening of diseases and standard procedures used

5. ENVIRONMENTAL HEALTH:



Impact of important components of the environment of health

Principles and methods of identification, evaluation and control of such health hazards

Pollution of air, water soil, noise, food

Water purification, international standards of water

Domestic and industrial toxins, ionizing radiation

Occupational hazards

Waster disposal –various methods and sanitation

6. PUBLIC HEALTH EDUCATION:

Definition, aims, principles of health education

Health education, methods, models, contents ,planning health education programs

7. PUBLIC HEALTH PRACTICE AND ADMINISTRATION SYSTEM IN INDIA.

8. ETHICS AND JURISPRUDENCE:

Basic principles of law

Contract laws- dentist –patient relationships & legal forms of practice

Dental malpractice

Person identification through dentistry

Legal protection for practicing dentist

Consumer protection act

9. NUTRITION IN PUBLIC HEALTH:

Study of science of nutrition and its application to human problem

Nutritional surveys and thir evaluations

Influence of nutrition and diet on general health and oral health, dental caries, periodontal disease and oral cancers

Dietary constituents and carcinogenicity Guidelines for nutrition

10. BEHAVIORAL SCIENCES:

Definition and introduction

Sociology: social class, social group, family types, communities and social relationships, culture, its effect on oral health

Psychology: definition, development of child psychology, anxiety, fear and phobia, intelligence, learning, motivation, personalities, fear, dentist- patient relationship modeling and experience



11.HOSPITAL ADMINISTRATION:

Departmental maintenance, organizational structures

Types of practices

Biomedical waste management

12.HEALTH CARE DELIVERY SYSTEM:

International oral health care delivery systems- Review

Central and state system in general and oral health care delivery system if any

National and health policy

National health programme

Primary health care- concepts, oral health in PHC and its implications

National and international health organizations

Dentists Act 1928, dental council of India, ethics, Indian dental association Role of W.H.O. and

Voluntary organizations in Health Care for the community

13. ORAL BIOLOGY AND GENETICS:

A detailed study of cell structure

Introduction to Genetics, Gene structure, DNA,RNA

Genetic counseling, gene typing

Genetic approaches in the study of oral disorders

Genetic Engineering – Answer to current health problems

PAPER-III – Dental Public Health

1.Dental Public Health

History

Definition and concepts of dental public health

Differences between clinical and community dentistry

Critical review of current practice

Dental problems of specific population groups such as chronically ill, handicapped and institutionalized group.

2.EPIDEMIOLOGY OF ORAL DISEASES AND CONDITIONS:

Dental caries, gingival, periodontal disease malocclusion, dental Fluorosis, oral cancer, TMJ disorders and other oral health related problems.

3.ORAL SURVEY PROCEDURES:

Planning

Implementation

WHO basic oral health methods 1997 Indices for dental diseases and conditions

Evaluation

4.DELIVERY OF DENTAL CARE:

Dental person power – dental auxiliaries

Dentist –population ratios,

Public dental care programs

School dental health programs – Incremental and comprehensive care

Private practice and group practice

Oral health policy – National and international policy



5. PAYMENT FOR DENTAL CARE:

Prepayment

Post – payment

Reimbursement plans

Voluntary agencies

Health insurance

6. EVALUATION OF QUALITY OF DENTAL CARE:

Problems in public and private oral health care system program

Evaluation of quality of services, governmental control

7. PREVENTIVE DENTISTRY:

Levels of prevention

Preventive oral health programs screening, health education and motivation

Prevention of all dental diseases – dental caries, periodontal diseases, oral cancer, malocclusion and Dentofacial anomalies

Role of dentist in prevention of oral diseases at individual and community level.

Fluoride

-History

-Mechanism of action

-Metabolism

-Fluoride toxicity

-Fluorosis

-Advantages and disadvantages of each

-Update regarding Fluorosis

-Epidemiological studies

-Methods of fluoride supplements

-Defluoridation techniques

Plaque control measures

-Health Education

-Personal oral hygiene

-Tooth brushing technique

-Dentifrices, mouth rinses

-Pit and fissure sealant, ART

Preventive oral health care for medically compromised individual

Update on recent preventive modalities

Caries vaccines

Dietary counseling

8. PRACTICE MANAGEMENT:

Definition

Principles of management of dental practice and types Organization and administration of dental practice

Ethical and legal issues in dental practice

Current trends



Paper IV : Essay on Public Health Dentistry with emphasis on recent trends.

