PUBLIC HEALTH DENTISTRY

SYLLABUS

PAPER –I: Applied Basic Sciences

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, glossophayngeal 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-devlopment, histology, blood supply and lymphatic drainage

Oral mucous membrane

Pulp – periodontal complex

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 heath and diseases, Asphyxia and artificial respiration

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

. **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 hum oral immunity

antigen and antibody system

Hypersensitivity

Autoimmune diseases

C ORAL PATHOLOGY

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

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

APPLIED PHARMACOLOGY:

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

Chemotherapy of bacterial infections and viral infections –sulphonamides and antibiotics

Local anesthesia

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

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

Public Health

Definition concepts and philosophy of dental health

History of public health in and at international level

Terminologies used in public health

HEALTH:

Definition , concepts and philosophy of health

Health indicators

Community and its characteristics and relation to health

DISEASE:

Definition, concepts

Multifactorial causation, natural history, risk factors

Disease control and eradication, evaluation and causation, infection of specific diseases

Vaccines and immunization

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

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

PUBLIC HEALTH EDUCATION:

Definition, aims, principles of health education

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

PUBLIC HEALTH PRACTICE AND ADMINISTRATION SYSTEM IN INDIA.

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

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

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

HOSPITAL ADMINISTRAION:

Departmental maintenance, organizational structures

Types of practices

Biomedical waste management

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

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

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.

EPIDEMIOLOGY OF ORAL DISEASES AND CONDITIONS:

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

ORAL SURVEY PROCEDURES:

Planning

Implementation

WHO basic oral health methods 1997

Indices for dental diseases and conditions

Evaluation

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

PAYMENT FOR DENTAL CARE:

Prepayment

Post – payment

Reimbursement plans

Voluntary agencies

Health insurance

EVALUTION OF QUALITY OF DENTAL CARE:

Problems in public and private oral health care system program

Evaluation of quality of services, governmental control

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

Systemic and topical preparations

Advantages and disadvantages of each

Update regarding Fluorosis

Epidemiological studies

Methods of fluoride supplements

Defiuoridation 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

PRACTIVE 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

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 dissertioln 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 From – 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 vermillion

Oral Hygiene Index – Simplified

DMF – DMF (T), DMF (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 From – 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 finaricing 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 vermillion

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 From – 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.

MONITORING LEARNING PROCESS:

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Checklists are given in section IV.

Evaluation pattern of the department

M.D.S. PERFORMANCE CHECK LIST-1
MODEL CHECK LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Trainee: Date:
Name of the Faculty/Observer
Title of article

Sr. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Article chosen was					
2	Extent of understanding of scope & objectives of the paper by the candidate					
3	Whether cross-references have been consulted					
4	Whether relevant publications consulted					
5	Ability to respond to questions on the paper/subject					
6	Audio-visual aids used					
7	Ability to defend the paper					
8	Clarity of Presentation					
9	Any other observation					
	Total Score					

M.D.S. PERFORMANCE CHECK LIST-2
MODEL CHECK LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the Trainee: Date:
Name of the Faculty/ Observer

Sr. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4

1	Whether relevant publications consulted					
2	Whether cross references have been consulted					
3	Completeness of preparation					
4	Clarity of presentation					
5	Understanding of subjects					
6	Ability to answer the questions					
7	Time scheduling					
8	Appropriate use of Audio-Visual aids					
9	Overall performance					
10	Any other observation					
	Total Score					

M.D.S. PERFORMANCE CHECK LIST-3
MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN OPD

(To be completed once a month by respective Unit Heads including posting in other department)

Name of the Trainee: Date:
Name of the Unit Head

Sr. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Regularity of attendance					
2	Punctuality					
3	Interaction with colleagues and supportive staff					
4	Maintenance of case records					
5	Presentation of cases					
6	Investigations work-up					
7	Chair side manners					

8	Rapport with patients					
9	Overall quality of clinical work					
	Total Score					

M.D.S. PERFORMANCE CHECK LIST-4
EVALUATION FROM THE CLINICAL CASE PRESENTATION

Name of the Trainee: Date:
Name of the Faculty/Observer

Sr. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Completeness of history					
2	Whether all relevant points elicited					
3	Clarity of presentations					
4	Logical order					
5	Mentioned all positive and negative findings					
6	Accuracy of general physical examination					
7	Diagnosis: Whether it follows logically from history and findings					
8	Investigations required					
	Complete list					
	Relevant order					
	Interpretation of investigations					
9	Ability to react to questioning whether it follows logically from history and findings					
10	Ability to defend diagnosis					
11	Ability to justify differential diagnosis					
12	Others					
	Grand Total					

Please use a separate sheet for each faculty member.

