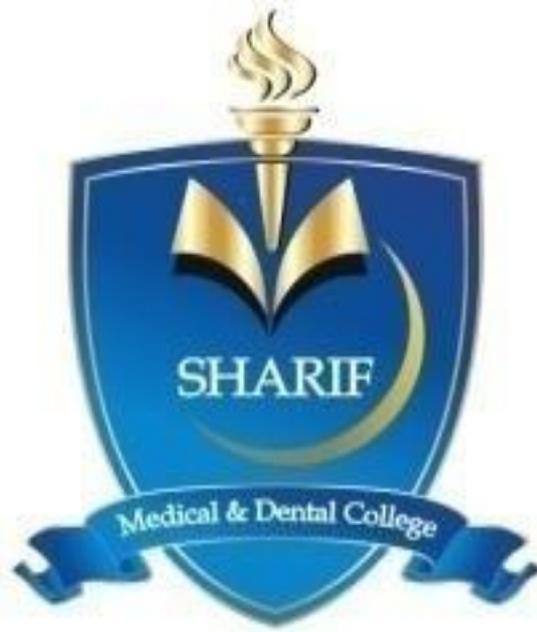


# Department of Community and Preventive Dentistry



**Study Guide**

**2<sup>nd</sup> Year BDS**

College of Dentistry  
Sharif Medical and Dental College, Lahore



## PREFACE

Study guides can make a major contribution to learning. They are sometimes likened to a tutor sitting on the student's shoulder-available 24 hours a day to advise the student what he/she should be doing at any stage in their study. Study guides are different from textbooks. They apprise the student at the beginning of an academic session about the course outline, the teaching methodology to be followed throughout the year, learning objectives of each academic activity and the assessment methodology to be followed in an academic session.

At SMDC we follow the traditional annual academic schedule in which the subject of Community and Preventive Dentistry is taught in the second academic year of a dental student. Keeping in view the mission of UHS, Lahore and vision of our institute we have designed a training program which is intensive and at the same time interesting for the young minds. This guide includes details about various teaching activities which are to take place throughout the academic year along with the time allocation of each. A list of lectures to be conducted in this session with names of the instructors is attached. Broad learning outcomes of every section of the course accompanied by specific learning objective of every lecture is also included. A complete list of practical work to be carried out in the laboratory is part of this document. Details of various assessment and testing methodology are included and marks distribution for the subject in the 2<sup>nd</sup> Professional examinations has been given. Names and email contacts of faculty have also been mentioned to foster better interaction between the teacher and the taught. A list of prescribed text and reference books forms part of this study guide. Since this document is the first of its kind, we intend to improve upon it considering the student-feedback every year. For now, happy reading!

Prof. Dr. Amna Nauman Khan  
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## **VISION & MISSION OF UHS**

Qualitative and Quantitative Revolution in Medical Education and Research through Evolution and thereby improve Health Care delivery to Populace.

UHS shall be innovative global center of excellence in learning and research, supporting a community of scholars and professionals committed to serving society, promoting the development of students to reach their true potential in becoming competent, ethical, caring, and inquiring health professionals for the benefit of the country and the wider world.

## **MISSION OF SMDC**

Sharif Medical & Dental College is dedicated to best serve the nation through preservation and dissemination of advanced knowledge and educating the students by latest trends in learning and research reaching levels pars excellence.

The Institution is committed to provide standardized quality medical education to its students by inculcating professional knowledge, skills and responsibilities in them with the aim of:

- Preparing them as modern physicians having initiative to act as future leaders in their respective fields and becoming lifelong learners.
- Encouraging the spirit of critical thinking through research and publication.
- Building up an understanding of the ethical values compatible with our religion, culture and social norms.
- Developing a sense of being responsible citizens of the society possessing professional competence and instilling in them the values of hard work and dedication thus preparing them to be accountable to the stakeholders and the state.

The Institution is devoted to keep abreast its faculty with the latest trends in Medical Education encompassing teaching/learning methodologies, assessment tools, research opportunities and professionalism to facilitate their professional development, competencies, and commitment towards continues learning.

Our patient-centered mission is achieved by outstanding medical care & services in professional practice with due emphasis and focus on our local health needs.