FORMATIVE EVALUATION PATTERN STRUCTURED TRAINING SCHEDULE:

First Year

SEMINARS:

- 5 seminar in basic sciences subject,
- To conduct 10 journal clubs
- Library assignment on assigned topics
- Submission of synopsis for dissertation within 6 months
- Periodic review of dissertation at two monthly intervals

CLINICAL TRAINING

- clinical assessment of patient
- learning different criteria and instruments used in various oral indices – 5 cases each
- Oral Hygiene Index – Greene and vermillion
- Oral Hygiene Index – Simplified
- DMF – DMF (T), DME (S)
- Def
- Fluorosis Indices – Dean’s Fluorosis Index, Tooth Surface Index for Fluorosis, Thylstrup and Fejerskov Index
- Community Periodontal Index (CPI)
- Plaque Index –Silness and Loe
- WHO Oral Health Assessment Form – 1917
- Carrying out treatment (under comprehensive oral health care) of 10 patients – maintaining complete records.

FIELD PROGRAMME:

- Carrying out preventive programs and health education for school children of the adopted school. School based preventive programs –
- Topical Fluoride application – sodium Fluoride, Stannous Fluoride, Acidulated Phosphate Fluoride preparations and Fluoride varnishes, Fluoride mouth rinses
- Pit and Fissure Sealant – chemically cured (GIC) light cured
- Minimal Invasive Treatment – Preventive Resin Restorations (PRR), Atraumatic Restorative Treatment (ART)
- Organizing and carrying out dental camps in both urban and rural areas.
- Visit to slum, water treatment plant, sewage treatment plant, and Milk dairy, Public Health Institute, Anti – tobacco Cell, Primary Health Center and submitting reports.
- In additions the postgraduate shall assist and guide the under graduate students in their clinical and field programs.

Second Year

SEMINARS:

- Seminars in Public Health and Dental Public Health topics
- Conducting journal clubs
- Short-term research project on assigned topics- 2
- Periodic review of dissertation at monthly reviews



CLINICAL TRAINING- CONTINUATION OF THE CLINICAL TRAINING:

Clinical assessment of patient

Learning different criteria and instruments used in various oral indices

Oral Hygiene Index – Greene and vermilion

Oral Hygiene Index – Simplified

DMF – DMF (T), DMF (S)

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Fluorosis Indices – Dean’s Fluorosis Index, Tooth Surface Index for Fluorosis, Thylstrup and Fejerskov Index

Community Periodontal Index (CPI) Plaque Index –Silness and Loe

WHO Oral Health Assessment Form – 1987

Carrying out treatment (under comprehensive oral health care) of 10 patients – maintaining complete records.

FIELD PROGRAM _ CONTINUATION OF FIELD PROGRAM:

carrying out school dental health education

school based preventive programs-

Topical Fluoride application –Sodium Fluoride, Stannous Fluoride, Acidulated Phosphate

Fluoride preparations and Fluoride varnishes, Fluoride mouth rinses

Pit and Fissure Sealant – chemically cured (GIC) light cured

Minimal Invasive Treatment – Preventive Resin Restorations (PRR), Atraumatic Restorative Treatment (ART)

Organizing and carrying out dental camps in both urban and rural areas.

Assessing oral health status of various target groups like School children, Expectant mothers Handicapped, Underprivileged, and geriatric populations. Planning dental manpower and financing dental health care for the above group.

Application of the following preventive measures in clinic – 10 Cases each.

Topical Fluoride application –Sodium Fluoride, Stannous Fluoride, Acidulated Phosphate

Fluoride preparations and Fluoride varnishes.

Pit and Fissure Sealant

Planning total health care for school children in an adopted school:

----periodic surveying of school children

-----Incremental dental care

-----Comprehensive dental care

Organizing and conducting community oral health surveys for all oral conditions-3 surveys

In addition the post graduate shall assist and guide the under graduate students in their clinical and field programs

To take lecture classes (2) for Undergraduate students in order to learn teaching methods (pedagogy) on assigned topic:

Third Year:

SEMINARS:

Seminars on recent advances in Preventive Dentistry and Dental Public Health

Critical evaluation of scientific articles- 10 articles



Completion and submission of dissertation

CLINICAL TRAINING:

Clinical assessment of patient

Learning different criteria and instruments used in various oral indices – 5 each

Oral Hygiene Index – Greene and vermilion

Oral Hygiene Index – Simplified

DMF – DMF (T), DME (S)

Def t/s

Fluorosis Indices – Dean’s Fluorosis Index, Tooth Surface Index for Fluorosis, Thylstrup and Fejerskov Index

Community Periodontal Index (CPI)

Plaque Index –Silness and Loe

WHO Oral Health Assessment Form – 1987

Carrying out treatment (under comprehensive oral health care) of 10 patients – maintaining complete records.

carrying out school dental health education School based preventive

Topical Fluoride application –Sodium Fluoride, Stannous Fluoride, Acidulated Phosphate

Fluoride preparations and Fluoride varnishes, Fluoride mouth rinses

Pit and Fissure Sealant – chemically cured (GIC) light cured

Minimal Invasive Treatment – Preventive Resin Restorations (PRR), Atraumatic Restorative Treatment (ART)

To take lecture classes (2) for Undergraduate students in order to learn teaching methods (pedagogy) on assigned topic:

Exercise on solving community health problems -10 problems

Application of the following preventive measures in clinic -10 cases each.

