Frontier Medical & Dental College Study Guide (Adapted from Bahria University Guide)

2nd Year MBBS

FRONTIER MEDICAL & DENTAL COLLEGE,
FMDC ABBOTTABAD

FMDC STUDY GUIDE

The study guide serves as a useful handy resource, helping you to navigate your journey at FMDC.

The study guide is more than an academic guide.

It not only highlights what, as a student, you should aim to achieve as you work through the curriculum, but also provides essential information about various administrative protocols that you as students of Frontier Medical & Dental College are expected to follow.

Vision Statement of FMDC

To become an internationally recognized medical institution that contributes towards development of community health through excellence in medical education.

Mission Statement of FMDC

To attain highest standard in teaching, learning and research according to WFME and PMDC standards.

Program Learning Outcomes (PLOs)

The MBBS programs aims to produce medical graduates who are able to:

1.0 Knowledge

1.1 Explain the microscopic, macroscopic and gross structure of different organ systems in the human body, including musculoskeletal system with their clinical correlation.
1.2 Explain the normal functions of the human body at the molecular, cellular and organ level with their regulation.
1.3 Describe the basic biochemical reactions, synthesis and function of body enzymes and hormones, metabolism of carbohydrate, proteins and lipids with their clinical correlation and basics of human genetics.
1.4 Describe the general principles and concepts of diseases along with etiology, pathogenesis, gross and microscopic morphology of diseases in different organ systems.
1.5 Describe the pharmacokinetics and pharmacological properties of different drugs in common use for human diseases with their different actions, adverse effects and interactions.
1.6 Describe life cycle, mode of transmission and microbiological properties of pathogens affecting human body including bacteria, viruses and parasites, with emphasis on body defense mechanism with their immunological bases and autoimmune diseases.
1.7 Recognize basics of forensic medicine and toxicology along with their clinical applications.
1.8 Recognize clinical presentations, differential diagnosis, investigations and principles of treatment of common diseases affecting the pediatrics age group including congenital and developmental diseases.
1.9 Recognize clinical presentations, differential diagnosis, investigations and principles of treatment of common internal medicine, psychiatric and dermatological diseases including medical emergencies.
1.10 Recognize clinical presentations, differential diagnosis, investigations and principles of treatment of common surgical diseases including diseases of the eye and ear and their surgical emergencies.
1.11 Recognize clinical presentations, differential diagnosis, investigations and principles of treatment of common gynecological diseases and stages of normal and abnormal pregnancy and delivery with their

complications.
1.12 Recognize basics of biostatistics and methods of medical research.
1.13 Explain the principles of problem solving & management strategies.
1.14 Analyze symptoms and signs of different diseases with their impact in differential diagnosis.
1.15 Interpret the results of commonly used diagnostic procedures (laboratory and radiological).

2.0 Skills

2.1 Perform different laboratory experiments with proper handling of laboratory tools.
2.2 Construct a complete medical history in the outpatient, inpatient or emergency settings.
2.3 Perform and document a complete or focused physical and mental examination with eliciting different special physical signs essential for diagnosing different diseases.
2.4 Illustrate the principles and international guidelines for management of traumatic conditions with emphasis on the severely polytraumatized patients.
2.5 Perform basic clinical procedures under strict supervision as and accordingly listed.

3.0 Attitude

3.1 Show respect, empathy and responsibility with the patients and respect for their privacy and dignity.
3.2 Demonstrate communication with the patients and to provide knowledge to patients and their families about the possible therapies and risks in alternative treatment along with obtaining informed consent.
3.3 Demonstrate how to work with the colleagues in a team and to seek consultation from senior doctors.
3.4 Illustrate and present different case studies and give accurate and clear oral summary of the patient's illness.
3.5 Illustrate ethical behavior expected from the doctors towards patients with recognition of patients' rights, particularly as regards to confidentiality and informed consent, access to health care for the members of the underserved populations.
3.6 Demonstrate professional image in manner, dress, speech and interpersonal relationships that is consistent with the accepted contemporary medical profession standards.

7 Star Competencies

The graduate doctor must be a:

1. **Skillful** – Demonstrates proficiency in clinical and procedural skills, applying them safely and effectively in patient care.
2. **Knowledgeable** – Possesses comprehensive medical knowledge integrating basic, clinical, and applied sciences.
3. **Community Health Promoter** – Advocates for public health, engages in preventive care, and addresses community health challenges.
4. **Critical Thinker** – Analyzes clinical problems, applies evidence-based reasoning, and makes sound clinical decisions.
5. **Professional** – Upholds ethical standards, empathy, and integrity while respecting patients' rights and dignity.
6. **Scholar** – Engages in lifelong learning, research, and academic activities to advance medical practice.
7. **Leader and Role Model** – Demonstrates leadership in healthcare teams, mentors peers, and serves as an example for future professionals.

PMDC'S 7 STAR DOCTOR



POLICIES

This section summarizes some key aspects of policies in vogue at FMDC. The student is advised to read the detail in the latest edition of FMDC's Student Handbook.

Code of Conduct for Students

Introduction:

Students are required to comply with all rules and regulations of the College. The College expects, and will insist upon, honesty and integrity from its students at all times. Acts of unethical behaviour during examinations, serious social misconduct, or violations of civil or criminal law will lead to permanent dismissal from the College.

Other grounds for dismissal include, but are not limited to: submission of false evidence; theft; willful damage to equipment, furnishings, or property; acts of physical violence against students, faculty, or staff; use or possession of drugs; possession of firearms; violation of the civil rights of others; participation in civil disturbance; improper use of social media; and failure to pay tuition fees or other charges without valid justification.

Extended absence from classes, clinics, laboratories, or other scheduled instruction without prior permission, as well as an inability to cope with the curriculum, shall also constitute sufficient cause for dismissal.

7.1 Breaches of Discipline:

The following acts and behaviours shall constitute breaches of discipline and may lead to penalties, including fines, suspension, expulsion, or any other action deemed appropriate by the College authorities:

Classroom and Campus Conduct

- Failure to maintain order and silence in classrooms, laboratories, clinics, hostels, or other College premises.
- Singing, whistling, shouting, or engaging in disruptive or unseemly behaviour.
- Use of abusive, indecent, or offensive language; making indecent remarks or gestures.
- Fighting, physical violence, or disorderly behaviour within College premises or hostels.

Respect for Authority and Communication

- Directly addressing the Dean, Principal, or other authorities without following the prescribed channel of communication.
- Submission of joint applications or representations; all applications must be made individually.
- Failure to obtain prior appointment before meeting the Dean or Principal.
- Disobeying lawful instructions of teachers or other persons in authority.

Academic and Institutional Integrity

- Habitual neglect of academic work or prolonged absence without permission from classes, clinics, laboratories, or scheduled instruction.
- Inability or refusal to comply with the curriculum, directives of the University, or regulations of the PM&DC/Academic Council.
- Submission of false evidence, misrepresentation, or other dishonest conduct.

Property and Safety

- Theft of College property, including books, laboratory equipment, or materials belonging to fellow students or faculty.
- Willful damage to College property, furnishings, equipment, or property of others.
- Failure to report accidents, even minor ones, immediately to the concerned teacher.
- Breach of bio-safety measures or unsafe handling of hazardous materials.

Prohibited Possessions and Substances

- Possession or use of narcotics, intoxicants, or alcoholic drinks on campus, in hostels, or during College activities (including tours, cultural events, or camps).
- Possession of firearms, weapons, or any dangerous items.
- Smoking anywhere within the College or hospital premises.
- Use of mobile phones in classrooms or hospital wards.

Political and Public Activities

- Participation in political activity, agitation, strikes, walkouts, or other actions disrupting College life or education.
- Making inflammatory speeches, issuing pamphlets, displaying posters, or engaging in activities promoting hatred, rift, or disruption.
- Inviting speakers, organising meetings, clubs, or societies within the College without prior written permission of the Dean or Principal.
- Addressing press conferences, writing to the press, or issuing public statements relating to political subjects, the College, University, or other institutions, without prior approval.

Financial Irregularities

- Failure to pay tuition fees, fines, or other dues within the prescribed period without valid reason.

- Collecting money or receiving funds on behalf of the College without written authorisation from the Principal.

General Misconduct

- Wearing immodest or inappropriate clothing.
- Acts of immorality, dishonour, or conduct prejudicial to the interests or reputation of the College, whether committed inside or outside the College.
- Display of posters, chalking, graffiti, or distribution of unauthorised leaflets or notices within College premises.
- Bringing unauthorised persons into classrooms, laboratories, or training departments without prior approval.

Social Media Conduct

- Posting, sharing, or circulating content, including memes, videos, images, or written remarks, that demeans, ridicules, or undermines the reputation of professors, fellow students, or staff members.
- Engaging in any form of online harassment, targeting, cyberbullying, or circulation of defamatory material against members of the College community.
- Posting or sharing classroom recordings, internal communications, or private information relating to faculty, students, or administrative matters without express permission.
- Spreading unverified or false information about the College, its faculty, or students through social media platforms.
- Sharing content that brings disrepute to the College, its teaching standards, or its community.

7.2 Disciplinary Action and Procedure:

Every member of the faculty and staff has both the responsibility and the authority to check disorderly or improper conduct (as outlined hereinabove), or any breach of College rules and regulations, whether on campus or during College-sponsored visits or activities. Faculty members are empowered to warn students and to forward observations regarding the good or bad conduct of any student to the Dean.

If a student is found guilty of misconduct by the teacher in charge, the case shall be reported to the Head of Department for resolution. If the matter cannot be settled at that level, it may be referred to the Dean, who may either decide the case or forward it to the Disciplinary Committee or Principal as appropriate.

In cases of breach of discipline:

- A teacher, staff member, or officer in whose presence, or in relation to whom, an act of indiscipline has been committed or who otherwise becomes aware of such misconduct may deal with the matter directly if it falls within their authority.

- If the case requires a penalty of greater magnitude than they are competent to impose, it shall be referred to the Head of Department or the Dean.
- All serious cases of breach of discipline shall be referred by the Dean to the Disciplinary Committee for investigation. The Committee may impose penalties within its powers or recommend heavier punishments to the Dean.
- Where a case is under investigation by the Disciplinary Committee, the student may, with the approval of the Dean, be suspended from classes until finalisation of the matter.
- Parents of the student concerned will also be informed and may be called for an interview where necessary.

7.3 Penalties and Disciplinary Measures

The College reserves the right to impose penalties for misconduct or breaches of discipline as deemed appropriate. The following measures may be applied depending on the gravity of the offence:

Rustication

- Rustication may be imposed for a period of up to six months.
- This penalty shall always result in at least one academic quarter being lost in terms of eligibility to appear in examinations.
- A student facing rustication will be given a reasonable opportunity to present a defence before the penalty is confirmed.

Expulsion

- Where a student is found guilty of an offence warranting expulsion, the Dean shall report the matter to the Principal with reasons for the proposed action.
- Once expelled, the student's name shall be removed from the College roll with immediate effect.
- An expelled student will not be re-admitted to any medical college in Pakistan. The decision will be communicated to all medical colleges in the country as well as to the University.
- Decisions regarding expulsion are final and not subject to challenge before any court of law.

Compensation for Loss or Damage

- The Dean, or any teacher or officer delegated with such authority, may direct a student to compensate for any loss or damage caused by wilful misconduct or gross negligence to property belonging to the College, a public authority, another student, or an employee of the College.
- If the student fails to pay within the specified period, the Dean shall initiate further disciplinary action.

7.4 Examination Offences

All forms of misconduct or use of unfair means during examinations are treated with utmost seriousness and

are dealt with under special procedures

- Acts of indiscipline within or around the examination hall, or the use of unfair means during examinations, shall be dealt with by the College Examination Committee.
- In the case of professional examinations, such offences shall fall under the jurisdiction of the University authorities.

7.5 Fees and Security Deposits

Payment of Fees

- Students are required to deposit all fees by the dates notified by the College. Failure to do so will result in cancellation of their admission or enrolment.

Schedule for Existing Students

- All continuing students must pay their annual fees on or before the beginning of March each year.
- If fees remain unpaid by 31st March, a fine of Rs. 500 per day will be charged during the first month of default, and Rs. 1,000 per day during the second month.
- After two months of default, the student will not be allowed to attend classes and his/her name shall be struck off the College roll.
- If readmission is granted, the student will be required to pay the admission fee as applicable to new entrants, in addition to any outstanding dues.

Refund of Security Fee

- On successful completion of the MBBS course, the security deposit will be refunded to graduating students.
- No refund will be made if a student leaves the College before completing the MBBS/BDS course due to personal reasons, or in cases where the student has been expelled.

7.6 Disciplinary Committee

Any violation of these rules or any complaint under these rules may be referred to a three-member Disciplinary Committee comprising:

- The Dean of the College concerned;
- A Senior Professor nominated by the Principal concerned; and
- A member of administration nominated by the Principal concerned.

The committee shall investigate the matter and recommend appropriate disciplinary action as stated herein above.

7.7 Appeals

Students have the right to seek review of certain penalties through an appeal process, subject to the following conditions:

- A student may file an appeal against a penalty within seven days of its announcement.
- Appeals are not permitted against penalties other than rustication or expulsion, except on the ground that the authority imposing the penalty acted beyond its competence.
- Appeals on the ground of lack of competence shall lie with a higher authority than the one which imposed the penalty.
- No appeal shall be entertained after the seven-day limit, unless the Principal extends the time for valid reasons.

