AVICENNA
DENTAL COLLEGE

STUDY GUIDE

2023-2024



Program: Bachelor of Dental Surgery
Year: 2nd Professional Year
Subject: Pathology
Batch No: D22
Session: 2023-2024

Department of Dental Education

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Introduction to Study Guide

Welcome to the Avicenna Dental College Study Guide!

This guide serves as your essential resource for navigating the complexities of your dental education at Avicenna Medical & Dental College. It integrates comprehensive details on institutional framework, curriculum, assessment methods, policies, and resources, all meticulously aligned with UHS, PMDC and HEC guidelines.

Each subject-specific study guide is crafted through a collaborative effort between the Department of Dental Education and the respective subject departments, ensuring a harmonized and in-depth learning experience tailored to your academic and professional growth.



OBJECTIVES OF THE STUDY GUIDE

1. **Institutional Understanding:**
    - Gain insight into the college's organizational structure, vision, mission, and graduation competencies as defined by PMDC, setting the foundation for your educational journey.
2. **Effective Utilization:**
    - Master the use of this guide to enhance your learning, understanding the collaborative role of the Department of Dental Education and your subject departments, in line with PMDC standards.
3. **Subject Insight:**
    - Obtain a comprehensive overview of your courses, including detailed subject outlines, objectives, and departmental structures, to streamline your academic planning.
4. **Curriculum Framework:**
    - Explore the curriculum framework, academic calendar, and schedules for clinical and community rotations, adhering to the structured guidelines of UHS & PMDC.
5. **Assessment Preparation:**
    - Familiarize yourself with the various assessment tools and methods, including internal exam and external exam criteria, and review sample papers to effectively prepare for professional exams.
6. **Policies and Compliance:**
    - Understand the institutional code of conduct, attendance and assessment policies, and other regulations to ensure adherence to college standards and accrediting body requirements.
7. **Learning Resources:**
    - Utilize the learning methodologies, infrastructure resources, and Learning Management System to maximize your educational experience and academic success.

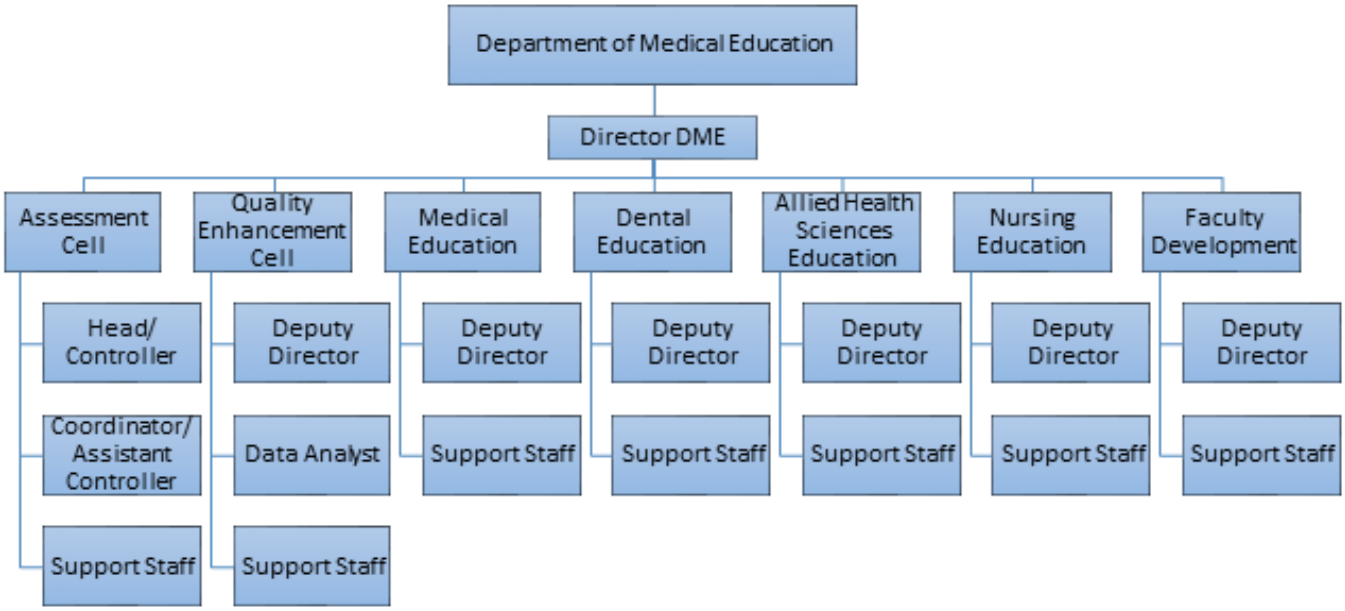
This guide, meticulously developed in collaboration with your subject departments, is designed to support your academic journey and help you achieve excellence in accordance with the highest standards set by PMDC and HEC.

DEPARTMENT OF MEDICAL EDUCATION

The Department of Medical Education (DME) serves as a cornerstone in delivering effective and high-quality education to both undergraduate and postgraduate medical and dental students. The DME is integral to the implementation and adoption of the latest curriculum provided by UHS and is responsible for organizing and managing related academic activities.

The DME will oversee the spirals of PERLs and C-FRC and monitor students' portfolio development and logbook completion. Additionally, the department is developing a mentoring platform and plans to initiate faculty development training which will focus on mentorship, reflective writing, and portfolio development skills. DME has a duty to collaborate with other disciplines to ensure that AVMDC students are not only competent in their respective fields but also well-trained in affective domains such as professionalism, ethics, research, and leadership.

A key responsibility of the DME is to plan and implement an effective training competency acquisition framework in collaboration with the academic council.



General Responsibilities of DME include:

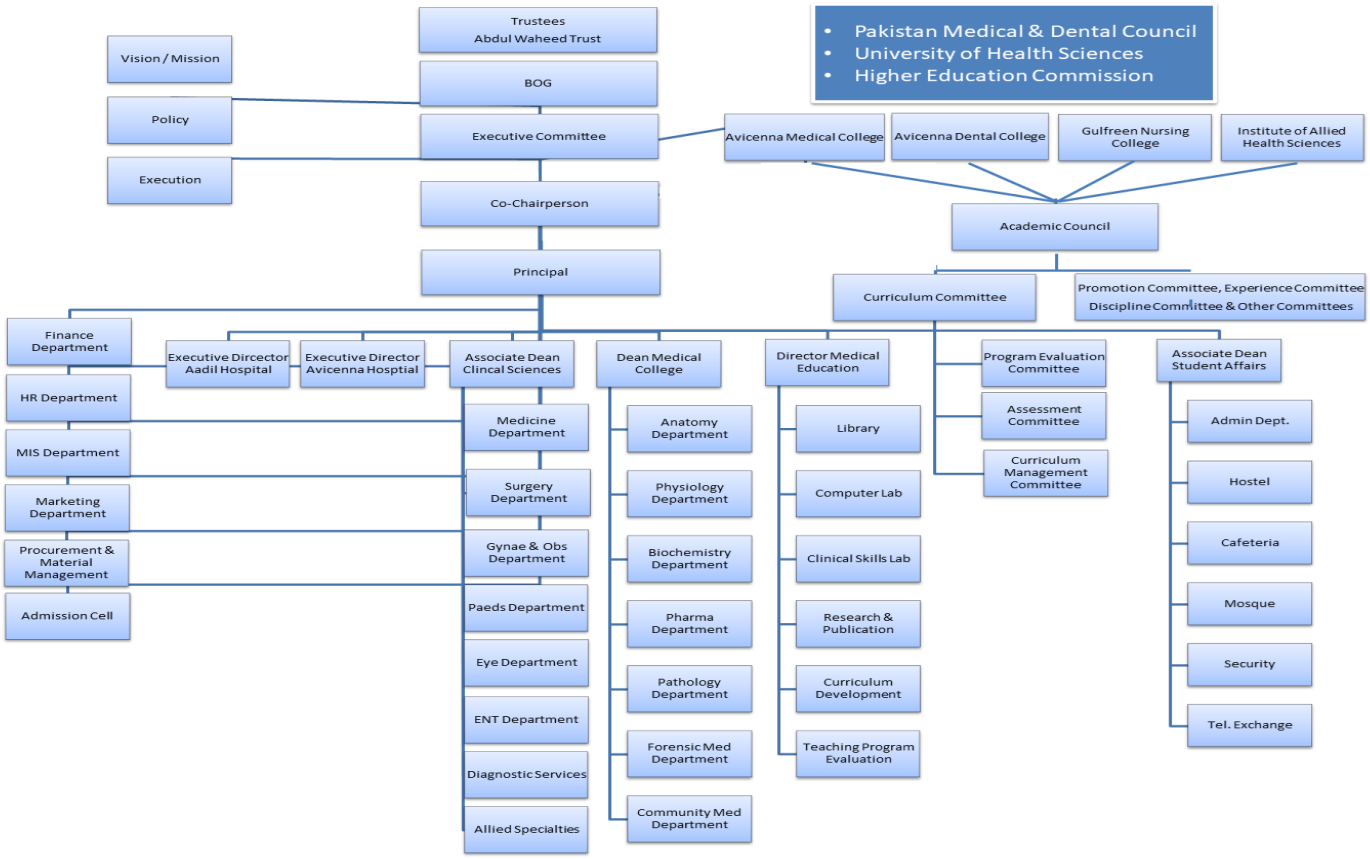
- Contribute and design, train the trainer activities which fulfill the need for undergraduate and postgraduate training.
- Shape and develop medical education research activities of the college.
- Facilitating & organizing workshops, seminars, symposia & conferences.
- Conducting CME activities to leverage culture of awareness, journal club.
- Networking by representing the college, when needed, in national /international meetings or conferences.
- Student counseling.
- Supervising students' academic progress.
- Academic Committees Development and Support.
- Staff Support and Development.
- Curriculum development and reform.
- Collaborate with curriculum committee and faculty members to develop quality instructional material such as modules, lecture, or study guides.