Topical Fluoride application –Sodium Fluoride, Stannous Fluoride, Acidulated Phosphate

Fluoride preparations

Pit and Fissure Sealant –

Dental –health education training of school teachers, social workers, health workers,

Posting at dental satellite center/ nodal centers

In addition the post graduate shall assist and guide the under graduate students in their clinical and field programs

Before completing the third year M.D.S. a student must have attended two national conferences. Attempts should be made to present two scientific papers, publication of a scientific article in a journal.

2.7 Total number of hours

As per the regulations of the DCI

2.8 Branches if any with definition

Public Health Dentistry

2.9 Teaching learning methods



Method of Training

The training of a postgraduate student shall be full time but graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the students in all facets of educational process is essential. Every candidate should take part in seminars, group discussions, case demonstrations, clinics, journal review meetings, and clinical meetings. Every candidate shall be required to participate in the teaching and training programme of undergraduate students and interns. Training should include involvement in laboratory and experimental work, and research studies.

Every Institution undertaking Post Graduate training programme shall set up an Academic cell or a Curriculum Committee, under the chairmanship of a Senior faculty member, which shall work out the details of the training programme in each speciality in consultation with other Department faculty staff and also coordinate and monitor the implementation of these training Programmes.

Based on the above guidelines for a structured training programme for postgraduate courses, the basic tenets of a successful postgraduate teaching programme, are detailed under the following heads.

- **Formal Lectures** by the faculty on varied subjects including general areas and systems. Both senior and junior faculty can do this. However, the number of these classes should be maintained of low levels to encourage self-learning.
- **Symposia / Seminars** form an integral part of PG learning. A monthly symposium will generate approximate 30-35 symposia / course. These symposia can include department faculty and HODs as chairpersons and maximum involvement of both students and faculty should be ensured.
- **Clinical Discussions** form the core of PG training and can be assigned to various clinical units on rotating basis. However other faculty could also actively participate in the discussion. The discussions must be 3-4/week. One suggestion is to score the performance of the candidate by a small panel of faculty and convey the scores to the candidate / PG at the end of the session.
- **Journal Club /Clinical Club** should be conducted at least once in a week in each postgraduate department. Journal clubs not only imparts new information but also trains the candidate to objectively assess and criticize various articles which come out and should be useful in ensuring evidence based dentistry.
- **Guest Lectures** can be integrated into the PG program at least once in a month. Even the retired faculty can be invited for delivering the lectures and will ensure importing of greater wisdom to the candidates.
- **Orientation Classes** for newcomers should also be incorporated. These classes can even be assigned to junior faculty/senior PGs.



- **Clinical posting.** Each PG student should work in the clinics on regular basis to acquire adequate professional skills and competency in managing various cases to be treated by a specialist.
- **Clinico Pathological Conferences** should be held once a year involving the faculties of Oral Medicine and Radiology, Oral Pathology and concerned clinical department. The student should be encouraged to present the clinical details, radiological and histopathological interpretations and participation in the discussions.
- **Rotation postings in other departments** should be worked out by each department in order to bring in more integration between the speciality and allied fields.
- **Periodical Quiz** can be both informative and entertaining and should be encouraged and planned.
- **Computer Training and Internet Applications** are now becoming a must for both faculty and students. These areas should be strengthened as a next step. There can be a sort of internet information club in the departments.
- **Conferences/CDEs** – All postgraduate students should be encouraged to attend conferences and CDEs. They should also be asked to present papers wherever appropriate and should be rewarded by assigning scores for them.
- **Publication of scientific papers** – It is desirable and advisable to have at least two publications in the State/National/International indexed dental journals.
- **Involvement in Teaching Activity** – PG students can be assigned the job of teaching the undergraduate students and these will definitely improve the teaching skills in the postgraduate students.

Examinations

Evaluation is a continuous process, which is based upon criteria developed by the concerned authorities with certain objectives to assess the performance of the learner. This also indirectly helps in the measurement of effectiveness and quality of the concerned MDS programme. Evaluation is achieved by two processes

- 1) Formative or internal assessment
- 2) Summative or university examinations.

Formative evaluation is done through a series of tests and examinations conducted periodically by the institution. Summative evaluation is done by the university through examination conducted at the end of the specified course.

A candidate registered for MDS course must clear the final examination within six years of the date of admission. The examinations should be so organized that this shall be used as the mechanism to confirm that the candidate has acquired appropriate

knowledge, skill and competence at the end of the training that he/she can act as a specialist and/or a medical teacher as per expectation. University examination will be held regularly by KUHS in April-May/October-November every year.

