



3rd Year MBBS

Fifteenth Batch: 2022-27

Module: VII, VIII & IX

STUDY GUIDE

2025



BAHRIA UNIVERSITY MEDICAL COLLEGE, BUHSCK

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MESSAGE FROM THE DESK OF PRINCIPAL & DEAN

Major General (R)

Prof Dr. Shehla M. Baqai HI(M)

MBBS, FCPS (Obstetrics & Gynaecology), FICS, MCPS-HPE

Bahria University Health Sciences Campus Karachi



Heartiest congratulations and welcome to the Bahria University Health Sciences. Selection in medical college is the evidence of sheer hard work, incessant struggle and relentless efforts towards achieving the goals. State of the art facilities and adroit faculty of this college will ensure smooth transition from medical student to a highly trained practitioner. The logical convergence towards the aim will be explained stepwise in the study guide which includes forthcoming activities, content and learning strategies.

The highly proficient teaching faculty will provide necessary guidance related to learning objectives, effective use of teaching tools and integrated teaching methods. The curriculum also includes small group interactive methods like Problem Based Learning (PBL) which is a modern and scientific teaching strategy. The study programs support social and moral development of a medical student besides achieving academic excellence. A team of highly trained and professional teachers act as mentors to guide students on social and academics related affairs.

The mandate of medical education is to equip medical professionals with requisite knowledge, skills and attitude. As a medical student it is expected of you to keep an exemplary character and honest morality. Plan and strive hard with full sincerity and devotion. This marks the beginning of your professional career where attitude defines your altitude and acts as a panacea in practical life.

I wish and pray a bright and successful future along with smooth sailing during your five-year stay at Bahria University Medical College, BUHSCK

Maj. Gen. Prof. Shehla M. Baqai HI(M)

Principal, BUMC & Dean-HS, BU

Bahria University Health Sciences

Campus Karachi

MESSAGE FROM THE DESK OF VICE PRINCIPAL

Dr. Khalid Mustafa,
MBBS, MPhil
Bahria University Medical College,
Bahria University Health Sciences Campus Karachi



Dear Students,

Welcome to the Bahria University Medical College, BUHSCK, where you will spend five years of your life in pursuit of knowledge.

This study guide will give you a road map for the forthcoming activities including the objectives, contents, learning strategies and assessment of your educational course; which we regard as essential. Use this study guide as a reference for your “Code of Conduct”. It gives policies and rules pertaining to examinations, electives, attendance and rotations etc.

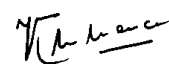
A competent team of experienced professional teaching faculty will guide you towards learning goals in different clinical settings through effective use of different tools of teaching and assessment. You will be encouraged to integrate your learning across the disciplines. Examination questions will not be confined to one discipline but we will assess your knowledge and understanding of i.e. surgery, anatomy, physiology, genetics and pathology simultaneously. Remember this when studying; because one book and one discipline will not suffice.

Teaching in wards, outpatient departments, clinics, problem solving interactive teachings, workshops and small group discussions will be used to help you learn and understand.

Medical science is rapidly changing on the basis of evidence; keeping abreast is our personal responsibility. Use the library frequently which has virtual access to thousands of journals and books through PERN (Pakistan Educational Research Network).

You as medical student are expected to demonstrate professional and responsible behavior towards your teachers, colleagues, health professionals and patients.

I wish all of you best of luck for your future and pray that you all work hard and make yourself and everyone around you, proud.



Dr. Khalid Mustafa
Vice Principal, Medical College
Bahria University Health Sciences
Campus Karachi

Bahria University Health Sciences was established in 2008. Twelve batches of students have passed out and received their MBBS degrees. The College has a beautiful custom built basic sciences wing which also houses the Dental College, an auditorium, a library, video link facilities, a skills laboratory and an advanced multi-discipline laboratory for doing research for M Phil leading to Ph.D. programs. The clinical teaching wing is PNS SHIFA, a tertiary care hospital which takes care of Armed Forces Personnel, their families, parents and civilian patients. There is a large variety of clinical cases for students to see and learn from. Emergency and intensive care facilities are available. About 1500 patients visit PNS Shifa daily. The outpatient departments in all disciplines are in full use and well organized. Where patients are seen promptly, investigations like laboratory tests, X rays and advanced imaging techniques are available on site. Patients are referred to the concerned department. Doctors work as a team to ensure best care of the patient.