Penalties:

A student guilty of an act of indiscipline shall be liable to the penalties specified below or promulgated through written orders/notifications:

Penalty Code	Penalty	Awarding Authority	Appellate Authority
1	Removal from classroom, laboratory, or field work, for a maximum period of two contact hours	Teacher In-Charge	HOD
2	Expulsion from games or field work for not more than one week	Games/ Field Work In-Charge	Head of FMDC
3	Expulsion from educational visits and sports tours	Director Admin	Head of FMDC
4	Suspension from classes for a period not exceeding two weeks	Director/ Principal	Head of FMDC
5	Monetary penalties	Director/ Principal	Head of the FMDC
6	Removal from a position of authority on the advice of the Student Advisor / HOD	Director/ Principal	Head of the FMDC
7	Expulsion from the hostel	Head of FMDC	Next Higher Authority
8	Cancellation of remission of fees/assistantship/scholarship etc.	Head of FMDC	Next Higher Authority
9	Rustication for one or more semester	Head of FMDC with concurrence of BUHO	Rector
10	Expulsion from FMDC	Head of FMDC with concurrence of BUHO	Rector

Procedure In case of breach of discipline:

A teacher, a staff member in whose presence or in relation to whom an act of indiscipline has been committed or who gets to know of such act, may deal with the case him/herself, or if in his/her view the case is one which can be more appropriately dealt by another authority or which warrants a penalty of greater magnitude than they are competent to impose, shall refer the case to the Student Advisor or Deputy Director (Admin & Coord) or the higher authority as the case maybe.

All cases of serious breach of discipline shall be referred to the Disciplinary Committee for investigation which, after due process of investigation, will either impose the penalties if within its powers or recommend them to the Campus Head/Rector, as the case may be.

When a case against a student is referred to the Disciplinary Committee, it may, if it deems fit, suspend the student from the classes till the finalization of the case, with the approval of the Head of FMDC.

Appeals

An appeal against the penalty may be filed by the student with the Appellate Authority within 30 days of announcement of the punishment. No appeal by a student shall be entertained unless it is presented within 30 days from the date of communication of the decision, provided that the Rector may, for valid reasons, extend this period.

No appeal shall lie against the decision of an authority imposing a penalty other than rustication or expulsion except on the grounds that such authority imposed a penalty which it was not competent to impose.

An appeal on the grounds that an authority imposed a penalty which it was not competent to impose, shall lie with the body or person of higher authority than the one who imposed the 44 penalty.

Compensation for loss

The Head FMDC, or any teacher or officer to whom he may delegate the powers, may instruct a student to pay compensation for any loss or damage to property belonging to FMDC, public authority, a fellow student or an employee of FMDC, caused by a willful act or gross negligence of the student. If the student does not pay such compensation within a specified period, the Head of FMDC will proceed against the student in the manner as prescribed in these rules.

Offences during examination

Cases of indiscipline in or around the Examination Hall, and use of unfair means, shall be dealt with by the Examination Committee.

Dress code:

Male students:

1. Dress/Casual Trousers
2. Jeans (Plain blue) without an image, graphics, and write ups
3. Casual Shirts (Half/ Full sleeves)
4. T Shirts without any messages, images, graphics, and write ups
5. Dress/Casual shoes or Joggers with socks (no sandals)
6. Shalwar Kameez with shoes (only on Friday)
7. Suit/ Combination
8. Coat/ Pullovers/ Sweaters/ Jackets in winter

Female students:

1. Shalwar Qameez (no sleeveless)
2. Hijab, Abaya, Chaddar etc.
3. Full length Trousers (no tights) with long shirt/ kurta (knee length)
4. Light jewelry and light makeup
5. Shoes, Sandals and Joggers
6. Dupatta/ Scarf is compulsory with all dresses

NOTE: All FMDC students are expected to wear white coat during classes, laboratory and hospital rotations, as well as outside the campus, when on official visit.

Student card

Students shall be issued ID Cards. The students shall be required to wear their ID Cards in the campus and show them to the authorized persons on demand.

Loss of ID card

In case ID card is lost, it should be immediately reported to Admin Office who will make arrangements for re-issue of a new card by FMDC after payment of fine.

Personal behavior

FMDC expects that all students should sustain professional manner when interacting with colleagues and others. The University recognizes that personalities, characters, and management styles may differ but, notwithstanding these differences, as a minimum standard, all are expected to:

- Work co-operatively with each other to achieve objectives and establish good working relationships.
- All should behave and speak professionally, respectfully, and courteously at all times.
- Tidiness and cleanliness must be always adhered to within the Campus premises which will help us maintain a safe, clean, and professional learning environment.
- Use the college's property, facilities, supplies, and other resources in the most effective and efficient manner.
- Unacceptable behavior such as aggressive or abusive behavior, shouting or personal insults or spreading rumors or gossip, or insulting someone is to be avoided at all costs. All these matters, if experienced, should be reported to the vice principal or your mentor or a senior faculty member.

Punctuality:

Students are expected to arrive in class well in time. All cell phones, smartphones, and other electronic devices must be turned off and hidden from view during class time. Talking and other disruptive behaviors are not permitted while classes are in session. If the students miss a class, they are themselves responsible for the missed part of the course. It is the student's responsibility to contact a classmate or teacher to determine and cover what was missed.

At FMDC classes start immediately after holidays. There is no lag period after leave. There will be no relaxation for students who are absent. **Please inform your parents of this and make your travel arrangements accordingly**. Avoid taking leave for personal reasons like weddings during the academic year.

Conduct in library

The College campus has a well-stocked library, and time spent by the students there will meet your research requirements in a calm place. The libraries also provide electronic access through the internet to databases throughout the world.

Library also provides plagiarism detection services

While using the library, Mobile Phones/ iPods/ laptops should be kept on silent mode. Sleeping, listening/ watching drama and music etc.while staying at library is prohibited.

Rules for borrowing books

1. Students are permitted to borrow 3 books at a time for a maximum period of 14 days. Books borrowed may be re-issued on completion of the time period.
2. A valid college card is must for borrowing the Book(s) and other material
3. Textbooks will be issued for 7 working days only but may be reissued the next day of the due date
4. For the Book(s) returned after the due date, a fine of Rs.10/- per day would be charged.
5. Book Bank books will be issued for a period of whole/ one semester.
6. Writing, underling or marking any book is strictly prohibited. Library books are carefully examined on return and the borrower will be held responsible for any damage
7. Following library material will not be issued and must be consulted in the library:
    a. Reference Material.
    b. Thesis/ Project Reports.
    c. Audio/ Video cassettes/ CDs/ DVD's.
    d. Magazines and periodicals.
    e. Newspapers.

Library Timings

DAY	TIMINGS
WEEKDAYS: MON- SAT	8:30 AM to 8:30 PM
WEEKENDS	9:00 AM to 8:30 PM

Conduct in the hospital

When you are working in the hospital be quiet, avoid rowdiness and unnecessary laughter and chatter. Remember the patients need peace, quiet and their rest. You must always wear a white coat. Ladies will wear their dupattas inside the white coat and the gentlemen's ties must be tucked inside the shirt so that infection is not carried from one area to the next. Shoe covers, sterile aprons, caps and gowns must be worn where appropriate. Be polite to the patients, greet them appropriately and inquire after their health and wish them well. All nursing staff must be addressed appropriately and politely. Don't hang around once your work is done. Do not eat or drink inside the wards and treatment areas. Avoid making phone calls and put your phones on the silent mode.

Conduct in cafeteria and common rooms

Campus has a cafeteria with a variety of food items and snacks available at reasonable rates Students are expected to show care, courtesy towards the cafeteria staff as well as to others. Place garbage and recyclables in the appropriate containers.

This behavior will maintain a clean and enjoyable environment for all.

Academic misconduct and disciplinary committee

The Discipline Committee is responsible for maintaining discipline (both academic as well as conduct), and deals with all cases of indiscipline on the part of students.
It recommends award of penalties/ punishments and renders advice to the Director on administrative matters needed to maintain a peaceful environment on the campus. Intimation will be sent to BUHO for all penalties awarded to a student

Students are to avoid the following:

a) Unauthorized use of the college & University's name or logo which is property of university.
b) Harassment, sexual or otherwise, or intimidation of any member of university.
c) Coming late for classes. The student may be considered absent and marked accordingly.
d) Improper/inappropriate dress
e) Loud and aggressive behavior in Cafeteria or Common rooms or within the premises of FMDC or the affiliated hospitals.
f) Non clearance of bills/dues. Non-clearance of dues may prevent student from appearing in the professional examination. The student may also be refused permission to attend classes.

Use of mobile phone

a) Use of mobile phone for photography at cafeteria is restricted.
b) Library is 'NO Mobile Zone' area.
c) Use of mobile in class room is prohibited.
d) Students are not allowed to use mobile phone for photography/ video capturing during farewell parties.
e) Making videos, images, Vlogs etc. are monitored through CCTV cameras installed inside and outside building.

Smoking

Student guilty of an act of smoking in the premises of Bahria University/ Constituent Unit or while entering/ attending offsite instructions like sports, cultural tours or survey campus shall be liable to the penalties asunder:

Occasion	Penalties
1st occasion of offence on act of Smoking.	Fine of Rs.5000/- along with warning letter with copy to parents from Director Campus
2nd or onward occasion of offense(s).	Fine of Rs.10,000/- along with warning letter (s) With copy to parents from DG Campus on each offence.

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Student guilty of an act of possession/ consumption/ usage/ supplying of intoxication drugs/ Alcoholic drinks in premises of FMDC and or entering FMDC or events of FMDC being intoxicated and or

During official/ informal off-site events of the college, shall be liable to expulsion from FMDC.

Criminal conviction

a) Applicants are required to inform FMDC of any criminal conviction. Full details are to be provided.
b) The college reserves the right to refuse admission to any applicant with a criminal conviction that may jeopardize the reputation of the University.
c) Failure to declare any criminal conviction by a student already enrolled in FMDC shall result in immediate cancellation of his/her admission.
d) Where admission to the program is denied on the basis of the criminal conviction, the applicant will be notified of the decision in writing by FMDC.

Academic misconduct

Following acts shall constitute academic misconduct:

a) Cheating.
b) Fabrication.
c) Misuse
d) Forgery.
e) Plagiarism.
f) Facilitating academic misconduct.
g) Academic Dishonesty.

The student is advised to refer to their Student Handbook to become fully cognizant of these terms.

Penalties for academic misconduct

TYPE OF MISCONDUCT	PENALTY
Attempt (Successful/ unsuccessful) to know contents of question papers through unfair means prior to examination	***Minor punishment*** a Warning letter (Copy to parents) b. Fine of Rs.2,000. ***Major punishment*** a. Expulsion from the University b. Fine Rs. 5000/00. c. Letter to parents
Possession of written material, relevant to the subject/paper concerned. • Writing on palm, arm or anywhere on the candidate's body or clothes whether the written material is relevant or irrelevant to the concerned paper. • Possession of Mobile phones, Smartwatches, PDAs and other electronics devices, whether or not carrying any relevant or irrelevant material in the memory.	a. Grade 'F' in the subject. b. Fine Rs 5,000. c. Warning, copy to parents. d. Mobile phones/electronic devices to be confiscated. (will be returned after investigation
Giving/receiving assistance or allowing any other candidate to copy from his/her answer books.	***Minor Punishment*** a. Cancellation of the relevant paper. b. Fine Rs 2,000/-. c. Letter of Warning.

	Major Punishment a. Grade 'F' in the subject.(for students involved) b. Fine Rs 5,000/- c. Letter of Warning.
Removing a leaf from answer book. Taking the whole or a part of an answer book or a continuation sheet into or out of examination hall.	a. Grade "F" in the subject. (for students involved) b. Fine Rs. 5,000. c. Letter of warning
Substituting the whole or a part of an answer book or a continuation sheet not duly issued to him for the examination;	a. Grade 'F' in the subject. (For students involved) b. Fine Rs 5,000. c. Letter of Warning.
Forging, mutilating, altering, erasing or otherwise tampering with marked answer scripts	a. Grade "F" in the subject. (for students involved) b. Fine Rs 5,000. c. Letter of Warning
Impersonation	a. Grade "F" in all subjects of relevant semester studied at BU (including the impersonator/facilitator, if a student of BU). b. Expulsion from the university (including the impersonator/ facilitator, if a student of BU). c. In case the impersonator/facilitator is an ex-student of BU or not a BU student, an FIR may be lodged for the offence, asper law of the land.
Using abusive or obscene language in answer book	a. Grade 'F' in the relevant course. b. Fine Rs 5,000. c. Letter of Warning.
Refusing to obey the Invigilator or Head Invigilator in the Examination Hall and misbehaving, resorting to misconduct, or creating any kind of disturbance in or around the Examination Hall	***Minor Punishment*** a. Grade 'F' in the course. b. Fine Rs 5,000. c. Letter of Warning. ***Major Punishment*** a. Rustication for one Semester. b. Grade 'F' in the course. c. Fine Rs5,000/ d. Letter of Warning.
Communicating or attempting to communicate with Examiners with the intention of influencing Them in the award of marks.	a. Cancellation of relevant paper. b. Fine Rs 5,000. c. Letter of Warning.
Possession of firearms, knives etc. inside and in the close vicinity of Examination Hall	a. Expulsion from the University. b. Fine Rs 5,000. c. Letter of Warning.

Sexual Harassment

All students are required to educate and familiarize themselves about the act/actions categorized as "Sexual Harassment" may it be physical, verbal or while utilizing electronic media and refrain from it being a punishable offence.

Higher Education Commission has issued very strict policy guideline against "Sexual Harassment in Higher Education Institutions (HEI)".

All such policies are strictly applicable and followed at FMDC.

All students are therefore required to go through the entire policy's contents which are available with campus (concerned HODs) and University/ HEC website.