A candidate who wishes to study for MDS in a second specialty should have to take the full course of 3 years in that specialty and appear for the examinations.

2.10 Content of Each Subject in Each Year

Present in clause 2.6

2.11 No: of hours per subject

Present in clause 2.6

2.12 Practical training

Present in clause 2.6

2.13 Records

Present in clause 2.20

2.14 Dissertation: As per Dissertation Regulations of KUHS

Every candidate pursuing MDS degree course is required to carry out work on a selected research project under the guidance of a recognized postgraduate teacher. The results of such a work shall be submitted in the form of a dissertation.

The dissertation is aimed to train a postgraduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, and comparison of results and drawing conclusions.

Every candidate shall submit to the University in the prescribed format a synopsis containing particulars of proposed dissertation work after obtaining ethical clearance from the Institutional Ethical Committee **within six months from the date of commencement of the course or before the dates notified by the University**. The synopsis shall be sent only through the Principal of the institution.

Such synopsis will be reviewed and the dissertation topic will be registered by the university. No change in the dissertation topic or guide/co-guide shall be made without prior approval of the University. The dissertation should not be just a repetition of a previously undertaken study but it should try to explore some new aspects. The dissertation should be written under the following headings:

Introduction

- i. Aims and Objectives of the study
- ii. Review of Literature
- iii. Methodology
- iv. Results



- v. Discussion
- vi. Conclusion
- vii. Summary
- viii. References
- ix. Annexures

The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires, and other annexures. It should be neatly typed (font size 13-Times New Roman or font size 13-Cambria) in 1.5 line spacing on one side of the paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. (Refer Section V and VII). The guide, co-guide if any, Head of the Department and the Head of the Institution shall certify the dissertation.

For uniformity, it was suggested that the colour of the hard bind of the dissertation for all branches of MDS course in the purview of KUHS shall be dark brown with letters of gold colour. The title, author, and year of study should also be imprinted or embossed on the spine of the book. **Three hard copies and one properly labeled soft copy in a CD (refer Section VII) of the dissertation thus prepared shall be submitted to KUHS on the 29th month of commencement of the course / 31st Oct. of the 3rd academic year, whichever falls first.** Dissertation should preferably be sent to a minimum of three reviewers / examiners / assessors, of which two shall be from out side the state and one from the affiliated colleges o KUHS. If modifications are to be made as specified, three hard copies and one soft copy of the dissertation after corrections made by the candidate should be submitted with in a minimum of 30 days to the University. Consent for acceptance for evaluation of dissertation should be obtained from the reviewer/examiner/assessor before the dissertation are despatched. Proforma for evaluation of dissertation should be sent along with the copies of the dissertation to the reviewers appointed by the university. The proforma should contain all the assessment criteria with the clause – **Accepted/Accepted with modifications/Rejected** and reasons for rejection by the examiner. This proforma should be sent back to the University within two weeks / within the date specified after receipt of dissertation. The dissertation may be declared accepted if more than 50% of the reviewers (2 in the case of 3 reviewers) have accepted it.If modifications are to be made as specified, 3 hard copies and one soft copy of the dissertation after corrections made by the candidate should be submitted within 30 days to the University which may be sent back to the same examiner/s by the University for Acceptance after a fee has been levied from the candidate. If the dissertation has been rejected by more than 50% of the reviewers (2 in the case of 3 reviewers), the dissertation may be reviewed by an Expert Reviewing Committee comprising of not less than two



subject experts, Dean (Research) of KUHS and Guide of the candidate provided the Guide requests for a review, after a fee has been levied from the candidate. If rejected by the Reviewing Committee, the candidate should take up a new topic and undergo all the procedures of submitting the synopsis, fees, IEC clearance, etc., as prescribed by the University. The candidate who takes up the new topic can appear only for the subsequent examination.

Approval of dissertation work is an essential precondition for a candidate to appear in the final University examination. Hall tickets for the Part II examination should be issued to the candidate only if the dissertation has been accepted.

A candidate whose dissertation has been accepted by the examiners and approved by the University, but who is declared to have failed at the final examination will be permitted to reappear at the subsequent MDS examination without having to prepare a dissertation.

Guide – The academic qualification and teaching experience required for recognition by the University as a guide for dissertation work is as laid down by the Dental Council of India / KUHS.

Co-guide – A co-guide may be included provided the work requires substantial contribution from the same department or a sister department or from another institution recognized for teaching/training by KUHS/DCI. The co-guide should fulfill the academic qualification and teaching experience required for recognition by the University as a co-guide for dissertation work.

Change of Guide – In the event of a registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the University.