Students will be taken on by teams of doctors and taught clinical management in the best possible setting i.e. the bedside of the patient, in the operation theatre, OPD, emergency room, ICU, CCU and labor room. They will also be taken into the community during their rotation with Community Health Sciences Department, the Students will be taught research methodology and expected to do research work. Students will be observed and continuously provided feedback to improve cognitive and professional skills and behavior. It is expected that students will make a seamless transit from basic sciences to clinical sciences. Each year is organized in 3 modules of 12 weeks each. Each module is assessed separately. It is mandatory for students to appear in the end of module tests or they will not be allowed to sit the annual examinations.

Basic Science Education is assessed at the end of 1st and 2nd year. Clinical training is spread over three years with frequent continuous assessments including end of rotation evaluation. The professional examinations Held in 4th year are Ophthalmology, Otorhinolaryngology (ENT), Medicine, Surgery, Gynecology & Obstetrics, and Pediatrics, are held in the final year (5th Year). In clinical programs, medical students will spend a designated number of hours in clinical settings of various disciplines including medicine, surgery, pediatrics, gynecology & obstetrics, ENT and ophthalmology Medical students will be required to maintain BUHS “Log Book” a record of their learning activities throughout the clinical years from 3rd to 5th year. The BUHS Log Book is also to be used for case discussions and assessment.

Strictly prohibited!

**Use of mobile phones in
teaching sessions, wards,
clinics, examination halls**

BUHSCK GUIDE

The Study guide serves as a useful handy resource, helping you to navigate your journey at the Health Science Campus

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 Bahria University are expected to follow.

Vision Statement

To become a knowledge and creativity-driven international university that contributes towards the development of society.

Mission Statement

To produce medical professionals who are humane, ethical and competent physicians and researchers by ensuring excellence in medical education, applied research and practices, in a collegiate environment supported through national and international linkages, to improve the health of community and society.

OUTCOME OF THE MBBS PROGRAM:

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

1. Recognize signs and symptoms of common illnesses in population of different ages from different settings, and provide cost effective treatment to alleviate suffering
2. Recognize signs and symptoms of chronic and acute illnesses, and refer to appropriate health care provider for appropriate management
3. Obtain accurate medical history that covers essential aspects of history that relates to individual's health
4. Conduct a complete and focused physical examination in adults and children in a respectful and logical manner
5. Communicate effectively with patients, relatives, attendants to gather accurate information that will lead to appropriate diagnosis and treatment
6. Demonstrate teamwork with colleagues, health care team in both college and health care settings
7. Perform procedures and skills in accordance with established protocols and standards
8. Counsel on health promotion to improve the health of individuals, and families including marginalized population
9. Inculcate and demonstrate ethical and moral values in patient care, research and professional development
10. Develop life-long learning skills to keep pace with the exponential growth of information in the field of sciences relevant to health of the individual and population at large
11. Engage in research activity aimed at improvement of quality of health care including behavior modification of individual and community for quality life.

COMPETENCIES

The graduate doctor must be a:

Care provider

Provide care on ethical principles in different settings, emergencies; applies scientific principles of basic, clinical and behavioral sciences to formulate diagnosis; suggest essential investigations, cost effective drugs for treatment. Perform physical examination, basic skills, procedures according to protocol.

Communicator

Interview patients, families skillfully to gather information for formulating diagnosis, treatment; counsel patients, families, communities on health maintenance and promotion; communicate effectively with health care team including peers, supervisors

Advocate for health promotion

Counsel individuals, families, communities on improved lifestyle; maintenance and promotion of health

Professional

Value and Display behaviors befitting to the profession such as honesty, empathy, punctuality, patience, respect for patients and their families, colleagues; accepting one's limitations

Critical thinker

Engage in research projects, assignments, surveys. Search for evidence; analyze facts, data, pros and cons to identify and solve problems. Reflect and write articles, short notes, commentaries.

Lifelong learner

Seek and update knowledge from multiple sources; Consult scientific evidence including journals, web-based knowledge and others; discussion with scholars, practitioners, colleagues; reflection; participation in activities; continuously improve computer skills

Team Worker

Respect and value the contribution of the health team; collaborate with the team to provide efficient patient care.

POLICIES AND COMMITTEES

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

Student's Code of Conduct

Every student shall observe the following code of conduct in the University premises, in the University administered hostels (on and off-campus) and places of other activities being held under the auspices of the University:

- Loyalty to Pakistan and refraining from doing anything which is repugnant to its honor and prestige in any way.
- Respect for convictions and traditions of others in matters of religion, conscience and customs while observing own religious duties/customs.
- Truthfulness and honesty in dealing with other people.
- Respect for elders and politeness to all, especially to women, children, elders, the weak and the helpless.
- Special respect for teachers and others in authority in the CUs and BU.
- Cleanliness of body, mind, speech and habits.
- Helpfulness to fellow beings.
- Devotion to studies and prescribed co-curricular activities.
- Observance of thrift and protection of public property.
- Observance of the rules and regulations of the CU in force from time to time.