- Standard Operating Procedures for DME development.
- Skill lab management.
- Assessment analysis which includes blue printing, pre-exam review, item analysis and standard setting and provides feedback to concerned faculty and students on the learning outcome achievement.
- Develop and conduct periodical review of process of the program, learning and teaching activities, and assessment process.
- Identify opportunities for use of IT in teaching and learning, assessment and faculty development activities.
- Exam Cell management.
- Quality Assurance Cell management.
- Record keeping of departmental data.
- Leadership and management.
- Participation in overall planning and management of teaching in liaison with the departments.

Faculty	**Department**
Director / Head of Department Department of Medical Education	Dr. Gulfreen Waheed
Assistant Director / Assistant Professor Medical Education	Dr. Saman Fatima
Coordinator Medical Education	Dr. Javaid Shabkhaiz Rab
Deputy Director / Demonstrator Dental Education	Dr. Salar Arsalan
Deputy Director / Demonstrator Allied Health Sciences	Dr. Talha
Deputy Director / Demonstrator Nursing Education	Dr. Muneeba

Avicenna Medical & Dental College Overview

Institutional Organogram



Vision & Mission

AVICENNA MEDICAL COLLEGE

Avicenna Medical & Dental College

AVICENNA DENTAL COLLEGE

Vision

The vision of **Avicenna Medical & Dental College** is to become a college that thrives to achieve improvement in healthcare of masses through creative delivery of educational programs, innovative research, commitment to public service and community engagement in a environment that supports diversity, inclusion, creative thinking, social accountability, life-long learning and respect for all.

Mission

The mission of **Avicenna Medical and Dental College** is to educate and produce competent, research oriented healthcare professionals with professional commitment and passion for life-long learning from a group of motivated students through

Message from the Chairman

The Avicenna Medical & Dental College is a project of Abdul Waheed Trust which is a Non-profitable, Non-governmental, Non-political & Social organization, working for the welfare of Humanity and based on Community empowerment. Avicenna Medical College has its own 530 bedded Avicenna teaching Hospital (Not for Profit hospital) within the College Campus & 120 bedded Aadil Hospital, at 15 minutes distance. Separate comfortable hostels for boys & girls are provided on the campus.

Our students benefit from the state of the art College Library with facilities of Internet & online Journals that remain open 15 hours a day, for our students & faculty members. I am particularly pleased with the hard work by the Faculty and Students in the achievement of historic 100% results for all the classes. It is a rare achievement and speaks of dedication of the Faculty and Staff. Our motto is Goodness prevails and we aim at producing Doctors' who are knowledgeable, competent in clinical skills and ethical values.

Avicenna Medical College & Hospital was founded to provide quality health care services to the deserving patients belonging to the rural areas near Avicenna Hospital as well as to provide quality medical education of international standard to our students. The Hospital provides all medical services and Lab diagnostics to the local population at minimal cost. So far by the grace of Allah Almighty the number of patients being treated and operated upon at our Hospital is increasing every day as there is no other public or charity hospital in the circumference of 20km. We have already established two Satellite Clinics in the periphery which are providing outdoor care while admission cases are brought to the Hospital in Hospital transport.

Following the success of our reputable Medical College and Hospital, we were able to successfully establish Avicenna Dental College which is recognized by the Pakistan medical & Dental Council & University of Health Sciences. To date, we have enrolled five batches in our dental college and we aim to achieve the same level of success for our dental students as our medical students.

Chairman
Abdul Waheed Sheikh
Avicenna Medical & Dental College



Message from the Principal



Prof. Dr. Sohail Abbas Khan
Principal Dental College
MDS, Dip Op (Hons) BDS

It is a matter of immense honor and privilege as the first Principal of Avicenna Dental College to welcome you to one of the finest dental institutes in the private sector of Pakistan. Avicenna Dental College is a private dental college, which aims to provide the finest dental education to dental undergraduate students in accordance with the latest trends in Dental Education, and to develop them to practice dentistry in the 21st century.

While educating dental students to become licensed, empathetic and competent professionals, Avicenna Dental College endeavors to educate students in a supportive environment in which they provide dental care for a diverse populace. In the times to come, we wish to transform our graduates into unfeigned teachers, researchers and consultants by starting post-graduation programs as well.

Avicenna Dental College aims to achieve an enterprising curriculum integrating the basic sciences with clinical experience while utilizing modern technological modalities.

In addition to the production of outstanding oral health professionals, we at Avicenna Dental College recognize our responsibility as a private dental institution to the citizens of the country in making the provision of oral health care available to those who are deprived of ready access.

I feel proud to lead this dental establishment such an inspiring time and hope all of you at Avicenna Dental College will share this pride and play your respective roles in materializing the dream of making this institution the premier dental educator in Pakistan



Message from the Vice Principal

Prof. Dr. Usman Muneer
Vice Principal Dental College
BDS, FCPS

It is a matter of great privilege to be associated with Avicenna Dental College. Our institution boasts of renowned, well-qualified and devoted faculty members in each and every specialty of dentistry. We are looking forward to diligently equipping our undergraduates with comprehensive artistic and ethical oral health care.

Our goal is to inspire a lifelong passion for learning and innovation in our students, ensuring they are well-prepared to meet the evolving challenges of the dental profession. I look forward to collaborating with our students on this transformative journey, guiding them toward achieving excellence in oral health care.

7-Star Doctor Competencies (PMDC)

According to national regulatory authority PMDC, a Pakistani medical/dental graduate who has attained the status of a 'seven-star doctor' is expected to demonstrate a variety of attributes within each competency. These qualities/ generic competencies are considered essential and must be exhibited by the individual professionally and personally.

1. Skillful / Care Provider.
2. Knowledgeable / Decision Maker.
3. Community Health Promoter / Community Leader.
4. Critical Thinker / Communicator
5. Professional / Lifelong learner.
6. Scholar / Researcher
7. Leader/ Role Model / Manager



About Avicenna Dental College

Avicenna Dental College is a purpose-built, fully equipped Dental institution with experienced and excellence-driven faculty to train high-quality dental professionals in Pakistan.