2.15 Speciality training if any

Present in clause 2.6

2.16 Project work to be done if any

Present in clause 2.6

2.17 Any other requirements [CME, Paper Publishing etc.]

Present in clause 2.6

2.18 Prescribed/recommended textbooks for each subject

1. Dentistry, dental practice and community by Striffler DF
2. Primary preventive dentistry by Harris N & Christen AG
3. Community dental health by Jong AW
4. Principles of dental public health vol I part 1 &2 vol 2 by Dunning JM
5. Dental public health: an introduction to community dentistry by Slack G.L.
6. Fluoride in dentistry by Fejerskar Ok & Etal Ed
7. Fluorides & dental caries by Tiwari A

8. Text book of preventive and social medicine by Mahajan BK & Gupta Mc
9. Dental health education by Who Expert Committee
10. Metabolism and toxicity of fluoride vol I by Whitford GM.
11. Epidemiology bio-statistics and preventive medicine by Jekel JF & Etal
12. Introduction to oral preventive medicine: a programme for the first clinical experience by Muhlemann HR
13. Text book of preventive medicine by Stallard CE
14. Handbook of dental jurisprudence and risk management by Pollack BR ED
15. Fluorides and human health by World Health Organisation
16. Appropriate use of fluorides for human health by Murry JJ ED
17. Community health by Green LW
18. Prevention of dental diseases by Murry JJ ED
19. Color atlas of forensic dentistry by Whittaker DK & DAC Donald DG
20. Health research design and methodology by Okolo EN
21. Oxford text book of public health vol.3 by Holland WW & Et Al
22. Guidelines for drinking water quality vol 1 recommendations by WHO
23. Introduction to Bio-statistics by Mahajan B.K.
24. Guidelines for drinking water quality vol. 2 health criterial & other supporting information by WHO
25. Dentistry, dental practice and the community by Burt BA & Et Al
26. Occupational hazards to dental staff by Scully C
27. Forensic dentistry by Cameron JM
28. Research methodology: methods & techniques Kothari R
29. Law & ethics in dentistry by Shear J & Walters L
30. Health research methodology : a guide for training in research methods (western pacific education in action series no.5) by WHO
31. Community oral health by Pine CM
32. Park's text book of preventive and social medicine by Park K
33. Epidemiology, bio-statistics and preventive medicine by Katz DI
35. Oral health surveys basic methods by WHO
36. Essentials of preventive and community dentistry by Peter S
37. Fluorides in caries prevention by Murry JJ ED
38. Preventive dentistry by Forrest John O
39. Fluorine and fluorides: a report by World Health Organisation
40. Planning and evaluation of public dental health services: a technical report by World Health Organization
41. Prevention methods and programmes for oral diseases: a technical report by World Health Organization
42. Community periodontal index of treatment needs development, field-testing and statically evaluation by World Health Organization
43. Planning oral health services by World Health Organization
44. Guide to epidemiology and diagnosis of oral mucosal diseases and conditions by World Health Organization
45. Community dentistry (pg hand book series vol 8) by Silberman SI & Tryon AF.ED.



2.19 Reference books

As recommended by HOD

2.20 Journals

1. Journal of Community Dentistry and Oral Epidemiology
2. Journal of Public Health Dentistry
3. Fluoride Journal of International Society
4. Journal of Community Dental Health
5. Journal of Fluoride research
6. Journal of clinical preventive dentistry
7. Journal of Indian Dental Association
8. British Dental Journal
9. Journal of American Dental Association
10. Journal of Dentistry
11. Dental Clinics of North America
12. Journal of Dental Education
13. Journal of Dental Research

2.21 Logbook

▫ **Work Diary / Log Book**

Logbooks serve as a document of the trainee's work. The trainee shall maintain this Logbook of the special procedures/operations observed/assisted/performed by him/her during the training period right from the point of entry and its authenticity shall be assessed weekly by the concerned Post Graduate Teacher / Head of the Department. This shall be made available to the Board of Examiners for their perusal at the time of his / her appearing at the Final examination. The logbook should record clinical cases seen and presented, procedures and tests performed, seminars, journal club and other presentations. Logbook entries must be qualitative and not merely quantitative, focusing on learning points and recent advances in the area and must include short review of recent literature relevant to the entry. A work diary containing all the various treatment done by the candidate in the course of the study should also be maintained. The work diary shall be scrutinized and certified by both the guide/co guide and Head of the Department and presented in the University practical/clinical examination.



3.EXAMINATIONS

3.1 Eligibility to appear for exams

Every candidate to become eligible to appear for the **MDS examination** shall fulfill the following requirements.

Attendance

Every candidate shall have fulfilled the attendance prescribed by the University during **each academic year** of the Postgraduate course. A candidate becomes eligible for writing the University examination only after the completion of 35 months from the date of commencement of the course. The 36th month may be for the examination and announcement of results. The candidates should have completed the training period before the commencement of examination.