Our mission further elaborates upon establishing academic and research facilities in areas of local demand under global gold standards and leading advancement in research, education & patient care.

## **VISION OF SMDC**

To be recognized for the provision of a safe and functional environment conducive to collaborative teaching & learning, comfortable working atmosphere, and conducting world class research through professionalism and excellence.



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## **PLANNED TEACHING ACTIVITIES FOR 2<sup>nd</sup> YEAR BDS DEPARTMENT OF COMMUNITY & PREVENTIVE DENTISTRY**

PMC has allocated 240 hours of teaching in the subject of Community and Preventive Dentistry for the BDS course. To meet this requirement following teaching modules have been planned. These modules have been carefully designed to impart core knowledge of subject in a manner that an undergraduate student can grasp the subject fully and is adequately prepared for university examinations.

### **Lectures:**

A total of 120-25 lectures are planned for the entire year. The lectures will be conducted by the Professor, associate, and assistant professors or by senior lecturers that have completed their post- graduation in the subject of community and preventive dentistry. The lectures will be interactive, and students should actively participate in them to clear their doubts. The students are required to take notes of the lectures and study the topic with the help of prescribed textbooks in light of the learning objectives of the topic enunciated by the teacher at the beginning of each lecture.

### **Practical classes:**

Two practical classes have been planned per week. It will comprise of teaching different brushing techniques, instruments, materials, history taking, designing questionnaire, synopsis writing and ergonomics. Practical will be conducted by demonstrators under an active supervision of senior instructors. Students are required to enter their work in their practical logbooks and get them checked by the instructors regularly.

### **Case based learning:**

Case based learning classes will be conducted from time to time throughout the academic year. A clinical problem with a short history will be notified at least one week before the occurrence. The learning objectives and suggested reading material will also be notified along with it. The class will be divided into smaller groups for effective conduct of the proceedings. A senior instructor will be facilitating the discussion in interactive session and students are required to generate the discussion amongst themselves in line with the learning objectives of the topic.

### **Case presentations:**

They are to take place periodically once the students have covered a substantial quantum of course work. Preferably clinical topics will be allocated to students, and they will present a very short case history with ongoing treatment of the patient along with preventive strategies. Each presentation will be of 10-15 minutes duration with a Q & A session after it. All presentations will be conducted in coordination with the clinical side and wherever possible relevant clinical



consultant would be requested to participate in the session.

**Self- directed learning:**

Students' take responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Center, teachers, and resource persons within and outside the college. Students can utilize the time within the college scheduled hours or afterwards for self-study.



## TRAINING PROGRAM FOR LECTURES DEPARTMENT OF COMMUNITY & PREVENTIVE DENTISTRY

- Community and Preventive Dentistry should be considered as a bridge between the basic and clinical dental subjects. The teaching should encompass both the basic and the applied aspects of the subject.
- Teaching should be integrated with other subjects both in horizontal and vertical direction, wherever possible.
- Interactive modes of teaching e.g., tutorials, seminars, case –based learning modules etc. should be an essential part of teaching methodology.
- Keeping in view the expanding scope of the subject, it may be divided into areas of high, intermediate, and low priority so that more emphasis could be laid on the areas which are more pertinent for the prevention of dental diseases.

Sr. No	Title of Lecture	Instructors
1.	Health: Social Determinants	Prof. Amna Nauman Khan
2.	Health and its Dimensions	
3.	Disease: Concepts & Theories	
4.	Health Indicators	
5.	Significance of Health from Examination point of view	
6.	Effect of Nutrition & Diet	Dr. Aneeza Zia
7.	Nutrition, Dietary Guidelines & Food Policy	
8.	Sugar Consumption & COMA classification of sugars	
9.	Malnutrition & Oral Manifestations of Deficiencies	
10.	Environment & it's Implication of Health	Dr. Aneeza Zia
11.	Waste Management & Disposal	
12.	Occupational Health Hazards	
13.	Planning	Prof. Amna Nauman Khan
14.	Evaluation	
15.	Characteristics of Public Health	
16.	Individual vs. Community Oriented Health Care	
17.	Health Needs/ Oral Health Needs Assessment	
18.	Health Education: Principles	
19.	Health Education: Methods & Programs	
20.	Health Education and Propaganda	