- The Protection against Harassment of Women at Workplace Act, 2010
- The Protection against Harassment of Women at Workplace (Amndt) Ac& 2022.
- HEC Policy on Protection against Sexual Harassment in HEIs effective 01 July 2020

Committee for protection against sexual harassment in FMDC

S.N	Members	Designation	Position in Committee	Contact no.
1.1	Dr. Munir Tahir	Professor & HOD Biochemistry	Focal Person	0334-5253446
1.2	Dr. Nofil Ahmad	Assistant Professor Orthodontics	Focal Person	0333-5050364
1.4	Dr.Saif-ur-Rehman	Professor Physiology	Member Inquiry Committee	0321-3025911
1.5	Dr.Irfan	Associate. Professor of Anatomy	Member Inquiry Committee	0337-0438990
1.6	Dr. Aisha Rafeeq	Director Skill Lab	Member Inquiry Committee	0323-8412996
1.7	Dr. Qamoos	Associate Professor Obstetrics & Gynecology	Member Inquiry Committee	0344-4424870
1.8	Mr.Arif Zaman	Student section	Member Inquiry Committee	0300-9118232
1.9	Mr.Khurram Shehzad	Student section	Member Inquiry Committee	0331-5719810

Code of conduct for protection against harassment of woman at the work place

1. An informal approach to resolve a complaint of harassment may be though mediation between the parties involved and by providing advice and counseling on a strictly confidential basis.
2. A complainant or a staff member designated by the complainant for the purpose may report an incident of harassment informally to her supervisor, or a member of the Inquiry committee, in which case the supervisor or the committee member may address the issue at her discretion in the spirit of this Code. The request may be made orally or in writing.
3. If the incident or the case reported does constitute harassment of a higher degree and the officer or a member reviewing the case feel that its needs to be complainant, the case can be taken as a formal complaint.
4. A complainant does not necessarily have to take a complaint of harassment through the informal channel. She can launch a formal complaint at any time.
5. The harassment usually occurs between colleagues when they are alone, therefore usually, it is difficult to produce evidence. It is strongly recommended that staff should report offensive behavior immediately to someone they trust, even if they do not wish to make a formal complaint at the time.

HEC policy on protection against sexual harassment in higher education institutions

1. Higher Education Institutions ("HEIs") are highly consequential institutions in society that are dedicated to the pursuit and dissemination of knowledge. Members of the HEI community have several important rights and privileges, central among which is the right to pursue inquiry and search for knowledge without hindrance from unlawful or otherwise unacceptable constraints. The HEC, takes very seriously the freedom of teachers, researchers, scholars, students to live and work in a safe environment in which their dignity is protected.
2. Protection against sexual harassment is important not only because it threatens the freedom and conduciveness of the environment and the institutions of higher learning. At a more fundamental level, such conduct is unacceptable because it's violet personal dignity and shall not be tolerated at HEIs in Pakistan under any circumstance.
3. All administrators, deans, managers, faculty, department chairs, directors of schools or program and others in supervisory or leadership positions have an obligation to be familiar with and to uphold this policy and its procedures along with informing members of their staff about its existence.
4. In order to ensure protection of women against harassment complaint may be lodge by any person who has experienced sexual harassment with either the focal person or with any member of the Sexual Harassment Inquiry Committee.

Students grievances oversight committee

There shall be a Student Grievances Oversight Committee (SGOC), to address grievances of students against any teacher, instructor, or administrative staff, with respect to matters of code of conduct, grades, or any administrative matter. The committee shall comprise:

a) Head of FMDC.
b) HOD.
c) FMDC Exam-In-charge.
d) Two (2) seniors-most FMs of the department.

If grievance is about the award of a grade, the procedure shall be as follows:

a) The student must submit the grievance, in writing, within seven working days of the receipt of the grade, to the HOD who shall forward it to the SGOC.

b) The SGOC shall hear both sides and will give its decision, which shall be final and binding on all parties, within five working days or before the start of registration for the new semester, whichever is earlier.

ATTENDANCE POLICY FOR STUDENTS

Attendance policy for regular students.
PMDC rules for eligibility in annual examinations.

- Minimum attendance requirement is 85% in each subject: attendance is for lectures, demos, practical's, clinics, PBLs, PSILs, CPC, presentations etc: indoor and outdoor
- The attendance is not simply for lectures.
- No shortfall in attendance will be condoned in any case by any authority

Attendance is maintained by the Attendance Department at FMDC.

All students should try and achieve 100% attendance. Every teaching session is essential. For clinical students remember a disease being demonstrated may not be seen during the rest of your stay in the college again. You will make the mistake of a life time by missing the opportunity to attend a clinical demonstration. You must have at least 85% attendance in to be permitted to sit for the professional examination.

- Lecture Attendance is marked at the start of the class.
- Students who come more than 10 minutes late are marked absent.
- A random head count is done to ensure correct entry of attendance.
- The attendance sheet is signed by the teacher and sent to Attendance Department.
- The attendance is entered into the spreadsheet as soon as possible on that day.
- No correction will be made later than 24 hours as the system is then locked.

Attendance for clinics, demonstrations, and practical's etc.

- Student signs the attendance sheet in front of the teacher.
- The teacher countersigns it daily.
- Weekly attendance is given by the CR to the Attendance Department - every Monday.
- Attendance submitted later than Friday of the current week will not be accepted.

FMDC rules permit a 15% short fall for genuine reasons of personal ill health of a life-threatening nature or unavoidable circumstances such as death of a blood relative. This 15%relaxation is not so that you can take a holiday.

If you have less than 85% attendance even for reasons of health, you will be asked to repeat the year. Maintaining adequate attendance is your personal responsibility.

Attendance policy for students repeating a year.

Students who have been asked to repeat the year either because of poor attendance or failure in the professional examination or supplementary examination will attend the classes of the failed subject(s).

- Their previous year attendance will not be considered.
- If their attendance is less than 85% in their current class they will not be allowed to appear in the next examination.
- If a student is repeating one subject, then the attendance must be equal to or more than 85% in that subject. This includes all practical classes, demonstrations, PBL sessions, lectures and clinical classes.

Attendance policy for students appearing in supplementary exams.

1. Only students who have appeared in a professional examination are allowed to appear in the supplementary examination**.**
2. Those who were not eligible for the annual exam are not eligible for the supplementary exam.
3. Those who did not avail the chance will have to repeat the year and cannot appear in the supplementary.
4. Students will be provisionally promoted to the next class while preparing for the supplementary examination.
5. Attendance will be marked in the class to which they have been promoted.
6. The student will prepare for the supplementary exam in his/her own time.
7. In case the student fails to pass the supplementary exam he/she will revert to the previous class and the attendance in the new class will be counted in the class to which they revert.
8. Those students who do not attend classes will be marked absent and may face a shortage of attendance and will be asked to repeat the year.

RESEARCH

FMDC has a strong emphasis on research and students are not only taught research methodology as part of their curriculum, but also actively engage in research work, under the supervisor of faculty members.

FMDC has a Research Advisory Committee that has been specifically formulated to guide students in every aspect of their research, from synopsis writing through to publications in peer reviewed journals.

FRONTIER MEDICAL COLLEGE
ABBOTTABAD
EXCELLENCE & INNOVATION

THE MODULES

Organization of modular curriculum and teaching

Each Academic Year is divided into three Modules

First Year	**Modules**	**I,II,III**
Second Year	**Modules**	**IV,V,VI,**
Third Year	**Modules**	**VII,VIII,IX,**
Fourth Year	**Modules**	**X,XI,Xll,**
Final Year	**Modules**	**XIII,XIV,XV**

The Examining subjects are

- **FIRST AND SECOND YEAR MBBS**
  - Anatomy
  - Physiology
  - Biochemistry
- **THIRD YEAR MBBS**
  - General Pathology
  - Pharmacology
  - Forensic Medicine
- **FOURTH YEAR MBBS**
  - Special pathology
  - Community Health Sciences
  - Ophthalmology
  - Otorhinolaryngology
- **FINAL YEAR MBBS**
  - Medicine & Allied
  - Surgery & Allied
  - Pediatric medicine
  - Obstetrics and Gynecology

You will be taught clinical subjects from 3rd year as this need to be taught in great detail and the final year is not sufficient. **The attendance for the subjects of medicine, surgery, Gynae/Obs and pediatrics will be counted from third year.** You will also be taught ethics, Islamiyat, Pakistan Studies and communication skills.

A weekly schedule is placed on the notice board.

LEARNING METHODS

Following Learning Strategies encourage active learning

- PBL
- PSIL
- Journal Club
- Interactive lecture,
- Practical's,
- Demonstrations,
- Dissection Hall Teaching
- Clinical Skills learning
- Skills Lab
- Small group discussions
- Bed Side Teaching
- Field / Community field Trips
- Self-Study with feedback
- Seminars, Workshops

The program lays emphasis on

Problem Based Learning (PBL):

This is a small group activity in which the discussion revolves around a real life problem using the Seven Jump process. Students are expected to consult various learning resources to develop better understanding of the subject. PBL sessions contribute towards internal assessment. Students are expected to attend all PBL sessions.

Self-Directed Study:

Student may achieve the objectives by assuming responsibilities of their own learning. By sharing and discussing with peers, working individually, seeking information from LRC, teachers and resources persons within and outside the college. This is possible by utilizing scheduled self- study period in college, and time outside the college.

Problem Based Learning (PBL): What is it?

It is a student-centered approach encouraging deeper learning. Students learn about a problem by working in groups. In first encounter, a problem which is close to real life situation is given. The problem is generally discussed in two sessions.

Frist Session: Learners in small groups, using existing knowledge, discuss (in the presence of facilitator) and list what they do not know or are not sure of, about the problem, the list is known as learning goals objectives.

Self-Study: Learners have approximately three days, during which learners search for new information required to achieve the learning objectives listed. In this process, learners are encouraged to consult various learning resources in addition to the textbooks. This does not require a tutor.

Second Session: Students present their solution and review what they have learnt. Students engage in self, peer, and tutor review of the classes. Learners discuss learning issues and application of new knowledge to the problem and summarize by integrating prior and new knowledge in

understanding the problem.

ASSESMENT POLICY

The student at FMDC will be assessed by following strategy

1. Continuous / Formative Assessment done throughout the Year

- Practical journals, PBL sessions
- Quizzes and tests

Reflective, constructive feedback is provided

2. Internal Assessment based upon 03 end of module exams

Each year is organized in 3 modules. Each module is assessed separately. It is mandatory for students to appear in the end of module exams

End of Module Exam comprises of

- Knowledge assessment by MCQs & SAQs;
- Skills & attitude are assessed by OSPE / OSCEs

The internal evaluation will contribute 20% towards final results
Student not appearing in end of module exams will lose internal evaluation marks

3. Summative Assessment

1. The written examination comprises of three papers (paper 1, 2 & 3). Each paper has
   - MCQs section
   - SAQ section divided into 03 parts (A, B & C)

2. Practical Examination will consist of 03 OSPE sessions

Eligibility criteria for appearing in annual professional examinations

A student will be eligible to appear in the annual professional examination if he/she fulfills the following criteria:

1. **85% attendance**
2. **Must have cleared all financial dues**
3. **Must have appeared in all three end-of-module examinations**
4. **No breach of discipline should have occurred for which the Disciplinary Committee has advocated a punishment**

PASS PERCENTAGE

Passing marks in each subject shall be 50% aggregate, 50% in practical & 50% theory.

POLICY FOR ELECTIVES

- Electives are not mandatory nor are they a part of the curriculum. Electives are considered add on extra-curricular activities with benefits for selection for jobs or postgraduate training after MBBS.
- The Electives Rotation will be of four weeks duration.
- It will be planned at least six months in advance.
- The Elective will be planned during the **WINTER HOLIDAYS** preferably.
- The institution or department will be of the student's choice.
- During the elective the student will not get credit for attending lectures at FMDC.
- It is the student's responsibility to ensure that his/her overall attendance record is not affected adversely by the elective.
- The student will not proceed on an elective without informing the Dean.
- The student will sign a waiver to the effect that any shortfall in attendance is his /her own responsibility and will be dealt with as per rules of BU & FMDC.
- The adequacy of education during the elective is the student's own responsibility.
- Permission to attend an elective is given by the Chairperson Student Affair Department designated for this purpose at FMDC. This simply implies that the college authorities are aware that the student is away for this period so that admission is not cancelled.
- The student will ensure that the Elective Supervisor completes an evaluation report at the end of the elective.
- FMDC will not provide any financial assistance for the elective.

STUDENT AFFAIRS AND STUDENT ASSIST PROGRAM

Chairperson of student affairs is assigned to cooperate with students and parents concerning academic and non-academic matters and can be contacted according to availability or after setting an appointment.

Students' Affairs office

The Students' Affairs Office coordinates administrative co-curricular and extracurricular activities. Students are advised to approach the coordinator student affairs (CSA) for any academic or non-academic matter.

Liaison with parents

The Students Affairs Office also serves as a bridge between the College Administration and parents. Students' progress reports will be mailed to parents on request at the conclusion of every term and annual examination. Similarly, the issue of short attendance, college discipline, and violation of college rules and regulations are handled by this Office.

Within FMDC & Attached SJTH & KATH always display your Student Identity Card!





WHOM TO CONTACT?