Dissertation

Approval of the dissertation is a mandatory requirement for a candidate to appear for the MDS University examination.

Library Dissertation

Submission of library dissertation as per the regulations of DCI / KUHS is mandatory for a candidate to appear for the university examination.

Progress and Conduct

Every candidate shall have participated in seminars, journal review meetings, symposia, conferences, case presentations, clinics and didactic lectures during each year as designed by the concerned department.

Work Diary and Logbook

Every candidate shall maintain a work diary and logbook for recording his/her participation in the training programmes conducted by the department. The work diary and logbook shall be verified and certified by the Head of the department.

The certification of satisfactory progress by the Head of the Department and Head of the Institution shall be based on checklist given in 5.1 to 5.8.

- **Students should note that in case they do not complete the exercises and work allotted to them within the period prescribed, their course requirements will be considered unfulfilled.**
- **Clinical Records, Work Diaries and Logbooks should be maintained regularly and approved by the guide, duly certified by the Head of the Department.**



3.2 Schedule of Regular/Supplementary exams

The MDS examination shall be held at the end of the third academic year. The university shall conduct two examinations in a year at an interval of four to six months between two examinations. **Not more than two examinations shall be conducted in an academic year.**

3.3 Scheme of examination showing maximum marks and minimum marks

- MDS examination will consist of Written (Theory), Viva Voce, and Practical / Clinical examinations.

Written Examination (Theory): 300 Marks

Written examination shall consist of four question papers, each of three hours duration. Each paper shall carry 75 marks. The type of questions in the first three papers will be two long essay questions carrying 20 marks each and five short essay questions each carrying seven marks. There will be no options in the questions in the first 3 papers. Fourth paper will be a single essay question paper which will carry an option and the candidate is to answer only one of the essays. Questions on recent advances may be asked in any or all the papers. The syllabus for the theory papers of the concerned specialty should cover the entire field of the subject. Though the topics assigned to the different papers are generally evaluated under designated papers, a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics. The theory examinations shall be held sufficiently earlier than the practical/clinical examinations so that the answer books can be assessed and evaluated before the start of the practical/clinical examination. The total marks for the theory examination shall be 300.

Practical Examination : 200 Marks

In case of practical examination, it should aim at assessing competence and skills of techniques and procedures. It should also aim at testing student's ability to make relevant and valid observations, interpretation and inference of laboratory or experimental or clinical work relating to his/her subject for undertaking independent work as a specialist. The total mark for practical/clinical examinations shall be 200.

Viva voce : 100 Marks

Viva voce examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The candidate may be given a topic for the pedagogy in the beginning of the clinical examination and asked to make a presentation on the topic for 8-10 minutes. The total marks shall be 100 of which 80 would be for the viva voce (20 marks/examiner) and 20 marks for the pedagogy.

3.4 Papers in Each year

Paper-I- Applied anatomy, physiology, pathology & research methodology



- Paper-II - Public Health
Paper III - Dental Public Health
Paper-IV - Essay

3.5 Details of theory exams

Written examination shall consist of four papers each of three hours duration. Total marks for each paper will be 75. Paper I, II and III shall consist of two long questions carrying 20 marks each and 5 short essay questions carrying 7 marks each.

Distribution of topics for each paper will be as follows:

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 statistics.

PAPER II: Public Health

PAPER-III: Dental Public Health

PAPER-IV: Essay

3.6 Model question paper for each subject with question paper pattern

Model Question Paper MDS Public Health Dentistry

Paper I :Applied anatomy, physiology, pathology & research methodology

(Answer all questions)

Time 3 hrs

Max marks 75

Long essays

(2 x 20 =40 marks)

1. Discuss the structure, anatomical relationship and nerve supply of the submandibular salivary gland. Briefly describe the influence of aging on salivary secretion.
2. What do you understand by statistical data?What are the types of data and discuss how descriptive statistics are distinguished from inferential statistics

Short essays

(5 x 7 =35 marks)

3. Iron deficiency anemia
4. Social factors influencing the health of people
5. Rodent ulcer
6. Functions of saliva
7. Chemical mediators of inflammation

Paper II :Public Health

(Answer all questions)

Time 3 hrs

Max marks 75

Long essays

(2 x 20 =40 marks)

1. Discuss the role of Information, Education and communication in the prevention and control of HIV/AIDS
2. . Nutritional programs in India

Short essays

(5 x 7 =35 marks)

3. Legal protection for practicing dentist
4. Smokeless tobacco and oral cancer
5. Dentist patient relationship
6. Water borne diseases
7. Indicators of health

Paper III :Dental Public Health

(Answer all questions)

Time 3 hrs

Max marks 75

Long essays

(2 x 20 =40 marks)

1. Discuss the advantages and disadvantages of systemic and topical fluorides
2. Discuss the epidemiology of dental caries among school children in India.