21.	Planning of Health Education	
22.	Primary Health Care	Prof. Amna Nauman Khan
23.	Alma Ata Declaration	
24.	Principles of Oral Health Promotion	
25.	Ottawa Charter and its Significance	
26.	Oral Health Promotion: Practical Approach and its significance in Community Dentistry	
27.	Dental Care for Special Groups	Dr. Aneeza Zia
28.	Behavior Sciences: Models	
29.	Behavior Sciences: Management	
30.	School Dental Health	
31.	Epidemiological Methods	Prof. Amna Nauman Khan
32.	Descriptive Study Designs	
33.	Epidemiological Study Designs: Case Control	
34.	Epidemiological Study Designs: Cohort	
35.	Epidemiological Study Designs: Randomized Control Trials	
36.	Oral Epidemiology: Oral Cancer Prevalence, Risk Factors & Prevention	
37.	Oral Epidemiology: Periodontal Diseases Prevalence, Risk Factors & Prevention	Dr. Aneeza Zia
38.	Oral Epidemiology: Oral Caries Prevalence & Prevention	Prof. Amna Nauman Khan
39.	Oral Epidemiology: Dento-facial Irregularities	Dr. Aneeza Zia
40.	Oral Epidemiology: Enamel Defects	
41.	Oral Epidemiology: Tooth Wear	
42.	Research Methods: Surveying	Prof. Amna Nauman Khan
43.	Research Methods: Screening	
44.	Indices: Introduction & Classification	
45.	Indices: Bacterial Plaque, Calculus, Gingival Index, Periodontal Index	
46.	Indices: Caries Index	
47.	Indices: Mobility, Dental Fluorosis & Malocclusion	
48.	Indices: CPITN Application	
49.	Indices: DMFT Application	



50.	Dental Auxiliaries	
51.	Dental Health Finances	Dr. Aneez Zia
52.	Capitation Plans	Dr. Aneez Zia
53.	Principles of Health Care Barriers	Prof. Amna Nauman Khan
54.	Concept of Health Barriers	
55.	Prevention: Concepts and Key Principles	
56.	Primary Preventive Services: Introduction & Plaque Control	
57.	Primary Preventive Services: Caries Activity Tests & Vaccines	Dr. Aneez Zia
58.	Primary Preventive Service: Pits & Fissure Sealants	
59.	Atraumatic Restorative Treatment: Principles	Prof. Amna Nauman Khan
60.	Atraumatic Restorative Treatment: Armamentarium	
61.	Water Fluoridation & Toxicity	
62.	Methods of Defluoridation	
63.	Administration of Fluoride: Systemic & Local	
64.	Infection: Concepts & Theories	Dr. Aneez Zia
65.	Cross Infection Control: Principles	
66.	Cross Infection Control: Sterilization & Disinfection	
67.	Ethics in Dentistry	
68.	Introduction to Research Methodology: Designing of Questionnaire	Prof. Amna Nauman Khan
69.	Biostatistics: Quantitative & Qualitative Data	
70.	Data Presentation & Sampling Techniques	
71.	Variables: Their measurement & Distribution	
72.	Probability, Blinding & Bias	
73.	Tests of Significance	



## TOPICS IN COMMUNITY & PREVENTIVE DENTISTRY AND THEIR LEARNING OBJECTIVES

Community and Preventive Dentistry deals with the science of preventing and promoting oral health through community efforts. It is a specialized branch of dentistry which deals with the delivery of comprehensive dental and oral health care to the masses to improve the total dental and oral health of the community.

At the end of the course student must be able to define the basic terminology of community and preventive dentistry along with different aspects of public health dentistry, epidemiology, and research methodology.