Avicenna Dental College runs under the umbrella of Abdul Waheed Trust. Abdul Waheed Trust is a non-profit social welfare organization and registered under the Societies Act with the Registrar of Societies. The Trust is legalized through a Trust Deed that bears necessary rectifications. The Trust Deed is further supported by its Memorandum and Article of Association that authorizes the establishment and operation of the Medical College, the Dental College, the Nursing College, the Allied Health Sciences College, and other activities in the healthcare sector.

In 2018, Avicenna Dental College was recognized by the Pakistan Medical & Dental Council. With the advent of advanced tools and technology in every field of health science, dentistry today has shot up to the greater end of the gamut with superior choice and promises in dental therapy in the very vicinity of the common man. ADC promises to be one such neighborhood.



Department & Subject Overview

Note from the Head of Department

Pathology is a branch of medicine that bridges the clinical and non-clinical subjects. Pathologists are called upon to diagnose and confirm many ailments. The department has 3 labs; a Histopathology and Haematology lab, a Microbiology and Chemical pathology lab & a Clinical lab. The Clinical lab works in full coordination with the Avicenna Hospital. The labs are being supervised by professors, experienced in the related specialties. The department has a well-designed museum displaying neatly mounted specimens and several detailed and highly informative charts/ graphs. Highly qualified professors with national & international experience are supervising the pathology labs.

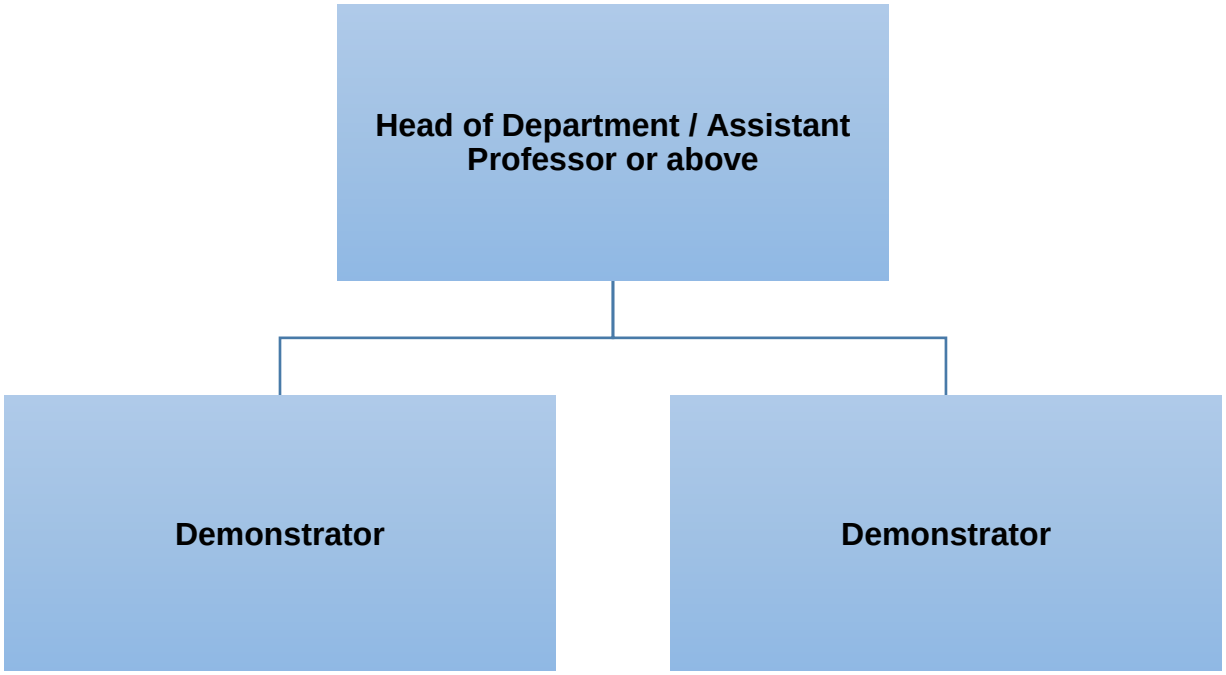


DR. SYED SHAUKAT ALI SHAH

M.B.B.S.,M.C.P.S.,M.PHIL

(MORBID ANATOMY/HISTOPATHOLOGY)

Departmental Organogram (as per PMDC guidelines)



Faculty Members

Name	Designation	Qualification
Prof Shaukat Ali Shah	Head of Department	**MBBS, MCPS, M.Phil Mirbid Anatomy/Histopathology**
Prof Saeed Afzal	Prof of Pathology	**MBBS, MCPS, FCPS Histopathology**
Prof Zulfiqar Memon	Prof of Hematology	**MBBS, M.Phil Heamatology**
Prof Naeem Ashraf	Prof of Chemical Pathology	**MBBS, DCP, M.Phil Chemical Pathology**
Dr Majid Rauf	Acting Associate Prof.	**MBBS, M.Phil Microbiology**
Dr Nadia Salam	Assistant Prof	**MBBS, M.Phil Histopatoogy**
Dr Ujala Aymun	Assistant Prof	**MBBS, M.Phil Heamatology**
Dr Nabeela Akram	Assistant Prof	**MBBS, M.Phil Heamatology**
Dr Munazza Salman	Assistant Prof	**MBBS, M.Phil Chemical Pathology**
Dr Ishrat Jehan	Demonstrator	**BDS**
Dr Amina Syed	Demonstrator	**MBBS**

Goal of the Department



The **academic goal** of the Department of Pathology is to provide undergraduate students the basic knowledge of disease processes.

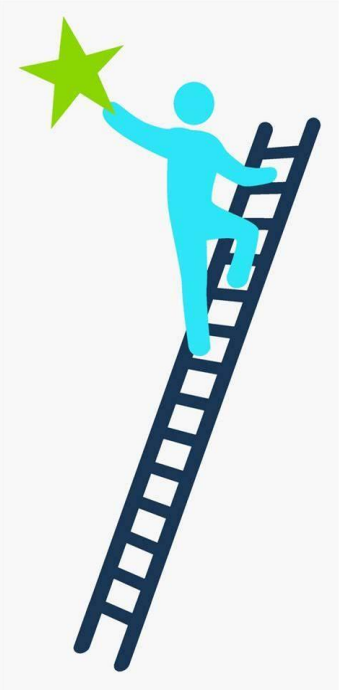
- Provide the most advanced and comprehensive pathology and pathobiology education.
- Prepare our students for lifetime learning and for careers as leaders, practitioners, and researchers.
- Perform biomedical research to further understanding of normal and abnormal life processes which lead to prevention and cure of disease and enhanced health.
- Practice pathology with compassion and in a manner that translates the results of our clinical and technological outcome into the highest quality of care to the public
- Our **areas of focus** are
    - **Academic**; By using different teaching methodologies to prepare students to understand disease process(Etio-pathogenesis) prior to learning diseases and its management.
    - **Diagnostic;** To provide best possible services of clinical laboratories and blood bank to attached hospital 24/7 and to enhance diagnostic facilities in clinical diagnostic laboratories

Course Objectives

1. **Understanding Pathology in Dentistry:** Develop a thorough understanding of pathology as it pertains to dental science, recognizing its role as the bridge between fundamental science and clinical practice.
2. **Pathology's Impact on Dental Care:** Explore how pathology serves as the foundation for various aspects of dental care, including diagnostic testing, treatment planning, and preventive measures for oral diseases.
3. **Expertise in Oral and Systemic Diseases:** Identify and understand the various oral and systemic diseases relevant to dental practice, and appreciate the role of pathologists in diagnosing and managing these conditions.
4. **Integration of Laboratory Findings:** Learn how laboratory investigations, including those related to infectious, neoplastic, genetic, and immunological diseases, inform and enhance dental diagnosis and treatment strategies.

Attendance Requirement & Internal Assessment Criteria

The institution follows the regulations for examinations of the UHS in letter and spirit. The students require **85% attendance** in all academic sessions and **50% marks** in internal assessments and send-up examinations to be eligible for the UHS Professional Examinations.