Administration FMDC

Prof. Dr. Munir Tahir Dean MBBS section FMDC

Prof.Dr.Syed Abir Hussain Dean Dental section FMDC

Prof. Dr. Johar Ali Principal MBBS section FMDC

Prof.Dr.Wahid Principal Dental section

Mr.Amir Malik HR & Finance Department

Mr.Awais Finance Department

Chairperson: Madam Dr.Shahina Jamil Khan FMDC

Dental & MBBS sections

INTRODUCTION TO DEPARTMENTS

- **Primary Disciplines**
  - Anatomy
  - Physiology
  - Biochemistry

- **Parallel Discipline**
  - Community Health Science

CURRICULUM GUIDELINES

Module IV A Gastrointestinal Tract and Carbohydrate Metabolism

Duration **10 weeks**

Module IV B Urinary System

Duration **02 weeks**

Module V Neurosciences, Lipids and Protein Metabolism

Duration **14 weeks**

Module VI Endocrine, Reproductive System & Genetics

Duration **10 weeks**

Module – IV A Gastrointestinal Tract & Carbohydrate Metabolism Duration 10 weeks

Course Learning Outcomes

1. Interpret the structural organization of gastrointestinal system.
2. Discuss the regulation and maintenance of gastrointestinal and renal physiology.
3. Discuss the metabolic pathways involved in carbohydrate metabolism and biochemical basis of water and electrolytes balance

Objectives

1. Categorize the structural organization of GIT(Co)
2. Categorize the functional organization of GIT. (cognitive)
3. Explain the gastrointestinal smooth muscles, functions and its electrical activity(cognitive)
4. Explain the nervous regulation of GIT (cognitive)
5. Analyze the gross anatomy of oral cavity with structure, function and movements of palate (Co)
6. Categorize the types of salivary glands, their location, relations, features and neurovascular supply (Co)
7. Discuss the properties, composition, regulation and functions of saliva, gastric, pancreatic juice, bile, intestinal juice with their clinical disorders (physio/biochem) (cog)
8. Perform the salivary analysis on pathophysiological basis(psychomotor)
9. Distinguish the structure and constrictions of esophagus according to regions with its neurovascular supply and lymphatic drainage (Co)
10. Correlate the mechanisms and nervous control of mastication and swallowing with oral dysphagia(cognitive)
11. Identify the different lumbar vertebrae on the basis of their features (Co, Psychomotor)
12. Identify the bony features of pelvis and the muscles forming the pelvic floor (Co)
13. Correlate the nine regions of abdomen and surface landmarks of abdomen with the abdominal viscera and surgical incisions (Co)
14. Explain the superficial fascia, cutaneous nerves, vessels and lymphatics of abdominal wall (Co)
15. Correlate the muscles of the anterior and posterior abdominal wall with their attachments, nerve supply and actions (Co)
16. Analyze the surgical anatomy of abdominal wall in context of abdominal and inguinal hernia (Co)
17. Demonstrate the peritoneal reflection with attachments and contents of the following (Co, Psychomotor) with the help of cadaveric dissection,
    a. Omentum
    b. Mesentery
    c. Mesoappendix
    d. Mesocolon
18. Interpret the clinical anatomy of peritoneal recesses, supracolic and infracolic compartments and paracolic gutters (Co)
19. Correlate the gross features, internal structure, relations, neurovascular supply, lymphatic drainage with clinical anatomy of stomach on a prosected stomach (Co, Psychomotor)
20. Study the parts and fundamental principles of spectrophotometry (Psychomotor)
21. Perform specimen processing for biochemical analysis in accordance to established standard protocols (Psychomotor)

22. Identify mechanical and hormonal factors involved in gastric emptying and discuss the mechanism of action, regulation and actions of major gastrointestinal hormones namely gastrin, secretin, cholecystokinin and motilin. (cognitive)
23. Explain the nervous and humoral control of gastric secretions (cognitive)
24. Recognize the clinical disorders related to stomach and HCL (cognitive)
25. Discuss the mechanism of vomiting and its clinical significance(cognitive)
26. Identify the risk factors for acid peptic disease (cognitive)
27. Classify drugs used in acid peptic disease (Medicine) (cognitive)
28. Demonstrate the course, relations, neurovascular supply and lymphatic drainage of duodenum, jejunum and ileum on prosected small intestine (Co, Psychomotor)
29. Identify the types of GIT movements. (cognitive)
30. Recognize the types of reflexes essential for the control of GIT(cognitive)
31. Discuss the clinical disorders related to small intestine (Medicine/Physio)
32. Describe the digestion and absorption of carbohydrate with their clinical implications. Biochem (cog)
33. Explain the mechanism leading to malabsorption (Medicine/Physio) cognitive
34. Discuss glycolysis with biochemical basis of its clinical correlation. (cog)
35. Discuss TCA with biochemical basis of its clinical correlation. (cog)
36. Discuss gluconeogenesis with biochemical basis of its clinical significance. (cog)
37. Discuss the biochemical basis of HMP shunt with its clinical disorders(cog)
38. Describe hemolysis in G6PD deficiency with clinical implications. (cog)
39. Describe biomedical importance of Uronic acid pathway along with its clinical significance(cog)
40. Discuss fructose metabolism with biochemical basis of its clinical disorder. (cog)
41. Describe the metabolism of galactose and sorbitol in development of diabetes mellitus (cog)
42. Discuss the ethanol metabolism in alcoholic liver diseases (cog)
43. Discuss glycogen metabolism with biochemical basis of its clinical significance. (cog)
44. Discuss glycogen storage diseases with biochemical basis and their clinical implications(cog)
45. Discuss the regulation of blood glucose during well fed state and starvation (cog)
46. Perform the estimation of blood glucose level by OGTT with Finger Prick Test-Glucometer, manual and kit method in accordance to standard protocols (Psychomotor)
47. Perform the estimation of glucose by glucose oxidase kit method and follin wu method according to established standards (Psychomotor)
48. Perform estimation of HbA1c in accordance to standard protocols (Psychomotor)
49. Correlate the features, parts, relations, neurovascular supply with clinical anatomy of large intestine(Co)
50. Discuss the clinical disorders related to large intestine (medicine/Physio) (cognitive)
51. Describe the epidemiology of diarrheal diseases in under 5-year children
52. Demonstrate the preparation of Oral Rehydration Salt (ORS)
53. Describe the causes and symptomatology of diarrhea.
54. Describe the prevention and management of diarrhea in under 5 - year children according to WHO protocol.
55. Describe the advice to be given to the mother for home care of children with diarrhea.
56. Differentiate between marasmus and kwashiorkor (clinically)

57. Describe the nutritional advice to be given for the management of a child with protein energy malnutrition (PEM)
58. Describe the risk factors and prevention of PEM
59. Plot and interpret growth chart for under 3 – years children.
60. Demonstrate the functional anatomy, peritoneal covering, relations, neurovascular supply and intra-hepatic segments of liver on prosected liver (Co, Psychomotor)
61. Analyze the clinical anatomy of gall bladder, cystic duct and extra-hepatic biliary apparatus(Co)
62. Correlate the functions of liver and gall bladder with reference to hepatobiliary disorders (cognitive)
63. Explain and interpret liver function test (Cognitive)
64. Identify the properties, composition, functions and regulation of bile (cognitive).
65. Interpret the neurovascular supply, clinical anatomy and exocrine parts of pancreas (Co)
66. Recognize the composition, functions and regulation of pancreatic secretion(cognitive)
67. Explain the structure, relations and neurovascular supply of spleen (Co)
68. Distinguish the course, extent and branches of abdominal aorta (Co)
69. Correlate the clinical anatomy of porto-systemic anastomosis with formation, course and relations of portal vein (Co)
70. Explain the formation, extent, course and tributaries of IVC (Co)
71. Discuss the formation and branches of lumbosacral plexus (Co)
72. Perform the surface markings while observing subject protocols on simulated person of: (Psychomotor, Affective)
    a. parotid gland
    b. stomach
    c. liver
    d. gall bladder
    e. spleen
    f. appendix
73. Explain the histological features of (Co)
    a. oral cavity and tongue
    b. salivary glands
    c. pharynx
    d. oesophagus
    e. stomach
    f. small intestine
    g. large intestine
    h. rectum and anal canal
    i. liver and gall bladder
    j. pancreas
74. Explain the development of (Co)
    a. oral cavity and tongue
    b. palate
    c. salivary glands
    d. pharynx
    e. oesophagus

f. stomach
g. small intestine
h. large intestine
i. rectum and anal canal
j. liver and gall bladder
k. pancreas

75. Interpret parts of GIT and related organs on radiography (Plain X-ray, MRI, CT Scan and Ultrasound). (cognitive)
76. Perform the palpation of the abdominal organs on a simulated person (psychomotor, affective)
77. Discuss the endergonic and exergonic reactions with their clinical significance(cog)
78. Describe the Biological oxidation with its clinical disorder. (cog)
79. Explain Respiratory chain, redox potential and oxidation phosphorylation with clinical disorders(cog)
80. Describe the biochemical process of ATP synthesis (cog)
81. Discuss the role of uncouplers and inhibitors in oxidative phosphorylation with their clinical correlation(cog)
82. Calculate body mass index (BMI)(psychomotor)
83. Measure anthropometric parameters in a human subject(affective and psychomotor)
84. Calculate Basal Metabolic Rate (BMR)(psychomotor)
85. Calculate daily energy expenditure of a normal human subject (psychomotor and affective)
86. Perform general physical examination of a human subject(psychomotor and affective)
87. Perform the cadaveric dissection of anterolateral abdominal wall and gastrointestinal tract (psychomotor, Affective)

FRONTIER MEDICAL COLLEGE ABBOTTABAD EXCELLENCE & INNOVATION

Module – IV B Urinary System

Duration 02 weeks

88. Demonstrate the structure, location, coverings, relations and clinical correlates of kidney with neurovascular supply and lymphatic drainage (Co)
89. Describe the distribution of total body water, the principle of measurement, concept of water balance and the clinical conditions related to body fluids.(cognitive)
90. Analyze the structure and functions of nephron and discuss the dynamics of renal clearance(Co)
91. Describe the glomerular membrane and juxta-glomerular apparatus and discuss renal clearance with endocrine functions of kidneys (hormones acting on kidney and those that are produced by the kidneys) (cognitive)
92. Explain the Physiological basis of GFR, its measurement and various factors regulating glomerular filtration rate and discuss the myogenic theory and tubuloglomerular feedback. (cognitive)
93. Interpret the process of filtration, reabsorption and secretory functions of nephron(cognitive)
94. Identify and interpret the renal function tests(cognitive)
95. Explain the mechanism of formation of concentrated and dilute urine along with the role of Counter Multiplier and Countercurrent Exchange System(cognitive)
96. Identify the mechanism of action of ADH on renal tubules(cognitive).
97. Discuss the Physiological and Biochemical mechanism of water and electrolyte balance, imbalance with clinical disorder (physio/biochem) (cog)
98. Discuss the sources and absorption of Na+ and K+ balance and imbalance with clinical disorders (physio/biochem) (cognitive)
99. Describe the types, causes and mechanism of metabolic acidosis and alkalosis with clinical significance(cog) (physio/biochem)
100. Describe the types, causes and mechanism of respiratory acidosis and alkalosis with clinical significance (cog) (physio/biochem)
101. Describe the pathophysiological changes in Acute Renal Failure and chronic renal failure with special reference to dialysis and transplantation (cognitive)
102. Relate the structure, relations, neurovascular supply and lymphatic drainage of urinary tract with clinical correlates (Co)
103. Demonstrate the structure and parts of urethra (Co)
104. Discuss the microscopic features of the urinary system with clinical correlates (Co)
105. Correlate the development of the urinary system with congenital malformations (Co)
106. Perform the surface markings of kidneys on a simulated person while observing subject protocols (Cognitive and Psychomotor)
107. Explain the micturition reflex (cognitive)
108. Classify diuretics according to their site of action (Medicine/Physio) (cognitive)
109. Identify the parts of the urinary tract on radiography (Plain X-ray, CT Scan, MRI and Ultrasound) (Co)
110. Perform palpation of kidney on a simulated person (psychomotor)
111. Perform urinary catheterization on a simulated person and analyze physical and chemical properties of Urine. (psychomotor)
112. Perform the urinary tract cadaveric dissection
113. Recognize the common causes of gastrointestinal and urinary disorders in population of different ages using applied anatomical knowledge of radiographic studies and surface anatomy

114. Perform effective dissection and demonstration of prosected anatomical sections to demarcate normal structure from abnormal structures

BIOETHICS

115. Explain the elements of 'Informed consent'

116. Perform the procedure of informed consent taking process

PLO	CLO	MIT	Anatomy	Physiology	Bio-chemistry	Bioethics	Assessment tools
1-4, 7	1,2,3	LGIS	1, 5, 6, 9, 14, 15, 16, 28, 49,65,67,68, 69, 70, 73, 74, 102, 105	2,3,4,7,10,22,23,24,25,26,27,29,30,31,32,33,50,62,63,64,66,89,90,91,92,93,94,95,96,97,98,99,100,101,107, 108,109	7, 32, 34,35,36,37,38,39,40,41,42, 43,44,45,77,78,79,80,81,97, 98,99,100	115,116	MCQ, SAQ, Oral examination
		SGD	5,6, 9, 11, 12, 13, 14, 15, 17, 18, 19, 28,60, 71, 72, 73,75, 87, 88, 102, 103, 104, 105, 106, 112, 114	2,3,4,7,10,22,23,24,25,26,27,29,30,31,32,33,50,62,63,64,66,89,90,91,92,93,94,95,96,97,98,99,100,101,107, 108,109	7,32,34,35,36, 37,38,39,40,41,42,43,44,45, 77,78,79,80,81,97,98,99,100		OSPE, Oral examination
		DEMO/DIS	12,17,19,,87, 102,104, 114				MCQ, SAQ, Oral examination
		PBL	61	7,101	36, 37, 97		Assessment sheet, MCQ, SAQ, Oral examination
		Lab Skills	73, 104	8,76,82,83,84,85,86,111	20,21,46,47,48		OSPE, Oral examination
		Assignments	74, 76		7,37	115, 116	OSPE, Oral examination
		Self-study	5, 13, 49, 70		43		MCQ
		Skills Lab	76, 110	111			OSPE
		Case studies	73, 74				MCQ, SAQ, Oral examination

LGIS: large group Interactive session
SGD: Small group discussion
Demo: Demonstrations
Dis: Dissection
PBL: problem based learning

COMMUNITY HEALTH SCIENCES

Objectives

- Describe unsafe injections
- Describe environmental and global health
- Describe waste and its disposal
- Describe refuse and methods being employed for its disposal
- Describe water carriage system

Module – V

Neurosciences, Lipid & Protein Metabolism

Duration 14 weeks

Course Learning Outcomes

4. Analyze the morphological and functional organization of nervous system
5. Integrate the clinical significance of the important connection, fibers and tracts with the principal structures of brain
6. Appraise processes and functional properties of all the special senses and nervous system with clinical significance.
7. Correlate the metabolic processes of protein and lipid molecules with their clinical implications.