S.No.	Topics with Learning Objectives
1.	Health and Disease. By the end of this topic the student will be able to <ol style="list-style-type: none"><li>1. Define and distinguish the concepts of health, quality of life, impairment, and activity limitation and participation restriction.</li><li>2. Enumerate different dimensions of health.</li><li>3. Describe the underlying range of factors that determine people's health.</li><li>4. Outline the nature of inequalities in health.</li><li>5. Describe the concepts of disease, illness, and ill health.</li><li>6. Discuss the concept of natural history of disease, eradication and elimination of disease.</li><li>7. Draw spectrum of health and disease.</li></ol>
2.	Indicators of Health. By the end of this topic the student will be able to <ol style="list-style-type: none"><li>1. Define indicators.</li><li>2. Classify indicators of health.</li><li>3. Estimate special indicators of health.</li></ol>
3.	Nutrition By the end of this topic the student will be able to <ol style="list-style-type: none"><li>1. Explain the dynamic nature of nutrition and the complex biochemical factors that influence health status.</li><li>2. Classify carbohydrates, proteins, fats, and the role they play in the oral cavity.</li><li>3. Identify the function of vitamins, minerals, and antioxidants and symptoms of excesses or deficits.</li><li>4. Recognize specific nutrient requirements during the human life cycle.</li><li>5. Recognize the relationship between nutritional deficiencies and oral disease.</li></ol>
4.	Environment and Health By the end of this topic the student will be able to



	<ol style="list-style-type: none"> <li>1. Explain the characteristics of pure and wholesome water.</li> <li>2. Classify different types of pollution: water, air, and noise.</li> <li>3. Discuss different waste disposal methods.</li> <li>4. Classify occupational hazards.</li> <li>5. Explain oral manifestations of occupational diseases.</li> </ol>
5.	<p>Planning and Evaluation</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"> <li>1. Define planning and outline the basic steps in the planning cycle.</li> <li>2. Describe the range of information needed in planning dental services for improving oral health.</li> <li>3. Discuss different types of evaluation of dental health program planning.</li> </ol>
6.	<p>Public Health</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"> <li>1. Define public health.</li> <li>2. Describe the historical evolution of public health.</li> <li>3. Identify the core functions and accomplishments of public health.</li> <li>4. Spot the links between clinical practice and dental public health.</li> <li>5. Outline the criteria used to determine if a condition is a public health problem.</li> </ol>
7.	<p>Health Needs</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"> <li>1. Define different types of health need in a community.</li> <li>2. Describe the processes involved in undertaking a community needs assessment.</li> <li>3. Summarize the influence, the concept of health may have on need and service use.</li> </ol>
8.	<p>Health Education</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"> <li>1. Define health education.</li> <li>2. Outline the key messages in oral health education.</li> <li>3. Describe the steps involved in planning health education.</li> <li>4. Summarize different methods and materials used in health education.</li> <li>5. Outline the principles of health education.</li> <li>6. Create oral health education material.</li> <li>7. Plan, implement and evaluate dental health education session.</li> </ol>
9.	<p>Primary Health Care</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"> <li>1. Describe the principles of primary health care.</li> <li>2. Enumerate the elements of primary health care mentioned in Alma Ata Declaration.</li> </ol>
10.	<p>Oral Health Promotion</p> <p>By the end of this topic the student will be able to</p>



	<ol style="list-style-type: none"><li>1. Provide a definition of oral health promotion.</li><li>2. Outline the key principles of oral health promotion.</li><li>3. Describe the five areas for action outlined in the Ottawa Charter and provide oral health examples of each.</li><li>4. Explain the concept of advocacy, mediation, enabling in relation to health promotion.</li><li>5. List potential partners and settings for oral health promotion.</li><li>6. Emphasize the importance of working in partnership with other agencies and organizations to promote health.</li></ol>
11.	<p>Health Care in Special Needs Individuals</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Define special groups.</li><li>2. Enlist oral manifestations associated in special needs group.</li><li>3. Explain dental needs in special groups.</li></ol>
12.	<p>Behavioral Sciences</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Define and classify social sciences.</li><li>2. Explain the concept of sociology, social psychology, and social anthropology.</li><li>3. Outline behavior management strategies.</li><li>4. Explain different ingredients of behavior management.</li></ol>
13.	<p>School Dental Health</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Define school dental health.</li><li>2. Explain components of school dental health.</li><li>3. Differentiate between comprehensive and incremental dental care.</li></ol>
14.	<p>Epidemiological Methods</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Describe the contribution of epidemiology to the scientific study of health and disease.</li><li>2. Describe case studies in the history of epidemiology including, for example, John Snow's research on cholera, Joseph Goldberger's work on pellagra, and the Framingham heart study.</li><li>3. Describe and compute measures that characterize population dynamics, including birth and mortality rates and dependency ratios.</li><li>4. Relate the epidemiologic concepts of exposure, risk factor, and determinant to causal concepts.</li><li>5. Define and estimate different measures of incidence, including risk (cumulative incidence) and incidence rate.</li><li>6. Define and estimate point prevalence and period prevalence.</li><li>7. Describe basic mathematical relationships between incidence and prevalence and describe conditions under which these relationships hold.</li><li>8. Define and estimate: attack rate, case-fatality, neonatal mortality, infant mortality,</li></ol>