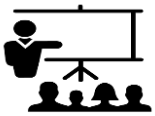
Learning Resources & Pedagogy

Book Recommendations



Sr.	Book Name	Author	Edition
1.	Robbins & Cotran vol:1 PATHOLOGY	Kumar Abbas Aster	10th
2.	Robbins & Cotran vol :2 PATHOLOGY	Kumar Abbas Aster	10th
3.	Review of Medical Microbiology & Immunology	Warren Levinson	19th

Traditional & Innovative Teaching Methodologies



Sr.	Pedagogical Methodologies	Description
1.	Lectures	Traditional method where an instructor presents information to a large group of students (large group teaching). This approach focuses on delivering theoretical knowledge and foundational concepts. It is very effective for introducing new topics.
2.	Tutorial	Tutorials involve small group discussion (SGD) where students receive focused instruction and guidance on specific topics.
	Demonstrations	Demonstrations are practical displays of techniques or procedures, often used to illustrate complex concepts or practices, particularly useful in dental education for showing clinical skills.
3.	Practicals	Hands-on sessions where students apply theoretical knowledge to real-world tasks. This might include lab work, clinical procedures, or simulations. Practicals are crucial for developing technical skills and understanding the application of concepts in practice.
4.	Student Presentations	Students prepare and deliver presentations on assigned topics. This method enhances communication skills, encourages students to explore topics in-depth. It also provides opportunities for peer feedback and discussion.
5.	Assignment	Tasks given to students to complete outside of class. Assignments can include research papers, case studies, or practical reports. They are designed to reinforce learning, assess understanding, and develop critical thinking and problem-solving skills.
7.	Self-directed Learning	Students take initiative and responsibility for their own learning process. Students are encouraged to seek resources, set goals, and evaluate their progress. This is a learner-centered approach where students take the initiative to plan, execute, and assess their own learning activities. This method promotes independence, critical thinking, and lifelong learning skills.

8.	Flipped Classroom	In this model, students first engage with learning materials at home (e.g., through videos, readings) and then use class time for interactive activities, discussions, or problem-solving exercises. This approach aims to maximize in-class engagement and application of knowledge.
9.	Peer-Assisted Learning (PAL)	A collaborative learning approach where students help each other understand course material. PAL involves structured peer tutoring, study groups, or collaborative tasks. It enhances comprehension through teaching, reinforces learning, and builds teamwork skills.
10.	Team-based Learning (TBL)	A structured form of small group learning where students work in teams on application-based tasks and problems. Teams are responsible for achieving learning objectives through collaborative efforts, promoting accountability, and deeper understanding of the material.
11.	Problem-based Learning (PBL)	Students work on complex, real-world problems without predefined solutions. They research, discuss, and apply knowledge to develop solutions. PBL fosters critical thinking, problem-solving skills, and the ability to integrate knowledge from various disciplines.
12.	Academic Portfolios	A collection of student's work that showcases learning achievements, reflections, and progress over time. Portfolios include assignments, projects, and self-assessments. They provide a comprehensive view of student development, highlight strengths and areas for improvement, and support reflective learning (experiential learning)



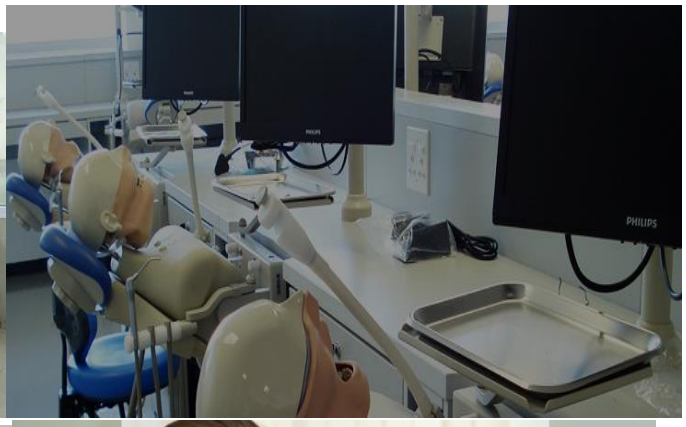
Flipped Classroom

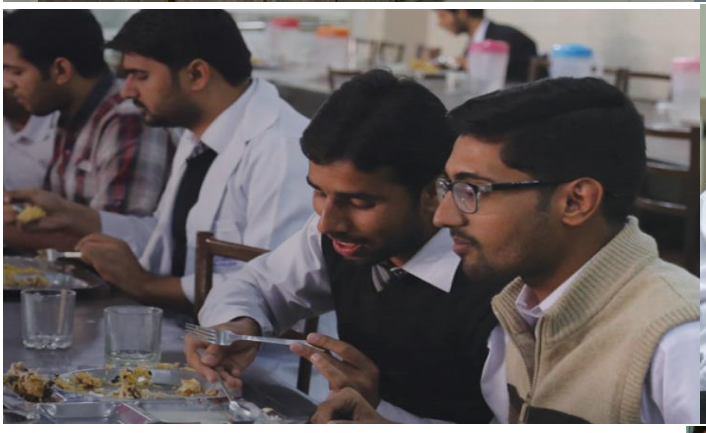
Infrastructure Resources

Sr.	Infrastructure Resources	Description
1.	Lecture Hall	Each year has a dedicated lecture hall, totaling four lecture halls for the four professional years. These halls are equipped with modern audiovisual aids to support effective teaching and learning.
2.	Tutorial Room	The college's tutorial rooms, each with a capacity of 30, are specifically designed to support small group discussions and interactive sessions. These rooms facilitate personalized instruction, enabling more engaged and effective learning through direct interaction between students and instructors.
3.	Lab	The college is equipped with state-of-the-art laboratories for practical and clinical work. Each lab is designed to support various disciplines, to facilitate hands-on learning.
4.	Library on campus	A huge library occupies a full floor and has 260 seats including study carrels and group-discussion tables. Latest reference books of Basic and Clinical Sciences along with national & international journals are available in the library.
5.	Digital Library	The digital library offers access to a vast collection of e-books, online journals, research databases, and other digital resources. It supports remote access and provides tools for academic research and learning.
6.	Learning Management System (LMS)	The LMS is a comprehensive online platform that supports course management, content delivery, student assessment, and communication. It provides tools for tracking progress, managing assignments, and facilitates ongoing academic activities.
7.	Mess & Cafeteria	The College has its own on-campus Mess which caters to 600 students. All food items including dairy, meat, and vegetables are sourced organically and bought in at the time of cooking, in order to ensure that students get freshly cooked meals at all times Students form the Mess committee which decides the mess menu in consultation with other students. The Mess offers fresh food to all residents three times a day. However, day scholars are also welcome to use the Mess facility at a reasonable cost. Two 50- inch LCD screens provide students an opportunity to get entertained during their meal times.
8.	Gymnasium & Sports	We recognize sports as a pivotal key to shape and maintain students' personality and good health. The College has indoor and outdoor sports facilities to help enhance the cognition and capacity to learn. There is a proper sports section for various games like basketball, football, volleyball, and cricket. The gym itself is fully equipped with modern machinery both for students and faculty.
9.	IT Lab	The IT Lab is equipped with modern computers and software available for students who need access for academic purposes.

10.	Auditorium	The college has a spacious auditorium equipped with advanced audio-visual facilities. It is used for large-scale lectures, guest presentations, and academic conferences, providing a venue for students to engage with experts and participate in important educational events.
11.	Examination Halls	The college provides dedicated examination halls that are designed to accommodate a large number of students comfortably. These halls are equipped with necessary facilities to ensure a smooth and secure examination process, including proper seating arrangements, monitoring systems, and accessibility features.