Objectives

117. Identify the bony features of skull (adult and fetal) with their muscular attachments and contents (Co)
118. Associate the bony features and foramina of skull with structures attached and passing through them (Co)
119. Identify the bony features of mandible and hyoid bone with their muscular attachments (Co)
120. Identify the bony features of cervical vertebrae with their attachments (Co)
121. Demonstrate the scalp, superficial temporal region and face with their muscles and neurovascular supply with the help of prosected specimen (Co)
122. Correlate the muscle movements of mastication with temporomandibular joint and their neurovascular supply (Co)
123. Integrate the boundaries, communications and contents of the pterygopalatine, temporal and infratemporal fossae with their clinical anatomy (Co)
124. Explain the gross structure of spinal cord with it's blood supply and clinical correlates (Co)
125. Analyze the clinical presentation of lesions seen in cross sections of spinal cord at different levels (Co)
126. Relate the clinical anatomy of ascending and descending tracts with their functions (Co)
127. Explain the physiology of synapse and its types and discuss the mechanism of its transmission (cognitive)
128. Classify the types of sensory receptors on the basis of location, adaptation and functions, along with classification of neurons, neuroglia and nerve fibers (cognitive).
129. Interpret the mechanism by which the sensory receptors detect the tactile stimuli (cognitive)
130. Explain the mechanism for touch, pain, temperature, vibration, proprioception transmission of somatic signals into the central nervous system (cognitive)
131. Identify the gross structure and neurovascular supply of the brain stem with the help of a prosected specimen/model (medulla, pons and midbrain) (Co, Psychomotor)
132. Correlate the cross sections of the brainstem with their lesions (Co)
133. Appraise the clinical anatomy of the cranial nerves with their anatomical course (Co)
134. Enlist the functions of somatosensory cortex (cognitive)
135. Enumerate the characteristic features of signal transmission in dorsal column medial lemniscus system and anterolateral system(cognitive)

136. Relate the functions and mechanism of afferent neurotransmission of muscle spindle and golgi tendon organs(cognitive)
137. Recognize the mechanism of different synaptic reflexes (cognitive)
138. Identify the clinical tests and findings that allow a physician to distinguish between upper and lower motor neuron disorders, including the Babinski sign (psychomotor,affective)
139. Differentiate the functions of the major ascending and descending spinal cord tracts, ALS and DCML, pyramidal and extrapyramidal tracts (cognitive)
140. Describe the use of dermatomes, sensory deficits, and motor deficits to identify local spinal cord lesions and spinal cord hemi section (cognitive)
141. Enlist the immediate and long-term consequences of spinal cord transection (cognitive)
142. Relate the external and internal structure of cerebellum with the help of prosected specimen to it's lesions (Co, Psychomotor)
143. Relate the clinical anatomy of cranial meninges in context of neurovascular supply and dural infoldings (Co)
144. Analyze the clinical anatomy of the dural venous sinuses (Co)
145. Correlate the gross structure and cortical areas of brain with the clinical anatomy on the given prosected specimen (Co, Psychomotor)
146. Interpret the functions of the cortical areas of brain with their lesions (cognitive)
147. Describe composition, properties and functions of cerebrospinal fluid along with blood brain barrier and meninges (cognitive).
148. Demonstrate the gross features and relations of the thalamus, sub thalamus, pineal gland and hypothalamus (Co)
149. Interpret the clinical anatomy of basal nuclei of brain (Co)
150. Analyze the clinical correlation of association, commissural and projection fibers of brain, especially internal capsule with their lesions (Co)
151. Discuss the clinical anatomy of limbic system (Co)
152. Evaluate the ventricular system of brain with its secretion, circulation, absorption and functions of CSF (Co)
153. Correlate the blood supply of the brain with clinical anatomy (Co)
154. Demonstrate the contents of vertebral column and vertebral system of veins (Co)
155. Name the triangles of the neck with their boundaries, contents and clinical correlates (Co)
156. Name the vessels, lymph nodes, and nerves of the neck, with their area of supply/ drainage (Co)
157. Explain the ganglia and plexuses of the neck with clinical correlates (Co)
158. Identify the muscles and joints in the prevertebral region of the neck(Co)
159. Perform the surface markings of following structures on a simulated person while observing subject protocols (Psychomotor, Affective)
    a. Facial artery
    b. Common carotid artery
    c. Internal carotid artery
    d. External carotid artery
    e. Subclavian artery

f. External jugular vein
g. Internal jugular vein
h. Facial nerve

160. Identify the normal anatomical structures visible on radiographs of the head and neck (Co)
161. Describe the development of (Co)
    a. Fore brain
    b. Midbrain
    c. Hindbrain
    d. Spinal cord
    e. Skull
    f. Cervical vertebrae
    g. Pharyngeal apparatus
    h. Face
    i. Eye
    j. Ear
162. Describe the microscopic features of(Co)
    a. Peripheral nerve
    b. Spinal cord
    c. Cerebrum
    d. Cerebellum
    e. Eye
    f. Ear
163. Correlate the contents of orbital cavity and eye ball with clinical anatomy (Co)
164. Explain the mechanism of image information in retina (cognitive)
165. Explain the process of accommodation, by the lens in near and far vision(cognitive)
166. Define the refractive errors with their correction(cognitive)
167. Perform the visual acuity on a human subject (psychomotor and affective)
168. Explain the mechanism of photo transduction(cognitive)
169. Explain the visual pathway with its clinical significance (cognitive).
170. Perform tests for field of vision (Perimetry) (psychomotor)
171. Compare the functional properties of scotopic and photopic vision(cognitive)
172. Perform colour vision test on the subject (psychomotor and affective)
173. Enumerate the chemical composition of lacrimal secretion, aqueous humor and vitreous humor (cognitive)
174. Explain the rhodopsin cycle with clinical significances(cognitive)
175. Analyze the gross anatomical features of ear with its neurovascular supply, lymphatic drainage and clinical correlates (Co)
176. Relate the function of hearing and discuss the mechanism of auditory transduction.(cognitive)
177. Trace the auditory pathway and explain the process of sound transmission from external ear to inner ear. (cognitive)
178. Identify and explain different theories of hearing. (cognitive)

179. Perform hearing test on a human subject (psychomotor and affective)
180. Identify the olfactory receptors and explain the transduction mechanisms(cognitive)
181. Trace the olfactory pathway by means of a flowchart. (cognitive)
182. Explain cervical fascia (Co)
183. Discuss pain analgesia system and elaborate gateway control theory. (cognitive)
184. Explain the pain perception and central pain syndrome(cognitive)
185. Distinguish the peripheral and central mechanisms of primary and secondary hyperalgesia and slow vs fast pain (cognitive)
186. Explain mechanism of body temperature regulation in humans (cognitive)
187. Record the body temperature recording in human subject(psychomotor and affective)
188. Examination of sensory nervous system (psychomotor)
189. Correlate the functions of taste receptors and transduction mechanisms(cognitive)
190. Trace gustatory pathway in form of flowchart. (cognitive)
191. Perform tests of sense of taste and smell on a human subject (psychomotor and affective)
192. Distinguish conductive, central, and sensorineural deafness, and list the tests used to assess them (cognitive)
193. Classify drugs used in the treatment of pain (Medicine) (cognitive)
194. Elicit superficial and deep reflexes on a human subject (psychomotor and affective)
195. Perform cranial nerve examination on a human subject (psychomotor and affective)
196. Recognize the effects of lesions in medial and lateral motor systems(cognitive)
197. Perform the cerebellar function tests on a human subject(psychomotor and affective)
198. Differentiate the functions of the pyramidal and extrapyramidal tracts. (cognitive)
199. Explain cerebellar connections and functions. (cognitive)
200. Describe direct and indirect pathways of basal ganglia and Identify the movement disorders associated with basal ganglia and cerebellum(cognitive)
201. Describe the rationale for treatment of Parkinsonism with anticholinergic drugs, l-DOPA, or transplantation of catecholamine-producing cells (Medicine) (cognitive)
202. Distinguish the primary, premotor and supplementary motor cortex (cognitive)
203. Identify the origin, course, and termination of the pyramidal tract(cognitive)
204. Enumerate the consequences of pyramidal tract transection(cognitive)
205. Describe the functional organization of Brodmann areas(cognitive)
206. Identify the speech disorders and their representation in the brain(cognitive)
207. Enlist the higher mental functions and their neurological association(cognitive)
208. Explain the functional organization of autonomic nervous system with emphasis on its characteristic features of its divisions. (cognitive).
209. Correlate the primary types of rhythms that make up the EEG with the behavioral states (cognitive)
210. Explain stages of sleep and changes associated with aging, drugs, and sleep deprivation (cognitive)
211. Interpret normal and abnormal EEG(cognitive)
212. Classify anxiolytic drugs (Medicine) (cognitive)
213. Enumerate the characteristics of generalized and partial seizures (Medicine) (cognitive)
214. Explain the structure and functions of hypothalamus and brainstem(cognitive)

215. Explain the major components of the limbic system (cognitive)
216. Explain the basis and mechanism of memory. (cognitive)
217. Correlate the basis and mechanism of learning, emotional disorders and sexual orientation. (cognitive)
218. Explain the digestion and absorption of proteins and lipids with their clinical disorders (Cog)
219. Discuss the Biomedical importance of fatty acids synthesis (Cog)
220. Discuss the synthesis of triacylglycerol with its clinical disorder. (Cog)
221. Perform estimation of serum triacylglycerols in accordance to standard protocols (psychomotor)
222. Describe the oxidation of fatty acids along with its types and its clinical significance. (Cog)
223. Describe the metabolism of cholesterol and its clinical disorders (Cog)
224. Perform estimation of cholesterol in accordance to standard protocols(psychomotor)
225. Discuss the metabolism of lipoproteins and its clinical disorders(Cog)
226. Discuss the role of anti hyperlipidemic drugs in lowering lipids (Med)
227. Correlate development of coronary heart disease and biochemical basis of atherosclerosis (Cog)
228. Discuss the metabolism of Eicosanoids along with clinical disorders (Cog)
229. Perform and interpret the lipid profile on a given lab data according to standard protocols. (psychomotor)
230. Discuss the metabolism of phospholipids and its clinical significance(Cog)
231. Discuss the metabolism of glycolipids and sphingolipids along with its clinical significance(Cog)
232. Discuss the metabolism of ketone bodies and its clinical significance (Cog)
233. Discuss the biochemical importance of Transamination and Deamination with clinical disorder(Cog)
234. Describe the mechanism of transport of ammonia and the formation of urea. (Cog)
235. Discuss the effects ammonia toxicity on brain(Cog)
236. Perform estimation of blood urea in accordance to standard protocols (psychomotor)
237. Discuss the following individual metabolism of amino acids and their inherited disorders :- (Cog)
    a. Phenyalanine
    b. tyrosine
    c. methionine
    d. cystein, cystine
    e. tryptophan,creatine
    f. leucine, valine,isoleucine
238. Perform estimation of creatinine in accordance to standard protocols (psychomotor)
239. Perform estimation of total plasma proteins in accordance to standard protocols (psychomotor)
240. Discuss the metabolism, biomedical importance and associated diseases of neurotransmitters(Cog)
    a. Acetylcholine

b. glutamate
c. GABA
d. glycine
e. serotonin
f. dopamine

241. Perform the analysis of CSF (protein, chloride, glucose) (psychomotor)

BIOETHICS

242. Discuss the ethical arguments surrounding the 'Duty of Confidentiality' in medical practice.

FRONTIER MEDICAL COLLEGE
ABBOTTABAD
EXCELLENCE & INNOVATION

PLO	CLO	MIT	Anatomy	Physiology	Biochemistry	Bioethics	Assessment Tools
5,6,7,9,10	6,7	LGIS	121, 122, 123, 126 ,132, 133, 142, 146, 149, 150, 151, 156, 157, 161, 162, 182	127,128,129,130,134,135,136,137,139,140,141,146,147,164,165,166,168, 169,171,173,174,176,177,178,180,181,183,184,185,186,189,190,192,193, 196,198,199,200,201,202,203,204,205,206-217.	218, 219,220, 222, 223, 225, 227, 228, 230, 231, 232, 233, 234, 235, 237, 240	242	MCQ, SAQ, Oral examination
		SGD	125, 126, 132, 133, 142, 148, 150, 156, 157, 159, 161, 195	127,128,129,130,134,135,136,137,139,140,141,146,147,164,165,166,168, 169,171,173,174,176,177,178,180,181,183,184,185,186,189,190,192,193, 196,198,199,200,201,202,203,204,205,206-217.	218, 219,220, 222, 223, 225, 227, 228, 230, 231, 232, 233, 234, 235, 237, 240		MCQ, SAQ, Oral examination, OSPE
		DEMO/ DIS	117, 118, 119, 120, 121, 131, 143, 144, 145, 148, 152, 154, 155, 158, 159, 163, 175, 178				MCQ, SAQ, OSPE, Oral examination
		PBL	153	199,205	234, 235		Assessment Sheet, MCQ, SAQ, OSPE, Oral examination
		Lab Skills	138, 159, 160, 162,	167,170,172,179,187,188,191,194,197	221, 224, 229, 236, 238, 239, 241		OSPE and oral examination
		Assign Ments	122, 142		218, 237		Assessment sheets
		Self-Study	150				
		Case Studies	126, 160			123	MCQ, SAQ, Oral examination

LGIS: large group Interactive session
SGD: Small group discussion
Demo: Demonstration
Dis: Dissection
PBL: problem based learning

COMMUNITY HEALTH SCIENCES

- Understand the human behaviors and relationships, encompassing societal institutions

- Analyze the causes, dynamics, consequences & prevention of juvenile delinquency

Module – VI

Endocrine and Reproductive System

Duration 10 weeks

Course Learning Outcomes

8. Develop detailed concepts of, physiological aspects of the endocrine and reproductive systems along with their clinical importance.
9. Relate the gross features of endocrine glands and reproductive tract with clinical conditions
10. Correlate the microscopic features of endocrine and reproductive systems with clinical correlates
11. Correlate the synthesis and biochemical role of endocrine hormones along with clinical importance
12. Relate the DNA replication, transcription, translation with genetic basis of clinical disorders.