	<p>maternal mortality, life expectancy, person-years of life lost, life expectancy in good health, quality-adjusted life years, and disability-adjusted life years.</p> <ol style="list-style-type: none"><li>9. Address validity, intra-rater reliability, and inter-rater reliability in the development of questionnaires.</li><li>10. Describe mathematical relationships between parameters such as, for example, relative risk, attributable risk and Odds ratio.</li><li>11. Describe examples of person, place, and time variables and discuss the contribution of person/place/time studies in epidemiologic research.</li><li>12. Discuss the distinctions and the relationships between analyses of rates by age, period (calendar time), and birth cohort.</li><li>13. Define and describe distinctions between broad types of experimental and quasi experimental studies such as randomized clinical trials and community trials.</li><li>14. Define and describe the purpose of randomization, placebos and blinding; distinguish cluster versus individual randomization.</li><li>15. Define and distinguish the concept of efficacy and that of effectiveness.</li><li>16. Identify and characterize basic designs in non-experimental epidemiologic research, including cohort and case-control studies, and variants of these designs such as nested case-control studies, case-cohort studies, case-crossover studies, and proportional mortality studies.</li><li>17. Describe conceptual relationships between these various study designs.</li><li>18. Describe and contrast advantages and disadvantages of each study design.</li><li>19. Describe basic issues in the definition of study subjects in non-experimental epidemiologic studies, including the definition of exposure, case series, and denominator series; describe the concept of person-time.</li><li>20. Identify common sources of bias for each design.</li><li>21. Define the term evidence-based dentistry (EBD).</li><li>22. Describe the reasons for the development of EBD.</li><li>23. Explain the nomenclature of EBD.</li><li>24. Draw hierarchy of evidence.</li><li>25. Define and distinguish various methods of synthesis and integration of epidemiologic studies, including narrative reviews, systematic reviews, and meta-analysis.</li></ol>
15.	<p>Epidemiology of Oral Diseases</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Explain current concepts about etiology, natural history and epidemiology of oral diseases and conditions having public health implications like dental caries, periodontal disease, malocclusion, tooth wear, and oral cancer.</li></ol>
16.	<p>Screening</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Discuss principles of screening.</li><li>2. Define and distinguish the concepts of sensitivity, specificity, and predictive values, and describe the application of these concepts in clinical epidemiology as well as in non-</li></ol>



	clinical situations.
17.	<p>Survey</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Define survey</li><li>2. Describe strengths and weaknesses of different types of surveys.</li></ol>
18.	<p>Indices in Dentistry</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Define dental indices.</li><li>2. Classify different dental indices.</li><li>3. Explain indices for dental plaque (PI-I), debris (PHP), calculus (OHI-S), bleeding gums (SBI), gingival inflammation (GI), periodontal diseases (PI) and fluorosis (Deans, CFI).</li><li>4. Describe the value of the DMF index in measuring oral disease.</li><li>5. Use the DMF index to measure the prevalence of dental caries.</li><li>6. Identify the factors that may or may not affect the DMF scores in adults.</li><li>7. Calculate a DMFT, DMFS, dmft or dmfs index score from a patient tooth charting.</li><li>8. Assess pocket depth, bleeding gums and calculus deposits by using CPITN.</li></ol>
19.	<p>Auxiliaries</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Classify oral health personnel.</li><li>2. Describe the role and use of persons complementary to dentists in provision of dental care.</li></ol>
20.	<p>Dental Health Finance</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Define and classify mechanism of payment for health care system.</li><li>2. Discuss the main types of economic analyses and its limitations.</li></ol>
21.	<p>Health System and Barriers</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Outline the range of factors that influence the development of oral health care systems.</li><li>2. Describe different components of oral health care system.</li><li>3. Outline criteria by which oral health care systems could be evaluated.</li><li>4. Explain oral health care system in Pakistan.</li><li>5. Describe the major problems faced by health services.</li><li>6. Define the term “access to care/ barrier to care”.</li></ol>
22.	<p>Prevention</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Describe levels of prevention.</li><li>2. Explain differing strategy approaches in prevention.</li><li>3. Outline the stages necessary in planning any strategy.</li><li>4. Describe the rationale for choosing between approaches.</li></ol>