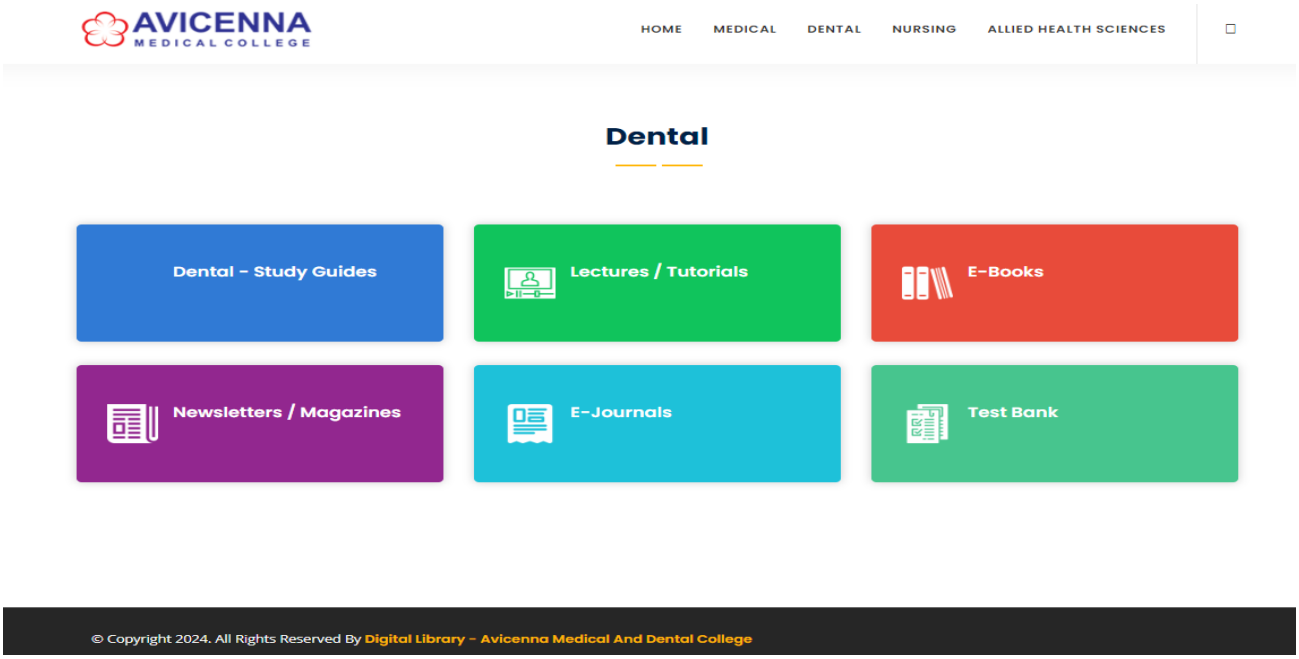




Digital Library & Learning Management System (LMS)

1. The COVID-19 pandemic highlighted the necessity of interactive online teaching for better retention of topics by students. Strategies like online learning management system (LMS), online discussions, online quizzes, assignment design, and flipped learning enhance student engagement in online education when needed.

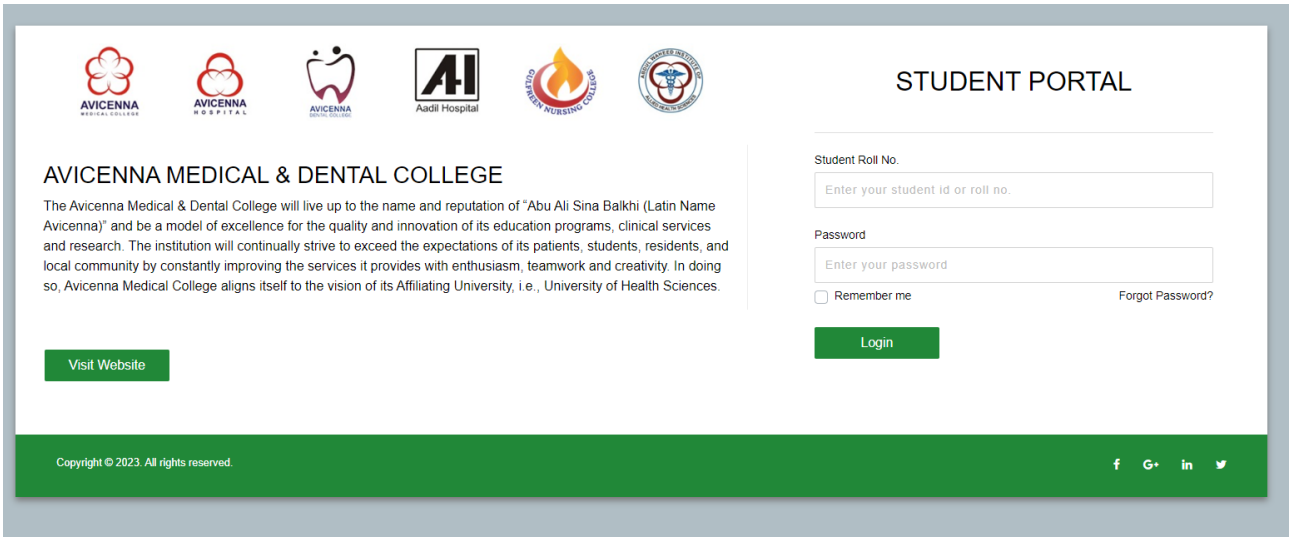
2. Avicenna Medical & Dental College lays emphasis on the provision of learning material and online video lectures, video tutorials in the e-library and learning resource center, which has a dedicated website of Avicenna Medical College to enable the students to develop concepts and clarify their doubts, if they have not been able to do so in the teaching sessions during college hours. The digital library can be approached on http://digital.avicennamch.com/.



3. The institution has also endeavored to link itself with the digital libraries and e-library of the University of Health Science (UHS) and Higher Education Commission (HEC) to enable the students to benefit from the valuable resource material, lectures and knowledge bank at these sites. The links are available with the HEC http://www.digitallibrary.edu.pk/ and learning management system of UHS http://lms.uhs.edu.pk .

4. The Learning Management System (LMS) at Avicenna Medical & Dental College is a comprehensive platform managed by the Department of Student Affairs. It is designed to facilitate effective communication and information exchange between students, parents, faculty, and administrative staff. The LMS portals are specifically tailored to meet the needs of the following stakeholders:

   a. **Students**: For academic resources and scheduling.
   b. **Parents:** For monitoring academic progress and other relevant information.
   c. **Faculty:** For managing course content and academic activities.
   d. **Department of Student Affairs:** For overseeing administrative functions.
   e. **Department of Medical/Dental Education:** For overseeing academic functions.



5. Students can access a comprehensive range of academic resources and information through the student portal. By logging in with their roll number and password, students can:

    - Look at their attendance and results.
    - Review academic activities and weekly timetables/schedules.
    - Access rotation planners and test schedules.
    - Check for any notification, assignment or resource material from their teachers.

6. The information to the parent is duplicated by the issuance of the password and login to the Students Learning Management System which is dedicated to the Academic Program of the students. The parents can view the following by logging in to the mobile app of Avicenna Student Management System:

    a) Syllabus
    b) Table of specifications
    c) Annual Planner
    d) Synopsis
    e) Block Time Table
    f) Weekly training program
    g) Allocation of Marks
    h) Assessment calendar
    i) Results of tests / exams*
    j) Students' attendance record
    k) Fees & fines

Assessment Guidelines

Assessment in dental education is a critical component designed to ensure that dental students acquire the necessary knowledge, skills, and competencies required for effective dental practice.

Assessment drives learning! – George E. Millar

You will encounter a variety of assessment methods, each serving a specific purpose.

- Written examinations, including multiple-choice and essay questions, will test your grasp of theoretical concepts and subject matter.
- Practical assessments will require you to demonstrate your clinical skills and ability to apply knowledge in real-world scenarios.
- Oral exams will evaluate your communication skills and reasoning abilities through case discussions and problem-solving exercises.
- Clinical skills and work-place based assessments will observe your hands-on proficiency and patient management capabilities.

At Avicenna Medical & Dental College, internal assessments are systematically conducted throughout each academic year of the BDS program, as per the guidelines established by the University of Health Sciences (UHS). These assessments, overseen by the Assessment Cell, adhere to either the Annual Subject-Based System or the Integrated/Modular System, depending on the curriculum structure.

Notably, beginning with the 2024-25 academic year, the weightage of internal assessments will be increased from 10% to 20%. The UHS administers professional examinations independently, organizing them at designated neutral sites and appointing external examiners to ensure objectivity and fairness.