Objectives

243. Explain the hypothalamic hormonal regulation of hormones in the body. (cognitive)
244. Discuss the classification, mechanism of action and regulation of hormones (physio/ biochem) (Cog)
245. Correlate the development, structure and neurovascular control of pituitary gland with the clinical pressure effects of tumors (Co)
246. Explain the hormones secreted by the pituitary gland, mechanism of action and regulation. (cognitive)
247. Correlate the structure, biosynthesis, mechanism of action, metabolic role, regulations and clinical disorders of growth hormone (physio/biochem) (Cog)
248. Correlate the structure, biosynthesis, mechanism of action, metabolic role, regulations and clinical disorders of Anti diuretic hormone and its analogues. (physio/biochem) (Cog)
249. Relate the structure, location, relations and neurovascular supply with clinical anatomy of thyroid gland (Co)
250. Correlate the structure, biosynthesis, mechanism of action, metabolic role, regulations and clinical disorders of thyroid hormone (physio/biochem) (Cog)
251. Perform the examination of thyroid gland on a simulated person (psychomotor and affective)
252. Demonstrate immunoassays and their types and principles of ELISA(Psychomotor)
253. Study thyroid profile and perform estimation of TSH in accordance to standard protocols(Psychomotor)
254. Discuss the use of antithyroid drugs (cognitive).
255. Analyze the anatomy of the parathyroid gland with respect to its role in the regulation of calcium and phosphate metabolism (Co)
256. Discuss the structure, biosynthesis, mechanism of action, metabolic role, regulations and clinical disorders of parathyroid hormone (physio/biochem) (Co)
257. Demonstrate physical examination findings in human subjects with parathyroid disorders. (psychomotor)
258. Discuss the structure, biosynthesis, mechanism of action, metabolic role, regulations and clinical disorders of calcitonin (physio/biochem) (Cog)

259. Analyze the role of osteoblasts, osteoclasts, osteocytes, calcitropic hormones and vitamin D in bone remodeling (cognitive)
260. Perform estimation of calcium in accordance with standard protocols (Psychomotor)
261. Perform estimation of uric acid in accordance with standard protocols (Psychomotor)
262. Enumerate the clinical feature of osteopenia, osteoporosis, fragility fractures and tetany (Medicine/Physio) (cognitive)
263. Discuss the drugs used in osteoporosis (Medicine) (cognitive)
264. Interpret the functional anatomy of the pancreas and its endocrine role (Co)
265. Discuss the structure, biosynthesis, pulsatile release, mechanism of action, regulation, metabolic role, destruction and clinical disorders of insulin hormone (Physio/Biochem) (Cog)
266. Discuss the hormonal regulation of glucose (Physio/Biochem) (Cog)
267. Discuss the structure, biosynthesis, mechanism of action, metabolic role, regulations and clinical disorders of glucagon (Physio/Biochem) (Cog)
268. Describe the clinical features, metabolic complications and treatment of diabetes mellitus (Medicine) (cognitive)
269. Demonstrate the structure, location, relations, neurovascular supply and clinical anatomy of suprarenal gland (Co)
270. Correlate effects of mineralocorticoids with salt and water retention in body(cognitive)
271. Distinguish the effects of hyper and hyposecretion of Aldosterone(cognitive)
272. Discuss the structure, biosynthesis, mechanism of action, metabolic role, regulations and clinical disorders of adrenal cortical hormones(glucocorticoids, mineralocorticoids) (Physio/Biochem) (Cog)
273. Discuss the structure, biosynthesis, mechanism of action, metabolic role, regulations and clinical disorders of adrenal medullary hormones (epinephrine and nor epinephrine) (Physio/Biochem) (Cog)
274. Enlist the clinical manifestations of hypersecretion and hyposecretion of cortisol(cognitive)
275. Identify the clinical features of hyperaldosteronism and hypoaldosteronism (cognitive)
276. Enumerate the therapeutically indication of glucocorticoids (cognitive)
277. Explain the developmental anatomy of: (Co)
    - Pituitary
    - Thyroid
    - Parathyroid
    - Pancreas
    - Adrenals

278. Explain the microscopic features of: (Co)
    - Pituitary gland
    - Thyroid gland
    - Parathyroid gland
    - Pancreas (endocrine part)
    - Adrenals

279. Identify the bony features of pelvis and muscles forming the pelvic floor (Co)
280. Relate the clinical importance of the female pelvis in relation to childbirth (Co)
281. Identify the urogenital diaphragm and triangle with its contents (Co)
282. Correlate the structure, location, support and neurovascular supply of ovary and hormones which regulate the ovarian cycle (Co)
283. Discuss the structure, biosynthesis, mechanism of action, metabolic role, regulations and clinical disorders of estrogen, testosterone and progesterone and describe stages of oogenesis. (Physio/Biochem) (Cog)
284. Correlate the physiological and clinical effects of estrogen and other hormone deficiencies in a postmenopausal woman (cognitive)
285. Correlate the clinical anatomy with the structure, location, supports and neurovascular supply of uterus with the help of models (Co)
286. Recognize the changes in endometrium during menstrual cycle (Co)
287. Correlate ovarian and endometrial cycle with hypothalamo – pituitary ovarian axis regulation. (Co)
288. Discuss the menstrual history of a female along with its abnormalities (Menorrhagia, Metromenorrhagia, Oligomenorrhea, polymenorrhea, polymenorrhagia, Amenorrhea) (Gynae/Physio) (cognitive)
289. Explain the mechanism of action of hormonal contraceptives (psychomotor)
290. Explain physiological changes during pregnancy. (cognitive)
291. Perform pregnancy test (psychomotor)
292. Discuss the structure, biosynthesis, mechanism of action, metabolic role, regulations and clinical disorders of oxytocin and prolactin (Physio/Biochem) (Cog)
293. Discuss the biochemical parameters used in evaluation of male and female infertility(Gynae) (Cog)
294. Demonstrate the structure, support, anatomical relations and neurovascular supply of vagina with the help of models (Co)
295. Describe the structure and neurovascular supply of paraurethral glands, vestibular glands, clitoris, labia minora and labia majora (Co)
296. Correlate the layers, position and neurovascular supply of scrotum with clinical anatomy (Co)
297. Correlate the structure, support, and neurovascular supply of testis, epididymis, vas deferens, seminal vesicle and ejaculatory duct in relation to clinical anatomy (Co)
298. Correlate the biosynthesis, mechanism of action and metabolic role of hormones affecting spermatogenesis (Physio/Biochem) (cognitive)
299. Recognize different seminal parameters for semen analysis (psychomotor)
300. Correlate the structure, histological features and neurovascular supply of prostate with its clinical anatomy (Co)
301. Discuss the structure and neurovascular supply of penis
302. Define the basic terminologies of reproductive health
303. Describe WHO strategies for safe motherhood
304. Describe the components of reproductive health.

305. Explain baby friendly hospital initiative in Pakistan
306. Describe different measures of growth monitoring
307. Explain the advantages and disadvantages of breast feeding
308. Describe the common problem in lactation
309. Describe various methods of contraceptive methods, their advantages and disadvantages
310. Analyze the boundaries and contents of ischiorectal fossa with its clinical anatomy (Co)
311. Explain the development of gonads, female genital tract, male genital tract and its aberrations (Co)
312. Explain the histological features of gonads, and female and male genital tract (Co)
313. Perform a research in a group on endocrinology and reproductive anatomy (Psychomotor, Affective)
314. Perform estimation of bilirubin in accordance with standard protocols(Psychomotor)
315. Perform estimation of serum leptin in accordance with standard protocols (Psychomotor)
316. Integrate the classification, mechanism of action of hormones with respect to its role in synthesis, storage and regulation and discuss in detail the applied physiology and biochemistry of each hormone.
317. Enumerate the properties and functions of reproductive hormones and correlate the ovarian and endometrial cycle with hypothalamopituitary axis regulation and discuss structural and operative physiology of reproductive system integrating it with applied physiology.

GENETICS

318. Discuss the digestion and absorption of nucleic acids with its clinical disorders (Cog).
319. Discuss the purine metabolism with biochemical basis of its clinical disorders (Cog).
320. Discuss the pyrimidine metabolism with biochemical basis of its clinical disorders (Cog).
321. Describe the process of replication of DNA, mutation and DNA repair with biochemical basis of its clinical disorder. (Cog)
322. Describe the process of transcription, RNA process with biochemical basis of its clinical disorder. (Cog)
323. Describe the process of translation and genetic code with biochemical basis of its clinical disorder. (Cog)
324. Describe the regulation of Gene expression with biochemical basis of its clinical disorder. (Cog)
325. Discuss the mechanism of Genetic Disorders. (Cog)
326. Discuss the basic techniques used in molecular genetics. (Cog)

BIOETHICS

327. Debate on the ethical perspectives of privacy of patients.

Program Learning Outcomes	Course Learning Outcomes	MIT	Anatomy	Physiology	Biochemistry	Bioethics	Assessment Tools
1,5,9,10,11	10, 11, 12	LGIS	245, 249, 255, 264, 277, 278, 282, 311, 312	243,244,246, 247,248,250, 254,256,258, 259,262,263, 265,266,267, 268,270,271, 272,273,274, 275,276,283, 284,286,287, 288,290,292, 293,298,316, 317	244, 247, 248, 250, 256, 258, 265, 266, 267, 272, 273, 283, 292, 298, 318, 319, 320, 321, 322, 323, 324, 325, 326	327	MCQ, SAQ, Oral examination
		SGD	245, 249, 255, 264, 277, 282, 295, 296, 297, 300, 301, 311	243,244,246, 247,248,250, 254,256,258, 259,262,263, 265,266,267, 268,270,271, 272,273,274, 275,276,283, 284,286,287, 288,290,292, 293,298,316, 317	244, 247, 248, 250, 256, 258, 265, 266, 267, 272, 273, 283, 292, 298, 318, 319, 320, 321, 322, 323, 324, 325, 326		MCQ, SAQ, OSPE, Oral examination
		DEMO/DIS	269, 279, 280, 281, 285, 294, 310				MCQ, SAQ, OSPE, Oral examination
		PBL	251	256,288,293	283, 292		Assessment sheet, MCQ, SAQ, OSPE, Oral examination
		Lab Skills	251, 278, 312	251,257,289, 291,299	252, 253, 260, 261, 314, 315		OSPE, Oral examination
		Assignments	297				Assessment sheet
		Self-study	296				
		Case studies	278				MCQ, SAQ, Oral examination

LGIS: Large Group Interactive Session
SGD: Small Group Discussion
Demo: Demonstration
Dis: Dissection
PBL: Problem Based Learning

PAPERWISE DISTRIBUTION OF TOPICS FOR INTEGRATED ASSESSMENT

MODULE IV

Paper	Topics	Learning Objective Number
PAPER- I	Gross Anatomy and Radiology of the Abdominal Region and Gastrointestinal System. smooth muscle properties and function, saliva, mastication, swallowing, nervous regulation of GIT, movements of GIT, Salivary analysis, Abdominal Examination and General Physical Examination. Composition and function of GI secretions, digestion and absorption of CHO, carbohydrate metabolism, spectrophotometer, specimen processing	2,3,4,7,8,10,12,1, 5, 6, 9, 11-19,28,49,60,61,65, 67-72,75,87,82,83,84,85,86 7,32,34,35,36,37,38,39,40,41,42,20,21
PAPER- II	Embryology and Histology of Gastrointestinal System. GI reflex and GI movements, GI hormones, HCl and pancreatic secretion. Liver and Gallbladder, GIT disorders, Introduction to renal physiology, Body fluids, GFR and its regulation, BMI, BMR, Anthropometry, Daily Energy Expenditure. glycogen metabolism, glycogen storage diseases, regulation of blood glucose, biological oxidation and oxidative phosphorylation, estimation of glucose by manual n kit method	22,23,24,25,26,29,50,30,33,62,64,66, 82,83,84,85,89,90,91,92. 73,74, 43,44,45,77,78,79,80,81,47
PAPER- III	Gross, Embryology, Histology, & Radiology of the Urinary System. Tubular reabsorption, renal clearance, counter-current mechanism, Endocrine functions of kidney, Acid base disorders, renal disorders, dialysis and transplantation, Micturition, urinary catheterization, palpation of kidneys, Physical and Chemical analysis of Urine. water and electrolyte metabolism with acid base balance and imbalance, OGTT, HbA1c	88,102-106,109,110, 112, 113, 114,90,91, 93,95,98,99,100,101,110, 107,110,111 97,98,99,100,46,48