23.	<p><b>Primary Preventive Services</b></p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Review primary preventive services; plaque control, disclosing agents and caries activity tests.</li><li>2. Explain minimal invasive dental procedures like atraumatic restorative treatment and sealants.</li><li>3. Assess the preventive options for oral diseases.</li><li>4. Outline preventive and health promotion approaches appropriate for prevention of oral diseases.</li><li>5. Describe proper procedures for the use and handling of toothbrushes among patients.</li></ol>
24.	<p><b>Atraumatic Restorative Treatment</b></p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Explain ART in detail.</li><li>2. Enlist principles for using hand instruments and GIC.</li><li>3. Enumerate indications and contraindications of ART.</li><li>4. Describe the armamentarium used in the procedure.</li></ol>
25.	<p><b>Fluorides</b></p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Recall briefly how action of fluoride was discovered.</li><li>2. Describe how fluoride works in prevention of dental caries.</li><li>3. List and describe methods of fluoride delivery.</li><li>4. Cite the advantages and disadvantages of each mode of delivery.</li><li>5. Discuss pros and cons of fluorides in caries prevention.</li><li>6. Explain methods of defluoridation.</li><li>7. Describe toxicity of fluoride.</li></ol>
26.	<p><b>Personal Protective Equipment</b></p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Define universal precautions and emphasize their application in dental practice.</li><li>2. Demonstrate the correct use of personal protective equipment such as gloves, surgical masks, protective eye wear, protective clothing, and utility gloves in a dental office.</li></ol>
27.	<p><b>Sterilization</b></p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Describe proper instrument sterilization techniques.</li><li>2. List heat sterilization methods—steam autoclave, dry heat (oven-type), dry heat (rapid heat transfer) and unsaturated chemical vapor—with the advantages and precautions of each method.</li><li>3. Decontaminate critical, semi-critical and noncritical items using salient sterilization methods.</li><li>4. Demonstrate method of disinfection.</li></ol>



28.	<p>Infection and Infection Control</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Develop an effective environmental surface and equipment asepsis protocol keeping in mind touch surfaces, transfer surfaces and splash/spatter surfaces.</li><li>2. Discuss barrier precautions to be used to minimize infection.</li><li>3. Discuss the precautions a dental health care worker should take to prevent injuries caused by needles and other sharp instruments.</li><li>4. Describe the chain of infection as it applies to infection prevention and control.</li></ol>
29.	<p>Ethics</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Identify fundamental ethical principles that guide the conduct of research involving human participants and be aware of their historical roots.</li><li>2. Describe the basic principles of confidentiality, veracity, autonomy, beneficence, and non-maleficence.</li><li>3. Define informed consent and describe the elements that should be included in an informed consent document or procedure.</li><li>4. Describe conditions that may affect a person's capacity to consent and the responsibilities of the researcher in seeking consent.</li></ol>
30.	<p>Biostatistics</p> <p>By the end of this topic the student will be able to</p> <ol style="list-style-type: none"><li>1. Formulate research objectives based on the identification of gaps in the scientific literature.</li><li>2. Demonstrate, at an introductory level, intellectual creativity, and originality in the formulation of research questions.</li><li>3. Describe and distinguish various types of data, including continuous, discrete, ordinal, and nominal data.</li><li>4. Distinguish and use various kinds of tables and graphs to present data.</li><li>5. Describe data collection methods and instruments, and study design.</li><li>6. Explain the need for sampling and the advantages of various methods of sampling in epidemiologic studies.</li><li>7. Distinguish between probability and non-probability sampling.</li><li>8. Describe the most common methods of probability sampling used in epidemiologic studies: simple random sampling, stratified sampling, systematic sampling, cluster sampling, and multistage sampling.</li><li>9. Describe relationships and distinctions between the concept's precision and bias in the estimation of population parameters.</li><li>10. Describe methods of non-probability sampling used in epidemiologic studies: convenience sampling, purposive sampling, snowball sampling and quota sampling.</li><li>11. Define randomness and probability</li><li>12. Define variable and distinguish qualitative and quantitative variables.</li><li>13. Define the properties and describe the main applications of the normal ("Gaussian"),</li></ol>