Internal Assessment Weightage	10%	100 %
External Assessment Weightage	90%	



Internal Assessment Criteria

Internal Assessment	Assessment Methods	Percentage Weightage
Grand Tests	MCQs SEQs Viva OSPE	30%
Early Session Exam	MCQs SEQs Viva OSPE	70%
Mid Session Exam	MCQs SEQs Viva OSPE	
Send-up Exam	MCQ SEQ	100%
Total		200%

Reference attached on next page.

Avicenna Dental College

Examination Marks Scheme 2023-2024

2nd Year BDS

Form No	BDS-2 Form-1		BDS-2 Form-2		BDS-2 Form-3		BDS-2 Form-4		BDS-2 Form-5		BDS-2 Form-6	
Test Type	Grand Test				Revision Test		Session Exam				Send Up	
Mode of Exam	Theory		Practical		Theory		Theory		Practical		Theory	
Weightage	(1,2)* 30%				0%		(3,4)* 70%				100%	
Pathology 200	MCQ 40, SEQ 30	70	Viva 25, OSPE 25	50	MCQ 20 SEQ 30	50	MCQ 45, SEQ 45, IA 10	100	Viva 40, OSPE 50, IA 10	100	MCQ 45, SEQ 45, IA 10	100
Pharmacology 200	MCQ 40, SEQ 30	70	Viva 25, OSPE 25	50	MCQ 20 SEQ 30	50	MCQ 45, SEQ 45, IA 10	100	Viva 60, OSPE 30, IA 10	100	MCQ 45, SEQ 45, IA 10	100
Beh. Sciences 200	MCQ 40, SEQ 30	70	Viva 25, OSPE 25	50	MCQ 14 SEQ 36	50	MCQ 45, SEQ 45, IA 10	100	Viva 45, OSPE 45, IA 10	100	MCQ 45, SEQ 45, IA 10	100
Dental Materials 200	MCQ 40, SEQ 30	70	Viva 25, OSPE 25	50	MCQ 20 SEQ 30	50	MCQ 45, SEQ 45, IA 10	100	Viva 50, OSPE 40, IA 10	100	MCQ 45, SEQ 45, IA 10	100
Community Dentistry 200	MCQ 40, SEQ 30	70	Viva 25, OSPE 25	50	MCQ 20 SEQ 30	50	MCQ 45, SEQ 45, IA 10	100	Viva 60, OSPE 30, IA 10	100	MCQ 45, SEQ 45, IA 10	100

NOTE 1 : *If Viva/OSPE is held along with Theory test , The Theory test will get 15% weightage & VIVA / OSPE will get 15% Weightage in Grand Test

NOTE 2 : *If Viva/OSPE is not held for any reason Theory test will get full 30% weightage in Grand Test

NOTE 3 : * If Viva/OSPE is held along with Theory test , The Theory test will get 35% weightage & VIVA / OSPE will get 35% Weightage in Session Exam

NOTE 4 : *If Viva/OSPE is not held for any reason Theory test will get full 70% weightage in Session Exam

NOTE 5 : Internal assessment: 10 marks will be given to copy and assignment

Department of Pathology	Department of Pharmacology	Department of Behavioural Science	Department of Dental Materials	Department of Community Dentistry

Head of Examination Cell : _____

Prof. Dr. Ijlal Zehra Zaidi
Head of Examination Department
Avicenna Medical & Dental College

Chairman Avicenna: _____

External Assessment

<table>
<tr><th colspan="2">Paper Details</th><th>Assessment Methods</th><th>Total Marks</th><th>Percentage Weightage</th></tr>
<tr><td rowspan="3">Theory
● 90 marks
● 3 hrs</td><td rowspan="2">External Assessment</td><td>45 MCQs (1 mark each)</td><td>45 marks</td><td rowspan="3">50 %</td></tr>
<tr><td>15 SEQs (3 marks each)</td><td>45 marks</td></tr>
<tr><td>Internal Assessment</td><td>See Internal Assessment Criteria</td><td>10 marks</td></tr>
<tr><td rowspan="2">Practical
● 90 marks
● 3 hrs</td><td>External Assessment</td><td>Viva & OSPE</td><td>90 marks</td><td rowspan="2">50%</td></tr>
<tr><td>Internal Assessment</td><td>See Internal Assessment Criteria</td><td>10 marks</td></tr>
<tr><td colspan="3">Total</td><td>200 Marks</td><td>100%</td></tr>
</table>

Sample Paper

MCQ

A 50 years old man died in mysterious circumstances .His family found him dead in his bedroom on the floor near bedside .He had a history of hypertension and was on antihypertensives.Body was taken for the postmortem .Report showed an area of clotted blood on the surface of left ventricle.Which type of lesion is this most likely?

Options

a)Hemorrhage
b)Atherosclerosis
c)Coagulative Necrosis *
d) Intracellular accumulation
e)Tumour

COGNITIVE LEVEL: C2
DIFFICULTY LEVEL: Moderate
IMPORTANCE: Must Know
REFERENCE: **Robbins Pathology 10th edition**

SEQ/SAQ

Scenario A 60 years old lady who is pan eater for the last 40 years comes with a small solitary nodular mass slow growing less than 2cm on the left buccal mucosa.She has pain during chewing of food.

Questions	**Marks**
a)What is the diagnosis	**1**
b)What is the pathogenesis	**1**
c) What is the gold standard test to diagnose	**1**

Key	**Marks**
a)Leiomyoma of oral cavity	**1**
b)Benign smooth muscle tumour with a low incidence. Slow growing asymptomatic sub mucosal mass usually in buccal mucosa/tongue/hard palate.They may be seen at any age and usually 1 to 2 cm in diameter	**1**
c) Biopsy	**1**

COGNITIVE LEVEL: Recall/ Application C2
DIFFICULTY LEVEL: /Moderate/
IMPORTANCE: Must Know/
REFERENCE: **Robbins volume 2 10th Edition**

OSPE

Scenario : **A 15 year young boy comes to the emergency with skin lesion. He had a history of typhoid a week ago.** Perform gram staining

Key: (in the form of rubric) You may use rating scale. (binary/global/analytical/holistic)