MODULE V

Paper	Topics	Learning Objective Number	Assessment Tools
PAPER-I	Gross Anatomy of Head and Neck: Osteology of skull, scalp, face, eye, ear, cervical fascia, cranial fossae (pterygopalatine, infratemporal & temporal), muscles and microvasculature of neck, radiological and surface marking. Synapse, Neurons, Neuroglia, Receptors, Sensory and Motor pathways, UMN and LMN lesions, Integumentary System. Examination of Sensory and Motor system, body temperature, digestion and absorption of lipids, fatty acid synthesis and oxidation, synthesis of TAGs, metabolism of cholesterol, sphingolipids and glycolipids, lipid profile, estimation of TAG and cholesterol	117-123, 155-160, 163, 175, 182,127,128, 129,130,135,139,140,141,186,187,188, 203,204. 218,219,220,222,223,231221,224,229	One best MCQ SAQ OSPE VIVA
PAPER- II	Neuroanatomy: Tracts, Gross anatomy of the spinal cord and its lesions, Meninges, Gross anatomy of the cerebrum, brain stem, and cerebellum; Cortical areas of the cerebrum, Blood supply of the brain, Dural venous sinuses, Ventricles, Vertebral column and the vertebral system of veins, Cranial nerves and their examination, Radiology, Surface Marking Pain physiology, Basal ganglia, Cerebellum, Speech and language, Memory and learning, CSF, BBB, Meninges, Cerebral Cortex, Brainstem, Sleep and EEG, Reflexes,Examination of Cranial nerves, Superficial and Deep reflexes, Biochemical basis of atherosclerosis, metabolism of lipoprotein, ketone bodies, phospholipids, eicosanoids,	124-126, 131-133, 138, 142-146, 148-154, 195,147,183,184,185,194,200,201,202, 205,206,207,208,209,210,211,214,216, 217 218,225,227,228,230,232,233,234,235, 236,238	One best MCQ SAQ OSPE VIVA

	digestion and absorption of proteins , transamination deamination, mechanism of transport of ammonia, urea cycle and ammoniatoxicity, estimation of urea and Creatinine		
PAPER- III	Neurosciences (Embryology & Histology): Development of the face, brain (forebrain & hindbrain), spinal cord, and vertebral column; Histology of the eye, ear, spinal cord, cerebrum, and cerebellum. Limbic system, Vision, ANS, Vision, Accommodation, Errors of Refraction, Visual Acuity, Phototransduction, Visual Pathway, Perimetry, Scotopic and Photopic vision, Color vision, Rhodopsin cycle, Hearing, Hearing tests, smell and taste, metabolism of amino acids and neurotransmitters, estimation of total plasma proteins, CSF analysis	161,162, 164,165,166,167,168,169,170,171,172, 174,176,177,178,179,180,181,189,190, 191,192,208,215. 237,240,239,241	One best MCQ SAQ OSPE VIVA

FRONTIER MEDICAL COLLEGE ABBOTTABAD EXCELLENCE & INNOVATION

MODULE VI

PAPER	TOPICS	LEARNING OBJECTIVE NUMBER	Assessment Tool
PAPER-I	Gross anatomy, embryology, histology, and surface marking of the endocrine system. Introduction to endocrinology, classification and mechanism of action of hormones, anterior and posterior pituitary hormones, hypothalamus-endocrine system, thyroid hormone and its disorders and GH, Thyroid gland examination, BMI and GPE digestionand absorption of nucleic acid, metabolism of purine and pyrimidine, DNA replication ,transcription, translation, mutation, DNA repair, regulation of gene expression, basic techniques in molecular genetics, genetic disorder, ELISA, estimationof uric acid	245, 249, 251, 255, 264, 269, 277, 278, 243.244,246,247,248,250,251,254,292, 318,319,320,321,322,323,324,325,326, 252,261	One best MCQ SAQ OSPE VIVA
PAPER- II	Gross anatomy, embryology, and histology of the male genital tract. PTH, Vitamin D, Adrenal cortex and medullary hormones, Adrenocortical disorders, Insulin, glucagon and diabetes, Glucose estimation and parathyroid gland examination and disorders. Classification, MOA of hormones, regulation, GH, ADH, pituitary hormones, thyroid, parathyroid, calcitonin, estimation of TSH, calcium	296, 297, 300, 301, 311, 312 256,257,258,259,262,263,265,266,267, 268,270,271,272,273,274,275,276. 244,247,248,250,256,258,253,260	One best MCQ SAQ OSPE VIVA
PAPER- III	Gross anatomy, embryology and histology of female genital tract. Menstrual cycle and abnormalities, reproductive hormones, pregnancy, lactation, male reproductive system, infertility, Semen analysis, Pregnancy test and Contraceptive methods. Neonatal Physiology. Insulin, glucagon, regulation of blood glucose, adrenalcortex and medullary hormones, estrogen, progesterone,	280, 282, 285, 294, 295, 311, 312. 283,284,286,287,288,289,290,291,293, 298,299. 265,266,267,272,273,283,292,298,314, 315	One best MCQ SAQ OSPE VIVA

	testosterone, oxytocin, prolactin, estimation of leptin and bilirubin		

COMMUNITY HEALTH SCIENCES

Objectives:

- Identify the concept of Qualitative research
- Clarify the different sources of data collection methods
- Formulate a qualitative research report with ethical consideration
- Identify Concepts and Applications of sociology.
- Recognize Social Determinants of Health and its related Concepts and Applications.
- Elaborate the concept of mental health
- Explain different Types of behavioral Issues, Their Impact on Health and Consequences.
- Participate in prevention and control strategies for behavioral illnesses.
- Describe child labor Prevalence, Consequences, and Status at National Level.

Teaching Strategies	Assessment Tools
Discussion LGIS SGD	Assignment CAT exam

Tutorial activities Session

Types of Research and study design

RESEARCH & EVIDENCE BASED MEDICINE

Class	Objective	Mode of Teaching
2nd year MBBS	Students will be able to: 1. Make power point presentation 2. Understand the important steps of research 3. Identify the important points of methodology like research design, setting, ethical approval, sample size, sampling technique, inclusion exclusion criteria, research tools etc 4. Design research with appropriate aims an methodology 5. Understand the importance publication of research paper in medical journals 6. Understand journal ranking Recognize the databases for indexing	Journal club meetings

PROFESSIONALISM, LEADERSHIP, APPLIED RESEARCH, COMMUNICATION SKILLS, ETHICS

By the end of the 5 years, the students should be able to:

Domain	Learning Outcomes	Teaching Strategies
Professionalism	Demonstrate respect, empathy, and accountability in interactions with patients and colleagues	Role modeling, reflective writing, bedside observation checklists
	Exhibit punctuality, reliability, and responsibility in clinical and academic tasks	Logbook entries, peer feedback, faculty observation
	Work effectively as a member of a healthcare team	Team-based learning (TBL), interprofessional group activities
	Reflect on professional lapses and commit to self-improvement	Guided reflection sessions, mentorship discussions
Leadership	Describe key leadership styles and their application in healthcare	Interactive lectures, group discussions
	Demonstrate delegation, conflict management, and decision-making skills	Role play, simulations, case-based scenarios
	Lead small groups in academic or clinical tasks	Group projects, TBL facilitation under supervision
	Mentor junior peers in academic or clinical learning	Peer-mentoring programs, supervised teaching opportunities
Applied Research	Explain principles of research design, sampling, and ethics	Interactive workshops, flipped classroom modules
	Formulate a research question and develop a synopsis	Small-group supervised writing workshops
	Collect, manage, and analyze research data	Hands-on training in software (SPSS/REDCap), supervised projects
	Critically appraise scientific literature and present findings	Journal clubs, structured appraisal checklists
Communication Skills	Take a complete and focused history using patient-centered communication	Standardized patient encounters, OSCE practice
	Break bad news and obtain informed consent empathetically	Role plays, video demonstrations, debriefing sessions
	Counsel patients and families regarding diagnosis, treatment, and prognosis	Simulated patient sessions, feedback-based practice
	Communicate effectively with peers and other healthcare professionals	Group discussions, interprofessional education sessions
Ethics	Apply ethical principles of autonomy, beneficence, non-maleficence, and justice	Case-based learning, structured debates
	Maintain confidentiality and patient dignity in clinical practice	Simulated scenarios, reflective portfolios
	Recognize and respond to ethical dilemmas in clinical care	Panel discussions, ethics roundtables
	Demonstrate ethical conduct in research and academic work	Workshops on informed consent, plagiarism checks

GENERAL EDUCATION SUBJECTS

EXPOSITORY WRITING

OBJECTIVE	TEACHING STRATEGY
1. Describe the essentials of the writing process, integrating pre-writing, drafting, editing, and proofreading to produce well-structured essays.	LGIS/ Assignment
2. Demonstrate mastery of diverse expository types to address different purposes and audiences.	LGIS/ Assignment
3. Uphold ethical practices to maintain originality in expository writing.	LGIS/ Assignment
4. Understand expository writing including its definition, types, purpose, and applications.	LGIS/ Assignment
5. Recognize the characteristics of effective expository writing, such as clarity, coherence, and organization.	LGIS/ Assignment
6. Apply pre-writing techniques such as brainstorming, free-writing, mind-mapping, listing, questioning, and outlining.	LGIS/ Assignment
7. Execute the three-stage drafting process effectively.	LGIS/ Assignment
8. Revise and edit written work ensuring correct grammar, clarity, coherence, and conciseness.	LGIS/ Assignment
9. Proofread final drafts to fine-tune writing.	LGIS/ Assignment
10. Introduce and structure effective paragraphs in expository writing.	

PAKISTAN STUDIES

OBJECTIVES	TEACHING STRATEGY
1. Describe the following:	
i. Health houses (LHWs)	LGIS
ii. Basic health unit – its composition and function	LGIS
iii. Rural health centre – composition and function	LGIS
iv. Tehsils headquarter hospitals – composition and function	LGIS
v. District headquarters hospital – composition and function	LGIS
vi. Tertiary care hospitals – composition and functions	LGIS
vii. Medical teaching institutions	LGIS
viii. District health information systems	SGD
ix. Millennium development goals – goals and achievements	SGD
x. National surgical obstetric and anaesthetic plan – vision 2025	
xi. Sustainable development goals - universal health coverage	SGD
xii. Innovations in improving health care	LGIS

delivery – private public partnership	
xiii. Prevention of diseases - strategies – medical, surgical, trauma, obstetric	LGIS
xiv. Awareness campaigns	SGD & FIELD VISIT
xv. Role of WHO, NGOs	SGD

ISLAMIAT/ETHICS (Tajweed-Seerat-Tafseer)

OBJECTIVES	TEACHING STRATEGY
• Envision the concept of treatment in Islam and its theological basis.	LGIS
• Differentiate between secular medical ethics and Islamic medical ethics.	LGIS
• Compare the roles of a general doctor versus a Muslim doctor.	LGIS
• Outline the historical contributions of Muslim physicians to healthcare.	LGIS
• Demonstrate the leadership role of doctors in society (Hamdard-e Khalaiq).	LGIS
• Describe the Quranic and Hadith perspectives on the preservation of human life (foetus, suckling rights, non-Muslims).	LGIS
• Evaluate the principle of *Hifz-u-Nafs* (protection of life) in clinical practice.	LGIS
• Discuss the ethical implications of human dignity and legislative controls on life.	LGIS
• Appraise the Islamic view on maintaining non-human life and environmental balance.	SGD
• Define *Ibadah* in the context of medical practice.	LGIS
• Describe strategies to transform routine clinical work into acts of worship.	SGD
• Discuss the societal and personal impacts of viewing medicine as *Ibadah*.	LGIS
• Deconstruct the physical, emotional, and spiritual components of communication.	LGIS
• Apply Quranic principles (Surah Ar-Rahman 55:2-3) to patient interactions.	SGD
• Identify barriers to effective communication using Islamic ethical frameworks.	LGIS
• Illustrate the Islamic principles of consoling patients and gratitude for health.	LGIS
• Integrate the concept of disease as a test/blessing into patient counseling.	LGIS
• Justify the respectful use of human tissues/cadavers in education and research.	LGIS
• Discuss the ethical permissibility of animal use in biomedical studies.	SGD

COMPUTER SKILLS

OBJECTIVE	TEACHING STRATEGY
1. Use computer technology as a tool for communication and collaboration	nds-on activity
2. Use computers for problem solving	nds-on activity
3. Create productivity materials related to their profession.	nds-on activity
4. Use computer technology for personal and professional growth.	nds-on activity
5. Use computer technology for research and generating new knowledge	nds-on activity
6. Develop confidence and an attitude for the use of computer.	nds-on activity

FRONTIER MEDICAL COLLEGE ABBOTTABAD EXCELLENCE & INNOVATION

BEHAVIORAL SCIENCES

2nd YEAR	
LEARNING OBJECTIVE	**TEACHING STRATEGY**
19. Prepare doctors to deal with challenges of terminal and bereavement care in clinical practice within their boundaries.	Small Group Discussion (SGD)
20. Understand the impact of terrorism on mental health and its management for mental well-being.	Lectures/Presentations
21. Identify the correlation of aging with life span, psychological factors and sociological factors.	Lectures/Presentations
22. Illustrate human thought, behaviour and interactions by health and disease situations influenced by psychological factors.	Lectures/Presentations
23. Recognize the factors contributing towards a state of psychological and social well-being of human in clinical practice.	Small Group Discussion (SGD)
24. Understand the complex interplay of Brain and Behaviour.	Lectures/Presentations
25. Integrate knowledge and skills of coping and treatment of pain in various situations.	Small Group discussion
26. Identify the bio-psycho-social factors contributing to sexual health and impact physical and mental health of human being.	Lectures/Presentations
27. Understand the cultural and social aspects of medical practice by getting holistic view of health.	Small Group Discussion (SGD)
28. Understand common psychiatric disorders in general health settings.	Lectures/Presentations
29. Interview and perform psychosocial assessment.	Small Group Discussion (SGD)
30. Understand child rearing practices.	Lectures/Presentations
31. Understand emotions.	Lectures/Presentations
32. Understand motivation.	Lectures/Presentations
33. Understand learning, assess types of learning, theories of learning, different methods and styles of learning, identify and differentiate different type of learners.	Lectures/Presentations
34. Define learning.	Lectures/Presentations
35. Identify types of learners.	Lectures/Presentations
36. Understand strategies to improve learning skills.	Small Group Discussion (SGD)

ENTREPRENEURSHIP CURRICULUM

S.No	TOPICS/ THEME	LEARNING OUTCOMES	LEARNING OBJECTIVES	INSTRUCTIONAL STRATEGIES	ASSESSMENT TOOLS
1.	**What Entrepreneurship and Why Is It Important?**	• The learners shall be able to ○ Understand the nature, fundamental concepts, and the importance of entrepreneurship	• Introduction to entrepreneurship • Understand fundamental concepts of entrepreneurship	Mini Cases: Class Discussion • How a Lack of Passion and Too Few Customers Can Kill a Business • Angry Birds and Zeo	IA: Presentations, assignments, group projects, case studies
2.	**Window of opportunity**	• The learners shall be able to ○ Understand concepts of 'idea', and opportunity recognition	• Recognizing Opportunities and Generating Ideas • Describe the three general approaches entrepreneurs use to identify opportunities • Identify the major environmental trends that are most instrumental		
			in creating business opportunities application of these concepts to local business scenario		
3.	**Feasibility Analysis**	• The learners shall be able to ○ Describe the purpose of a product/service feasibility analysis	• Be able to analyse feasibility analysis (sample cases) • Understand the importance of library, Internet, and gumshoe research		
4.	**Business Model Canvas**	• The learners shall be able to ○ Discuss the importance and relevance of a developing a business model	• Understanding of the concept of value proposition, value chain and core competency		

5.	**Preparing the Legal Foundation**	• The learners shall be able to ○ Construct a "skills profile" and explain how it helps a startup identify gaps in its new-venture team	• How to register a business in Pakistan • Discuss the differences among sole proprietorships, partnerships, corporations, and limited liability companies		
6.	**Marketing**	• The learners shall be able to ○ Analyse marketing, advertising and sales aspects of entrepreneurial venture	• Marketing Aspects • Building a Brand • Marketing Mix • Advertising and PR • Be able to suggest/devise marketing compaign for a new entrepreneurial venture		

FRONTIER MEDICAL COLLEGE ABBOTTABAD EXCELLENCE & INNOVATION

FEHM-E-QURAN II

Course Title: Understanding of Quran 2
Course Book: Muallim ul Quran (Volume 3 - 5)
Credit Hour: 3
Weeks: 16 (48 hours)

Course Learning Outcomes:

By the end of this course, students will be able to:

1. Directly comprehend hundreds of Quranic sentences & verses.
2. Understand at least 80 to 85 % of each page of the holy Quran.
3. Understand common verses across different Quranic topics.
4. Achieve proficiency in the basic and advance linguistic aspects of the Arabic language.
5. Understand the difference between Quranic verbs in various forms, such as present, past and imperative.
6. Develop the ability to understand long verses of the holy Quran independently and then comprehend their interpretation.