Short essays

(5 x 7 =35 marks)

3. Incremental dental care
4. Sugar substitutes
5. Atraumatic restorative technique
6. Clinical features of dental fluorosis
7. Dental insurance

Paper IV : Essay

(Answer any ONE question)

Time 3 hrs

Max marks 75

1. Effective utilization of dental manpower in the primary prevention of oral problems.
OR
3. Oral health and Quality of life

3.7 Internal assessment component

Not applicable.



3.8 Details of practical/clinical examinations

The Practical / Clinical examination shall be conducted in 2 days. If there are more than 6 candidates, it shall be extended for one more day. Each candidate shall be examined for a minimum of three days, six hours per day including viva voce.

The practical examination will include

	Time	Marks
1. Clinical examination	1 hour	50
2. Clinical procedures	1 hour	50
3. Critical evaluation of research article	1 hour	50
4. Problem solving a hypothetical oral health situation in a community	1 hour	50

Day 1

1. Clinical examination of at least 2 patients representing the community- includes history, main complaints, examination and recording of the findings, using indices for the assessment of oral health and presentation of the observation including diagnosis, comprehensive treatment planning. (50 Marks -1 hour)
2. Clinical Procedures
 - a. One of the treatment procedures as per treatment plan. (Restorative/surgical/rehabilitation)
 - b. Preventive oral health care procedure.
 - c. One of the procedures specified in the curriculum (50 Marks -1 hour)
3. Critical evaluation of a given research article published in an international journal (50 Marks -1 Hour)

Day 2

4. Problem solving - a hypothetical oral health situation existing in a community is given with sufficient data. The student as a specialist in community dentistry is expected to suggest practical solutions to the existing oral health situation of the given community. (50 Marks -1 Hour)
5. Viva Voce 100 Marks



3.9 Number of examiners needed (Internal & External) and their qualifications

There shall be at least four examiners in each branch of study. Out of four, two (50%) should be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the DCI. The external examiners shall ordinarily be invited from another recognized University from outside the state. An external examiner may ordinarily be appointed for the same institute for not more than two years consecutively. Thereafter he may be reappointed after an interval of one year. The same set of examiners shall ordinarily be responsible for the practical and oral part of the examination.

The Head of the Department shall ordinarily be one of the examiners and the chairperson of the Board of Examinations; second internal examiner shall rotate after every two consecutive examinations if there are more than two postgraduate teachers in the department other than the Head of the department. No person who is not an active Postgraduate teacher in that subject can be appointed as Examiner. However in case of retired personnel, a teacher who satisfies the above conditions could be appointed as examiner up to one year after retirement.

For the MDS examination, if there are no two qualified internal examiners in an institute the second internal examiner can be from a neighbouring DCI and KUHS approved / recognized Dental College having PG course in the specific speciality. This examiner should be an active PG teacher in the same speciality with the qualifications and experience recommended for a teacher for postgraduate degree programme. The examination can also be conducted by one qualified internal examiner and three qualified external examiners if there is no qualified second internal examiner.

Reciprocal arrangement of Examiners should be discouraged, in that, the internal examiner in a subject should not accept external examinership of a college from which the external examiner is appointed in his subject in the same academic year.

3.10 Details of viva

Viva Voce :100 Marks

i. Viva-Voce examination :80 marks

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression, interpretation of data and communication skills. It includes all components of course contents. It includes presentation and discussion on dissertation also.

ii. Pedagogy and thesis presentation : 10 +10 = 20 marks



4. INTERNSHIP

Not Applicable for PG Courses

5. ANNEXURES

5.1 :Checklist 1

Model Checklist for Evaluation of Preclinical Exercises

Name of Student:

Date:

Name of the Faculty-in-charge:

Name of Exercise

Sl. No:	Items for observation during evaluation	Score
1	Quality of Exercise	
2	Ability to answer to questions	
3	Punctuality in submission of exercise	
4	TOTAL SCORE	

Performance	Score
Poor	0
Below Average	1
Average	2
Good	3
Very good	4

Signature of Faculty-in-charge



5.2 :Checklist 2

Model Checklist for Evaluation of Journal Review / Seminar Presentation

Name of Student:

Date:

Name of the Faculty/Observer:

Name of Journal / Seminar:

Sl. No:	Items for observation during evaluation	Score
1	Relevance of Topic	
2	Appropriate Cross references	
3	Completeness of Preparation	
4	Ability to respond to questions	
5	Effectiveness of Audio-visual aids used	
6	Time Scheduling	
7	Clarity of Presentation	
8	Overall performance	
9	TOTAL SCORE	