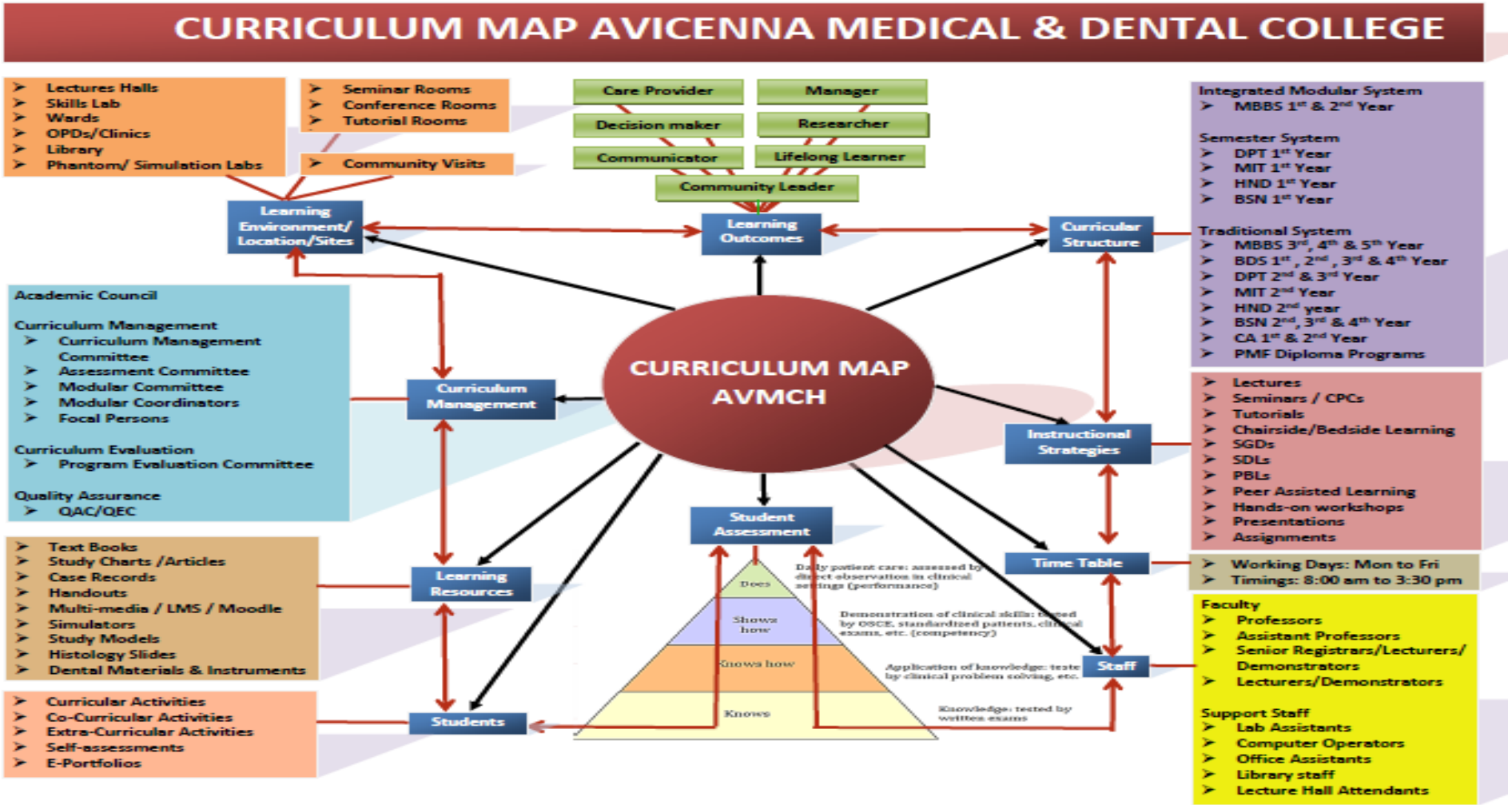
CURRICULUM DETAILS

Curricular Framework including allocation of hours (PMDC)

BDS SCHEME OF STUDIES			
Basic Dental Sciences / Preclinical Year		**Clinical Dental Sciences / Clinical Years**	
1st Professional Year	**2nd Professional Year**	**3rd Professional Year**	**4th Professional Year**
Anatomy 300 Hours	**General Pathology** 220 Hours	**General Medicine** 180 Hours	**Operative Dentistry** 250 Hours
Physiology 300 Hours	**Pharmacology** 220 Hours	**General Surgery** 170 Hours	**Prosthodontics** 250 Hours
Biochemistry 180 Hours	**Science of Dental Materials** 300 Hours	**Oral Pathology** 180 Hours	**Orthodontics** 250 Hours
Oral biology & Tooth Morphology 300 Hours	**Community Dentistry** 200 Hours	**Oral Medicine** 150 Hours	**Oral & Maxillofacial Surgery** 250 Hours
General Education 120 Hours (Islamiat, Pakistan Studies Behavioural Sciences, Research, English, Arts & Humanities)	**Preclinical Operative Dentistry** 80 Hours	**Periodontology** 180 Hours	**Paediatric Dentistry** 100 Hours
	Pre-clinical Prosthodontics 80 Hours	**Clinical Operative** 80 Hours	**General Education** 100 Hours (Research, English, Arts & Humanities, ICT)
	General Education 100 Hours (Behavioural Sciences, Research, English, Arts & Humanities, ICT)	**Clinical Prosthodontics** 80 Hours	
		Clinical Oral & Maxillofacial Surgery 80 Hours	
		General Education 100 Hours (Research, English, Arts & Humanities, ICT)	
1200 hours	**1200 hours**	**1200 hours**	**1200 hours**

Curricular Map & Rationale

1. This pictorial, vertical and horizontal presentation of the course content and extent shows the sequence in which various systems are to be covered. Curricular map to cover all the subjects and modules and the time allocated to study of the systems for the undergraduate programs offered at four colleges at campus are as follows:



Learning Outcomes

Unit/ Chapter	Topic/ Content	Student Learning Outcomes	Mode of Information (MOIT)	Learning Domain (KSA-Model)
Chap 1 Cell as a unit of Health and disease	• **Cell as a Unit of Health and Disease:** Students should be able to understand the role of the cell in maintaining health and its involvement in disease processes. • **Cell Structure:** Students should be able to describe the structure of cells and their organelles. • **Cell Function:** Students should be able to explain the basic functions of cells and how they contribute to overall health. • **Cellular Contents and Their Individual Function:** Students should be able to identify key cellular components and describe their individual functions.	**THEME : CELLULAR RESPONSES TO STRESS and TOXIC INSULTS: ADAPTATION, INJURY AND DEATH** **SUB THEME: Cellular Adaptation** 1. Define with examples a. Hyperplasia b. Hypertrophy c. Atrophy d. Metaplasia 2. Describe the mechanism of above adaptations. **SUB** THEME: Cell injury 3. Define cell injury. Enlist causes of cell injury. 4. Differentiate between reversible and irreversible injury. 5. Describe morphological alterations in cell injury. 6. Describe mechanisms of cell injury and its clinicopathological correlations. **SUB THEME: Necrosis, Apoptosis & Necroptosis.** 7. Define Necrosis and brief discussion of caseous, liquefactive, coagulative and gangrenous necrosis. 8. Define apoptosis and name its pathways. 9. Differentiate between necrosis and apoptosis. 10. Describe the mechanism of apoptosis. 11. Define necroptosis and its mechanism.	Lectures Tutorials Practical	Knowledge, Skills
Chap 2 Cell Injury	• **Cell Injury:** Students should be able to define cell injury and understand its implications for health and disease. • **Cellular Adaptations:** Students should be able to explain various cellular adaptations to stress and injury.			

	• **Types of Injuries:** Students should be able to differentiate between different types of cellular injuries. • **Mechanism of Cell Injury:** Students should be able to outline the mechanisms through which cell injury occurs. • **Necrosis:** Students should be able to describe the process and types of necrosis. • **Apoptosis:** Students should be able to explain the process of apoptosis and its significance in health and disease. • **Autophagy:** Students should be able to understand the role of autophagy in cellular homeostasis and disease. • **Intracellular Accumulations:** Students should be able to identify types of intracellular accumulations and their pathological significance. • **Calcification and Types:** Students should be able to explain calcification and describe its different types.	**SUB THEME: Autophagy** 12. Define autophagy with examples 13. Describe its steps **SUB THEME: Intracellular Accumulations & Pigmentations** 14. Name the types of accumulations in cells with examples. 15. Define pigmentation and its types along with examples. 16. Differentiate between exogenous and endogenous pigmentation. **SUB THEME: Calcification** 17. Define calcification 18. Name the types along with examples of types of calcification. 19. Differentiate between metastatic and dystrophic calcification. **SUB THEME: Aging** 20. Define aging. 21. Name mechanisms of aging.		
Chap 3 Inflammation and Repair	• **Definition of Inflammation:** Students should be able to define inflammation and its role in disease.	**THEME : INFLAMMATION AND REPAIR** **SUB THEME: Acute Inflammation** At the end of the session, students will be able to: 1. Define acute inflammation and discuss briefly its vascular events and cellular events and enlist the chemical mediators of	Lectures Tutorials Practical	Knowledge, Skills

	• **Causes:** Students should be able to identify common causes of inflammation. • **Types:** Students should be able to differentiate between types of inflammation. • **Acute Inflammation:** Students should be able to describe the characteristics and mechanisms of acute inflammation. • **Chronic Inflammation:** Students should be able to explain chronic inflammation and its consequences. • **Systemic Effects of Inflammation:** Students should be able to outline the systemic effects of inflammation. • **Overview of Tissue Repair:** Students should be able to summarize the processes involved in tissue repair. • **Cell and Tissue Regeneration:** Students should be able to explain the processes of cell and tissue regeneration. • **Factors that Influence Tissue Repair:** Students should be able to identify factors that influence tissue repair.	acute inflammation. 2.Describe morphological patterns and outcomes of acute inflammation. **SUB THEME: Chronic Inflammation** 3. Define granulomatous and non granulomatous chronic inflammation with examples. 4. Describe morphological features of chronic inflammation 5. Describe the cells and mediators of chronic inflammation. 6. Tabulate the causes of granulomatous inflammation. 7. Describe the role of macrophages in inflammation & repair 8. Enlist systemic effects of inflammation. **SUB THEME: Tissue Repair** 9. Define repair, regeneration and scar formation. 10. Enumerate the types of cells involved in regeneration according to their proliferative capacity. 11. Describe the mechanism of tissue regeneration with an example of the liver. 12. Enlist the steps of scar formation alongwith its main components and growth factors involved. 13. Describe the factors affecting wound healing. 14. Define healing by primary and secondary intention. 15. Differentiate between primary and secondary healing. 16. Enlist pathological aspects of repair.		