Provision of material, content and books:

- **Paper book**: All volumes are available in printed book form.
- **Tutorial videos:** Teaching video of each lesson available on YouTube.
- **Confirmation Videos:** A complete series of confirmation videos of all lessons is available in which the student can confirm his answers.
- **A flipbook:** A flipbook edition is also accessible.
- **Helping material:** Helping material for the teachers like quizzes, question papers and images is available on website.

Course Outline:

Weeks	Lectures	Units	Lessons	Assignments/Home Task	
1.	1.	6	6	Understanding & Translation of Verses	Present Tense صيغة جمع مذكر غائب مثل يعبدون
	2.	6	7-8	Understanding & Translation of Verses	Present Tense صيغة جمع مذكر غائب مثل يعبدون
2.	1.	6	9-10	Understanding & Translation of Verses	Present Tense صيغة مفرد مذكر مخاطب (تعبد) وجمع مذكر مخاطب (تعبدون)
	2.	6	11-12	Understanding & Translation of Verses	Present Tense صيغة جمع مذكر مخاطب (تعبدون) صيغة المتكلم (أعبد)

3.	1.	6	13	Understanding & Translation of Verses	Present Tense صيغة جمع المتكلم (نعبد)
	2.	6	14-15	Understanding & Translation of Verses	Negative Imperative صيغة المفرد وصيغة الجمع , لا تعبدْ، لا تعبدوا
4.	1.	6	16-17	Understanding & Translation of Verses	Conditional Sentences & masdar moawal (مصدر موؤل)
	2.	6	18-19	Understanding & Translation of Verses	Laam uttaleel (لام التعليل) & Laam ul jhood(لام الجحود)
5.	1.	6	20-21	Understanding & Translation of Verses	Present with object pronouns & Passive Voice
	2.	6	Revision (Unit 6)		
6.	1.	Unit 7	1 (sec 1-3)	Understanding & Translation of Verses	Past Tense صيغة المفرد الغائب
	2.	6	1 (Sec 4-5)	Understanding & Translation of Verses	Past Tense صيغة المفرد للغائب
7.	1.	6	1 (Sec 5-6)	Understanding & Translation of Verses	Past Tense صيغة المفرد للغائب
	2.	6	1 (Sec 7-9)	Understanding & Translation of Verses	Past Tense صيغة المفرد للغائب
8.	1.	7	Revision	Understanding & Translation of Verses	Past Tense صيغة المفرد للغائب
	2.	MID TERM			
9.	1.	7	2 (sec 1-2)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
	2.	7	2 (sec 3)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
10.	1.	7	2 (sec 4-5)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
	2.	7	2 (sec 6-7)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
11.	1.	7	3 (sec 1-2)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمتكلم عبدنا
	2.	7	3	Understanding &	Past Tense

			(sec 2-3)	Translation of Verses	صيغة الجمع للمتكلم عبدنا
12.	1.	7	3 (sec 3-4)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمتكلم عبدنا
	2.	7	3 (sec 4-5)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمتكلم عبدنا
13.	1.	7	4 (sec 1-2-3)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمخاطب عبدتم
	2.	7	4 (sec 4-5)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمخاطب عبدتم
14.	1.	7	5-6	Understanding & Translation of Verses	Past Tense صيغة المتكلم والمخاطب عبد ت ، عبد ْت
	2.	7	7	Understanding & Translation of Verses	Past Tense صيغة المؤنث للغائب عب ْدتْ
15.	1.	7	8	Understanding & Translation of Verses	Passive Voice (Past Tense) فعل مجهول للمفرد
	2.	7	9	Understanding & Translation of Verses	Passive Voice (Past Tense) فعل مجهول الجمع
16.	1.	8	1-4	Understanding & Translation of Verses	Imperative Verb for singular فعل الأمر للمفرد
	2.	7	5-8	Understanding & Translation of Verses	Imperative Verb for plural فعل الأمر للجمع

MEDICAL ANTHROPOLOGY

S. No	TOPIC/THEME	LEARNING OBJECTIVES	INSTRUCTIONAL STRATEGIES
1	**Introduction To Medical Anthropology**	• To compare the health and disease situation with an ecological and bio-cultural approach	Lectures, Case studies, Presentations
2	**History Of Health in Human Life**	• Discuss the differences and similarities between alternative and complementary medicine, ethno-medicine, • Discuss biomedicine • Discuss the significance of applied and policy making.	Lectures, Case studies, Presentations
3	**History Of Health in Human Life**	• Discuss the syntonic ways of medical anthropology	Lectures, Case studies, Presentations

4	**Theoretical Orientations In** **i. Medical Anthropology** **ii. Medical Ecology** **Bio Cultural Approach**	• 1. Able to recognize the difference between illness and disease	Lectures, Case studies, Presentations
5	**Theoretical Orientations In** **i. Medical Anthropology** **ii. Applied Medical Anthropology**	• Discuss solutions to improve health issues	Lectures, Case studies, Presentations
6	**Concepts Of Medical Anthropology and Cross Cultural Adaptations**	• Discuss emerging health issues	Lectures, Case studies, Presentations

7	**Mono Cultural (Ethnographic) Research and Cross-Cultural Research**	• Compare how gender, ethnicity, class, and sexual orientation inform health and disease outcomes	Lectures, Case studies, Presentations
9	**Culture: Human Development and Clinical Assessment**	• Conduct to analyse the health structure of community's research	Lectures, Case studies, Presentations
10	**Cultural Variations in Understanding Of Health Care**	• Analyse the links between biology and culture	Presentations
11	**Cultural Competence in Health Care**	• Discuss native's knowledge of health and disease	Lectures, Case studies, Presentations
12	**Concepts Of Medical Anthropology Popular, Folk, And Professional Health Care Sectors**	• Differentiate between the concepts Of Medical Anthropology in Popular, Folk, And Professional Health Care Sectors	Lectures, Case studies, Presentations

14	**Culture And Personality**	• Distinguish between various cultures and personality	Lectures, Case studies, Presentations
15	**Medical Ecology and Disease**	• Able to describe and analyse the transition to global health.	Lectures, Case studies, Presentations
16	**Healthcare System of World Presentations**	• Describe and analyse the transition to global health.	Lectures, Case studies, Presentations

LEARNING RESOURCES

RECOMMENDED BOOKS

Anatomy

1. K.L. Moore, Clinically Oriented Anatomy
2. B. Young, J.W. Heath Wheather's Functional Histology
3. Keith L. Moore. The Developing Human
4. Medical Histology by Laiq Hussain
5. Langman's Medical Embryology
6. Junqueira's Basic Histology
7. Clinical Anatomy by Regions - Richard S. Snell

Physiology

8. Arthur C. Guyton, John E. Hall., Textbook of Medical Physiology
9. Sherwood, Lauralee. Human Physiology: from cells to systems

Biochemistry

10. Robber K. Murray, Daryl K. Granner, Peter A. Mayes, Victor W. Rodwell. Harper's Biochemistry
11. Pamela C. Champe, Richard A. Harvey. Lippincott's Illustrated Review of Biochemistry

CHS

12. K. Park, Parks Textbook of Preventive & Social Medicine
13. Muhammad Ilyasetal, Community Medicine and Public Health
14. Kumza JW, Bohnenblust SE. Basic Statistics for the Health Sciences

Family Medicine

15. Oxford Handbook of Family Practice.

Frontier Medical and Dental College Abbottabad

Academic Calender 2026-2027

MONTHS, WEEK DAYS & DATES								SCHEDULED ACADEMIC & CO CURRICULAR EVENTS	PUBLIC HOLIDAYS/ HEALTH & AWARENESS DAYS
	SUN	MON	TUE	WED	THU	FRI	SAT	MBBS	
Jan-26					1	2	3	WINTER BREAK	
	4	5	6	7	8	9	10		
	11	12	13	14	15	16	17		
	18	19	20	21	22	23	24		
	25	26	27	28	29	30	31		World Leprosy Day 26th Jan
Feb-26	1	2	3	4	5	6	7		World Cancer Day 4th Feb
	8	9	10	11	12	13	14	Commencement of Modules IV, VII, X, XIII	Kashmir Solidarity Day 5th Feb
	15	16	17	18	19	20	21		
	22	23	24	25	26	27	28		Intl's Women's Day 8th Mar
Mar-26	1	2	3	4	5	6	7	Commencement of Module I Orientation Week	World Kidney Day 12th Mar
	8	9	10	11	12	13	14		World Disabled Day 15th Mar
	15	16	17	18	19	20	21		Eid ul Fitr 21st - 23rd March
	22	23	24	25	26	27	28		Pakistan Day 23rd March
	29	30	31						World Tuberculosis Day 24th Mar
Apr-26				1	2	3	4		Oral Cancer Awareness 1st April
	5	6	7	8	9	10	11		World Health Day 7th Apr
	12	13	14	15	16	17	18		Hemophilia Day 17th Apr
	19	20	21	22	23	24	25		World Liver Day 19th Apr
	26	27	28	29	30			End of Module IV, VII, X, XIII Exams	
May-26						1	2		Labour Day 1st May
	3	4	5	6	7	8	9	Commencement of Modules V, VIII, XI, XIV	Thalassemia Day 8th May
	10	11	12	13	14	15	16		
	17	18	19	20	21	22	23	End of Module I	Eid ul Azha 26th-28th May
	24	25	26	27	28	29	30	Commencement of Module II	Youme Takbeer 28th May
	31								World Tobacco Day 31st May
		1	2	3	4	5	6	Summer Break	
Jun-26	7	8	9	10	11	12	13		World Brain Tumor Day 8th Jun
	14	15	16	17	18	19	20		World Blood Donation Day 14th June
	21	22	23	24	25	26	27		Ashura Days 25th-26th June
	28	29	30					Extracurricural Activities/ Sports Week	
Jul-26				1	2	3	4		National Doctor's Day 1st July
	5	6	7	8	9	10	11		
	12	13	14	15	16	17	18		
	19	20	21	22	23	24	25		
	26	27	28	29	30	31			World Hepatitis Day 28th July
Aug-26							1		1st August Oral Hygiene Day
	2	3	4	5	6	7	8	End Moodular Exam V, VIII, XI,IV Exams	
	9	10	11	12	13	14	15	Commencement of Modules VI, IX, XII, XV	Independence day 14th Aug
	16	17	18	19	20	21	22		
	23	24	25	26	27	28	29	End Moodular Exam II	Eid Milad un-Nabi 25th August
	30	31						Commencement of Module III	
Sep-26			1	2	3	4	5		Defence Day 6th Sep
	6	7	8	9	10	11	12		Research Competition Sep
	13	14	15	16	17	18	19		World Patient Safety Day 17th sept
	20	21	22	23	24	25	26		World Alzeheimer's Day 21st Sep
	27	28	29	30					World Heart Day 28th Sep
Oct-26					1	2	3		Breast Cancer Month-October
	4	5	6	7	8	9	10		Intl Teacher's Day 5th Oct
	11	12	13	14	15	16	17		World Mental Health Day 10th Oct
	18	19	20	21	22	23	24		World Food Day 16th Oct
	25	26	27	28	29	30	31	End of Modules VI, IX, XII, XV Exams	World Osteoporosis Day 20th Oct
									World Polio Day 24th Oct
Nov-26	1	2	3	4	5	6	7		
	8	9	10	11	12	13	14		Iqbal Day 9th Nov
	15	16	17	18	19	20	21	Tentaive Date of MBBS Professional Exam End of Module III	World Immunization Day 10th Nov
	22	23	24	25	26	27	28		World Diabetes Day 14th Nov
	29	30							
									World AIDS Day 1st Dec
Dec-26			1	2	3	4	5		National Pollution Day 2nd Dec
	6	7	8	9	10	11	12	Tentaive Date of MBBS 1ST Professional Exam	Intl Universal Health Coverage Day 12
	13	14	15	16	17	18	19		

	20	21	22	23	24	25	26	Quaid's Day / Christmas Day 25 Dec
	27	28	29	30	31			
	Public Holidays							
	Health & Awareness Days							
	Modules & College Vocations							
Prepared By: DME								
Frontier Medical & Dental College								