Performance	Score
Poor	0
Below Average	1
Average	2
Good	3
Very good	4

Signature of Faculty/Observer



5.3 :Checklist 3

Model Checklist for Evaluation of Clinical Case and Clinical Work

Name of Student:

Date:

Name of the Faculty/Observer:

Sl. No:	Items for observation during evaluation	Score
1	History	
	Elicitation	
	Completeness	
2	Examination	
	General Examination	
	Extraoral examination	
	Intraoral examination	
3	Provisional Diagnosis	
4	Investigation	
	Complete and Relevant	
	Interpretation	
5	Diagnosis	
	Ability to defend diagnosis	
6	Differential Diagnosis	
	Ability to justify differential diagnosis	
7	Treatment Plan	
	Accuracy	
	Priority order	
8	Management	
9	Overall Observation	
	Chair side manners	
	Rapport with patient	
	Maintenance of Case Record	
	Quality of Clinical Work	
	Presentation of Completed Case	
10	TOTAL SCORE	

Performance	Score
Poor	0
Below Average	1
Average	2
Good	3
Very good	4

Signature of Faculty/Observer



5.4 :Checklist 4

Model Checklist for Evaluation of Library Dissertation Work

Name of Student:

Date:

Name of the Faculty/Guide:

Sl. No:	Items for observation during evaluation	Score
1	Interest shown in selecting topic	
2	Relevance of Topic	
3	Preparation of Proforma	
4	Appropriate review	
5	Appropriate Cross references	
6	Periodic consultation with guide	
7	Completeness of Preparation	
8	Ability to respond to questions	
9	Quality of final output	
9	TOTAL SCORE	

Performance	Score
Poor	0
Below Average	1
Average	2
Good	3
Very good	4

Signature of Faculty/Guide



5.5 :Checklist 5

Model Checklist for Evaluation of Dissertation Work

Name of Student:

Date:

Name of the Faculty/Guide/Co-guide:

Sl. No:	Items for observation during evaluation	Score	Performance	Score
1	Interest shown in selecting topic		Poor	0
2	Relevance of Topic		Below Average	1
3	Preparation of Proforma		Average	2
4	Appropriate review		Good	3
5	Appropriate Cross references		Very good	4
6	Periodic consultation with guide/co- guide			
7	Depth of Analysis / Discuss			
8	Ability to respond to questions			
9	Department Presentation of findings			
10	Quality of final output			
	TOTAL SCORE			

Signature of Faculty/Guide/Co-guide



5.6 :CHECKLIST- 6

CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE/CO-GUIDE

Name of the Trainee:

Date

Name of the Faculty/Observer:

Sl.No.	Itemsforobservation duringpresentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Periodic consultation with guide / co- guide					
2.	Regular collection of case material					
3.	Depth of Analysis / Discussion					
4.	Department presentation of findings					
5.	Quality of final output					
6.	Others					
	Total score					

Signature of the guide / co-guide



5.7 :CHECKLIST - 7

OVERALL ASSESSMENT SHEET

Name of the College:

Date:

Name of Department:

Check List No	PARTICULARS	Name of trainee		
		First Year	Second Year	Third Year
1	Preclinical Exercises			
2.	JournalReviewPresentation			
3.	Seminars			
4	Library dissertation			
5.	Clinicalwork			
6-	Clinicalpresentation			
7.	Teachingskillpractice			
8.	Dissertation			
	TOTAL			

Signature of HOD

Signature of Principal

The above overall assessment sheet used along with the logbook should form the basis for certifying satisfactory completion of course of study, in addition to the attendance requirement.

Key:

Mean score:Is the sum of all the scores of checklists 1 to 6



5.8 :LOG BOOK

DEPARTMENT OF

MDS Programme

LOG BOOK OF

NAME.....

BIODATA OF THE CANDIDATE

EXPERIENCE BEFORE JOINING P.G. COURSE

DETAILS OF POSTING :

- FIRST YEAR
- SECOND YEAR
- THIRD YEAR

DETAILS OF LEAVE AVAILED

PRECLINICAL EXERCISES

LIBRARY DISSERTATION

RESEARCH WORK

PARTICIPATION IN CONFERENCES – CDE PROGRAMMES

DETAILS OF PARTICIPATION IN ACADEMIC PROGRAMME

SEMINARS /SYMPOSIA PRESENTED

JOURNAL CLUBS

TEACHING ASSIGNMENTS – UNDERGRADUATES / PARAMEDICAL.

SPECIAL DUTIES (IF ANY)

INTERNAL ASSESSMENT

DAILY ACTIVITIES RECORD (BLANK PAGES)

ONE PAGE FOR EACH MONTH X 36 PAGES

MISCELLANEOUS

SUMMARY