Prohibited Acts & Misconduct/Ill-Discipline

The following acts shall be unacceptable, and their commission shall be construed as misconduct or ill-discipline:

- Breach of the Code of Conduct.
- Smoking in the areas prohibited by the University.
- Consumption or possession of alcoholic drinks or other intoxicating drugs within the CU/ vicinity or while attending off-site instructions, sports, cultural tours or survey camps.
- Organizing or taking part in any function inside the campus, or organizing any club or society of students, except where permitted and in accordance with the prescribed rules and regulations.
- Collecting donations or receiving funds or pecuniary assistance for or on behalf of the CU except with the written permission of the Head of the CU or any other person authorized in this behalf.
- Staging, inciting or participating in or abetting any walk-out, strike or other form of agitation against BU, its CUs or students, teachers, officers or authorities; inciting others to violence; disruption of the peaceful atmosphere in any way; making inflammatory speeches or gestures which may cause resentment; issuing of pamphlets or cartoons which cast aspersions on the students, teachers, staff or University authorities/bodies; doing anything in a way likely to promote rift and hatred amongst the students; issuing statements in the press; making false accusations against or lowering the prestige of BU or its students, teachers, administrators, staff or bodies.
- Disobeys the lawful orders of a teacher or other person in authority.
- Habitually neglects work or absents from the classroom without valid reason.

- Willfully damages public property or the property of fellow students or any teacher or employees of BU and its CUs.
- Does not pay the fees, fines, or other dues payable under the laid down rules and regulations; uses indecent language; wears immodest dress; makes indecent remarks; gestures; behaves in a disorderly manner; commits any criminal, immoral or dishonorable act (whether committed within the CU or outside) or any act which is prejudicial to the interests of BU and its CUs; and/or
- Commits an act of sexual harassment, as defined in the HEC's document 'Policy Guideline against Sexual Harassment in Institutions of Higher Learning'.

Action against Misconduct

Every member of the faculty shall have the power to check any disorder or improper conduct, or any breach of the rules, by students in any part of the campus or outside when the visit is sponsored or organized by it. Misconduct in a classroom when a student is under the charge of a teacher shall not be allowed and a punitive action such as a fine, removal from the classroom or a punishment of greater magnitude may be imposed as decided by the authority so empowered. The Student Advisor, the Admin Officer or any other employee authorized by the Head of the CU shall be responsible for the maintenance of good behavior and law and order amongst the students on the premises of the CU.

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	Director
3	Expulsion from educational visits and sports tours	DD (Admin & Coord) or an officer authorized by the Head of the CU	Director
4	Suspension from classes for a period not exceeding two weeks	Director/ Principal	Head of the CU
5	Monetary penalties	Director/ Principal	Head of the CU
6	Removal from a position of authority on the advice of the Student Advisor / HOD	Director/ Principal	Head of the CU
7	Expulsion from the hostel	Head of the CU	Next Higher Authority
8	Cancellation of remission of fees/assistantship/scholarship etc.	Head of the CU	Next Higher Authority
9	Rustication for one or more semester	Head of the CU with concurrence of BUHO	Rector
10	Expulsion from the CU	Head of the CU with concurrence of BUHO	Rector

Procedure In case of breach of discipline:

A teacher, a staff member or a BU Officer 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/Head of the CU/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 the CU.

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 of the CU, 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 the CU/University, public authority, a fellow student or an employee of the CU/University, 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 the CU 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 Jeans(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 BUHSC 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 the University after payment of fine.

Personal behavior

The University 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 BUMC 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 (e.g., pagers, iPods) 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 BUMC 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 University campuses have well stocked libraries, 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 University 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- FRI	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 cafeterias 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

Members of the committee

Chairperson	Brig (Retd) Prof. Syed Pervez Asghar, BUMC
Secretary	Dr. Jaweria Zeeshan, BUMC
Members	<ul style="list-style-type: none">• Prof. Dr. Khalid Aziz, Principal, BUCPT• Prof. Dr. Ahmed Omer, BUDC• Prof. Dr. Yasmeen Mehar, BUMC• Sr. Associate Prof. Abida Razzaq, VP PNNC
Co-opted member	Varies according to the case

Students are to avoid the following:

- Unauthorized use of University's name or logo which is property of university.
- Harassment, sexual or otherwise, or intimidation of any member of university.
- Coming late for classes. The student may be considered absent and marked accordingly.
- Improper/inappropriate dress
- Loud and aggressive behavior in Cafeteria or Common rooms or within the premises of BUHS or PNS Shifa.
- 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

- Use of mobile phone for photography at cafeteria is restricted.
- Library is 'NO Mobile Zone' area.
- Use of mobile in class room is prohibited.
- Students are not allowed to use mobile phone for photography/ video capturing during farewell parties.
- 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.