	• **Abnormalities of Tissue Repair:** Students should be able to recognize abnormalities in tissue repair and their implications			
Chap 4 Hemodynamic Disorders, Thromboembolic Diseases and Shock	• **Definition of Edema and Effusion:** Students should be able to define edema and effusion. • **Hyperemia and Congestion:** Students should be able to explain the concepts of hyperemia and congestion. • **Hemostasis/Hemorrhage and Thrombosis:** Students should be able to describe hemostasis, hemorrhage, and thrombosis. • **Embolism:** Students should be able to explain the process and consequences of embolism. • **Infarction:** Students should be able to describe the causes and effects of infarction. • **Shock:** Students should be able to understand the types and mechanisms of shock.	**THEME : HEMODYNAMIC DISORDERS, THROMBOEMBOLIC DISEASES, AND SHOCK** **SUB THEME: Edema and Effusion** At the end of the session, students will be able to: 1. Define edema and tabulate pathophysiological categories of edema 2. Illustrate the diagram mechanism of systemic edema in heart failure. **SUB THEME: Hyperemia & congestion** 3. Define hyperemia and congestion and differentiate between the two. **SUB THEME: Hemostasis, hemorrhagic disorders and thrombosis** 4. Define thrombosis and Virchow's triad.	Lectures Tutorials Practical	Knowledge, Skill

		5. Tabulate primary and secondary hypercoagulable states. 6. Describe morphology of arterial and venous thrombi and differentiate between two 7. Differentiate between antemortem and postmortem clot. 8. Enlist the fate of thrombus. **SUB THEME: Embolism** 9. Define embolism and briefly describe its types along with mechanisms. **SUB THEME: Infarction** 10. Define infarction. 11. Describe the morphology of red and white infarct 12. Enumerate the factors that influence the development of an infarct **SUB THEME: Shock** 13. Define shock and briefly describe three types. 14. Illustrate with the help of a diagram the pathogenesis of septic shock 15. Give a brief account of stages of shock.		
Chap 5 Genetic disorder	• **Genes & Human Disease:** Students should be able to explain the role of genes in human disease. • **Mendelian Disorders:** Students should be able to describe Mendelian disorders and their inheritance patterns. • **Complex Multigenic Disorders:** Students should be able to outline	**THEME : GENETIC DISORDERS** At the end of the session, students will be able to: 1. Define mutation 2. Describe the features and examples of the following o Autosomal dominant disorders o Autosomal recessive disorders	Lectures Tutorials	Knowledge

	complex multigenic disorders and their genetic basis. ● **Chromosomal Disorders:** Students should be able to identify chromosomal disorders and their implications. ● **Single Gene Disorders with Non-Classic Inheritance:** Students should be able to discuss single gene disorders with non-classic inheritance patterns. ● **Molecular Genetic Diagnosis:** Students should be able to understand molecular genetic diagnostic techniques and their applications.	○ X-linked disorders 3. Give brief account of ○ Marfan syndrome ○ Ehlers-Danlos syndrome ○ Down syndrome ○ Klinefelter syndrome ○ Turner syndrome 4. Give a brief account of steps of PCR.		
Chapter 6 Diseases of Immune System & Virology	● **The Normal Immune Response:** Students should be able to describe the normal immune response and its components. ● **Hypersensitivity:** Students should be able to explain different types of hypersensitivity reactions. ● **Autoimmune Diseases:** Students should be able to identify common autoimmune diseases and their mechanisms. ● **Rejection of Tissue Transplant:** Students should be able to understand the mechanisms and types of tissue transplant rejection. ● **Immunodeficiency Syndrome:** Students should be able to discuss various immunodeficiency syndromes and their causes.	**THEME : DISEASES OF IMMUNE SYSTEM** **SUB THEME: The normal immune response** At the end of the session, students will be able to: 1. Define innate and adaptive immunity along with their features 2. Describe MHC **SUB THEME: Hypersensitivity** 3. Define and briefly describe the four types of hypersensitivity reactions along with examples **SUB THEME: Autoimmune diseases** 1. Define autoimmunity and give its examples 2. Briefly describe immunologica tolerance 3. Briefly describe HIV and Amyloidosis	Lectures Tutorials	Knowledge

Chapter 7 Neoplasia	• **Nomenclature:** Students should be able to understand the terminology used in neoplasia. • **Characteristics of Benign & Malignant Tumours:** Students should be able to differentiate between benign and malignant tumors. • **Epidemiology of Cancer:** Students should be able to outline the epidemiology and risk factors associated with cancer. • **Molecular Basis of Cancer:** Students should be able to describe the molecular mechanisms underlying cancer. • **Carcinogenic Agents and Their Cellular Interactions:** Students should be able to identify carcinogenic agents and explain their interactions with cellular processes. • **Clinical Aspects of Neoplasia:** Students should be able to understand the clinical presentation, diagnosis, and management of neoplasms.	**THEME : NEOPLASIA** At the end of the session, students will be able to: **SUB THEME: Tumors** 1. Define the following with examples Neoplasia Oncogenes Proto-oncogenes Oncoproteins 2. Give an account of nomenclature of benign and malignant tumors. 3. Enlist the pathways of spread of tumor. 4. Tabulate the differences between benign and malignant tumors with examples. 5. Tabulate the differences between carcinoma and sarcoma. 6. Enlist cellular and molecular hallmarks of cancer. 7. Describe tumor suppressor genes and their examples **SUB THEME: Carcinogens** 1. Understand carcinogens 2. Define chemical carcinogenesis along with examples and enlist steps involved 3. Define microbial carcinogenesis along with examples. 4. Define and give examples of paraneoplastic syndromes 5. Define grading and staging of cancer and differentiate between two 6. Describe laboratory diagnosis of cancer	Lectures Tutorials Practical	Knowledge, Skill

		7. Define tumor markers along with examples		
Chapter 8 Infectious Diseases, Parasitology, Bacteriology	• **General Principles of Microbial Pathogens:** Students should be able to describe the general principles of microbial pathogens and their impact on health. • **Special Techniques for Diagnosing Infectious Agents:** Students should be able to understand and apply techniques for diagnosing infectious agents. • **Viral Infections:** Students should be able to describe key aspects of viral infections. • **Bacterial Infections:** Students should be able to identify major bacterial infections and their clinical significance. • **Fungal Infections:** Students should be able to describe common fungal infections and their impact on health. • **Parasitic Infections:** Students should be able to understand parasitic infections, including their types and effects. • **Emerging Infectious Diseases:** Students should be able to discuss emerging infectious diseases and their global impact.		Lectures Tutorials Practical	Knowledge, Skill

Assessment TOS/ Blueprint

Unit/ Chapter	Topic/ Content	Assessment Method (No. of Questions)			
		MCQS	SEQs	**Viva**	**OSPE**
Chap 1	Cell as a unit of Health and disease	Nil	Nil		7-Observed 1-unobserved

Chap 2	Cell Injury	6	1	Possible Viva Questions from any topic	
Chap 3	Inflammation and Repair	9	3		
Chap 4	Hemodynamic Disorders, Thromboembolic Diseases and Shock	2	1		
Chap 5	Genetic disorder	2	1		
Chapter 6	Diseases of Immune System & Virology	3	2		
Chapter 7	Neoplasia	6	2		
Chapter 8	Infectious Diseases, Parasitology, Bacteriology, Virology	17	5		
Total		45	15	-	8


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