M.D.S. PERFORMANCE CHECK LIST-5
MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL

Name of the Trainee: Date:
Name of the Faculty/Observer

Sr. No		Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Communication of the purpose of the talk					
2	Evokes audience interest in the subject					
3	The introduction					
4	The sequence of ideas					
5	The use of practical examples and/or illustrations					
6	Speaking style (Enjoyable, monotonous, etc. specify)					
7	Attempts audience participation					
8	Summary of the main points at the end					
9	Asks questions					
10	Answers questions asked by the audience					
11	Rapport the speaker with his audience					
12	Effectiveness of the talk					
13	Uses AV aids appropriately					

M.D.S. PERFORMANCE CHECK LIST-6
MODEL CHECK LIST FOR TERM DISSERTATION PRESENTATION

Name of the Trainee: Date:
Name of the Faculty/Observer

Sr. No	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Interest shown in selecting topic					
2	Appropriate review					
3	Discussion with guide and other faculty					
4	Quality protocol					
5	Preparation of proforma					

	Total Score					

M.D.S. PERFORMANCE CHECK LIST-7
CONTINOUS EVALUATION OF DISSERTATION WORK BY GUIDE/CO-GUIDE

Name of the Trainee: Date:
Name of the Faculty/Observer

Sr. No	Points to be considered	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 analysis/discussion					
4	Department presentation/findings					
5	Quality of final output					
6	Others					
	Total Score					

M.D.S. PERFORMANCE CHECK LIST-8
OVERALL ASSESSMENT SHEET

Date:

Sr. No.	**Faculty Member**	**Name of trainee and mean score**									
1		**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**
2											
3											

Signature of HOD Signature of guide Signature of Principal

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

KEY:
Faculty member: Name of the faculty doing the assessment
Mean score: Is the sum of all the scores of checklists 1 to 7
A, B…. Name of the trainees

LOG BOOK
TABLE – 1
ACADEMIC ACTIVITIES ATTENDED

Name: **Admission Year :**
College:

Sr. No	Date	Type of activity specify seminar , Journal club, presentation, UG teaching	Particulars
1			
2			
3			

LOG BOOK
TABLE - 2
ACADEMIC PRESENTATIONS MADE BY THE TRAINEE

Name: **Admission Year:**
College:

Sr. No	Date	Topic	Type of activity specify seminar , Journal club, presentation, UG Teaching etc.
1			
2			
3			

Monthly test Exam pattern by the department:

MDS Part I	Once every three Months	100 marks	3 hours
MDS Part II	Once every Two Month.	100 marks	3 hours
MDS Part III	Once Every month.	100 marks	3 hours

Term end Exam pattern by the department:

MDS Part I	Once every Six Months	100 marks	3 hours	Theory-200 Practical-75
MDS Part II		100 marks	3 hours	Theory-400 Practical-150
MDS Part III		100 marks	3 hours	Theory-400 Practical-250

Practical examination is conducted accordingly.

SUMMATIVE EVALUATION PATTERN

Deemed University Examination pattern for MDS (Public Health Dentistry)

MDS Theory Examination:

Paper	Syllabus	Marks	Pattern	Duration
I	Applied Basic Science	100	2 long questions (20 marks each)	3 Hrs each
II	Public Health	100		
III	Dental Public Health	100	6 Short essays (10 marks each)	
IV	Essay	100	One Essay Question	
		Total 400		
Classification grades for pass/fail : Min 50% (200/400)				

MDS Practical Examination:

Procedure	Marks	Distribution
Detailed clinical examination of 1 patient representing community with case history, diagnosis and treatment planning	75 marks	1 ½ hour each
Short case history, performing treatment, preventive care or any other oral care procedure	75 marks	1 ½ hour each
Critical evaluation of a manuscript from an international journal and problem solving.	50+50 marks	1+1 hour each
Dissertation presentation and Pedagogy.	25+ 25 marks	45 minutes each
MDS Viva – Voce	100 marks	1 hour each
400 marks		
Classification grades for pass/fail : Min 50% (200/400)		

Grand Total = 800