binomial, and Poisson distributions, and of normal approximations to these distributions.

14. Describe and select the appropriate statistical method for the crude and for the adjusted comparison of two means, proportions, rates, and survival probabilities.
15. Describe the principles underlying the use of nonparametric tests, their advantages, and their disadvantages.
16. Calculate measures of central tendency and dispersion.
17. Measure Kappa score.
18. Design a questionnaire.
19. Pilot test the questionnaire.
20. Analyze the data.



## LIST OF PRACTICALS FOR SECOND YEAR BDS

- Introduction to logbook
- History taking & examination
- Describing and demonstrating different brushing techniques
- Application of different brushing techniques in different situations
- Describing and demonstrating different dental floss techniques
- WHO oral health assessment form
- Tooth numbering charting exercise; DMFT
- Demonstrating the ergonomics in dentistry and its importance
- Instructions about oral hygiene measures
- Nutritional counselling
- Demonstrating the cross-infection control between patients
- Instrument & material identification
- CPITN
- Topical fluoride application
- Fluorosis stages identification
- Atraumatic restorative techniques



## ASSESSMENT PLAN

Following modes of assessment are planned for 2<sup>nd</sup> year BDS class in the subject of Community and Preventive Dentistry. This plan has been designed keeping in view the university curriculum and hopefully will facilitate the students in preparing for 2<sup>nd</sup> professional examinations in the subject.

### **Chapter Tests:**

These will be conducted at the completion of every chapter. The test will comprise of MCQs and SEQs on the pattern of university examinations. A preparatory time of at least 10 days shall be given prior to these tests. Each test will be followed by viva voce, for which the class will be divided into smaller batches.

### **OSPE Tests:**

To prepare the students for practical examinations at least two OSPE tests will be conducted on the pattern of university examinations.

### **Term Tests:**

Two term tests shall be conducted in coordination with other subjects. This will comprise of theory, practical and viva segments and a sizeable portion of the total course will be included in each of them.

### **Pre-annual Exam:**

This will be undertaken in coordination with other departments, exactly following the format of university professional examinations. It will comprise of MCQs, SEQs, OSPE and Viva voce.

### **Internal Assessment:**

Internal assessment will be calculated out of 20 based on all these tests that will be conducted throughout the year.



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## **PRESCRIBED TEXTBOOKS & REFERENCES**

### **Recommended Books:**

#### Text Books

1. Heirmath SS. Textbook of Preventive and Community Dentistry. 2nd Edition. Elsevier.
2. Gluck G, Morganstein WM. Jong's Community Dental Health. 5th Edition. Mosby.

#### Reference Book

1. Mir AM. A Synopsis of Epidemiology and Basic Statistics. 2nd Edition.
2. Daly B, Watt R, Batchelor P, Treasure E. Essential Dental Public Health. Oxford University Press.
3. Murray JJ. Prevention of Oral Disease. 3rd Edition. Oxford University Press.
4. Pine C. Community Oral Health. 2nd Edition. Quintessence- London.
5. Felton A, Chapman A, Felton S. Basic Guide for Oral Health Education and Promotion. 2nd Edition. Blackwell Munksgaard.

### **Practical Manual:**

1. Manual & logbook of Community and Preventive Dentistry