Student guilty of an act of possession/ consumption/ usage/ supplying of intoxication drugs/ Alcoholic drinks in premises of CU and or entering CU or events of BU being intoxicated and or during official/ informal offsite events of the University shall be liable to expulsion from the CU.

Criminal conviction

- Applicants are required to inform BU of any criminal conviction. Full details are to be provided.
- The University reserves the right to refuse admission to any applicant with a criminal conviction that may jeopardize the reputation of the University.
- Failure to declare any criminal conviction by a student already enrolled in BU 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 respective Campuses/CUs

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, as per 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 in Bahria University.

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 BUHSCK

FOCAL PERSONS	
Prof. Dr. Khalid Mustafa Vice Principal, BUMC Professor of Pharmacology	Cell 0300-21 30868 Phone: 021-35319491-9, ext: 1038 & 1070 Email: khalid.bumdc@bahria.edu.pk drkhaidmm@yahoo.com
Prof. Dr. Shazia Shakoor HOD, Physiology	Phone: 021-35319491-9 Ext: 1056 Email: shazia.bumdc@bahria.edu.pk shazia2304@hotmail.com
INQUIRY COMMITTEE	
Prof. Shama Asghar, Chairperson Professor of Operative Dentistry Chairperson	Cell 0334-3078082 Phone: 021-35319491-9 ext: 1121 Email: sham.burndc@bahria.edu.pk sham.asghar24@gmail.com
Prof. Dr. Nasim Karim Principal, BUHS-PGI HOD Pharmacology Member	Cell 0332-3151774 Phone: 021-35319491-9, ext: 1057 & 1072 Email: nasimkarim.bumdc@bahria.edu.pk
Dr Aini Samreer Sr. Associate Professor, Gyn & Obs Member	He 0333-3763592 Phone: 021-35319491-9 ext: 1064 Email aini.bumdc@bahria.edu.pk drsam222@yahoo. Com
APPELLATE BODY	
Capt (R) Noaman Imam PN Director Campus Chairman	Cell 0336-9369222 Phone: 021-35319491-9 Ext: 1001 Email: dac.burndc@bahria.edu.pk
Prof. Farzeen Tanwir Vice Principal, BUDC HOD Periodontology Member	Cell 0336-1802464 Phone: 021-35319491-9 Ext: 1104 Email: farzeentanwir21@ gmail.com
Prof. Saifullah Shaikh Professor of Physiology Member	Cell 0333-2279425 Phone: 021-35319491-9 Ext: 1066 Email: dr.saif74@yahoo.com

Code of conduct for protection against harassment of woman at the workplace

1. An informal approach to resolve a complaint of harassment may be through 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 feels that its needs to be complainant, the case can be taken as a formal complaint.
4. A complainant does not necessarily have to make a complaint of harassment through the informal channel. She can launch a formal complaint at any time.
5. 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 violates 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), at CU level for each department, 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 CU.
- b) HOD.
- c) CU 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, practicals, 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 BUMC.

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.

The University 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.

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

RESEARCH

BU 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.

BUHSC 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.

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,XII,**
- **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 (including Dermatology and Psychiatry),
 - Surgery (including Orthopedics, Urology, Anesthesiology and Radiology)
 - Pediatric medicine
 - Obstetrics and Gynecology

You will be taught clinical subjects from first 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, gyne/obs and pediatrics will be counted from third year.** You will also be taught ethics, Islamiat and communication skills learning objectives for each module are written down in the study guide.

A weekly schedule is placed on the notice board

LEARNING METHODS

Following Learning Strategies encourage active learning

- PBL
- PSIL

- Journal Club
- Interactive lecture,
- Practicals,
- 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 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.

ASSESSMENT POLICY

The student at BUHS 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 consists 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

For all examinations of MBBS courses the percentage of passing marks in each subject shall be 65% i.e. 65 % in theory and 65% in practical.

Portfolio for clinical students

- Written and corrected histories must be submitted each year. Eight histories each in 3rd and 4th year and 12 in Final years in each subject.

- Logbook of cases seen or presented in the ward clinics, duly signed and dated by the teacher.
- Portfolios of cases seen in the labor room, operation theatre and emergency and trauma will be maintained by the student which will be assessed and graded by the supervisor.

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 during the 3rd or 4th Year.
- The Elective will be planned during the SUMMER 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 BUHS.
- 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 vice principal.
- 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 Bahria University
- 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 BUHS. 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.
- BUHS will not provide any financial assistance for the elective.

Student affairs and student assist programs.

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 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.

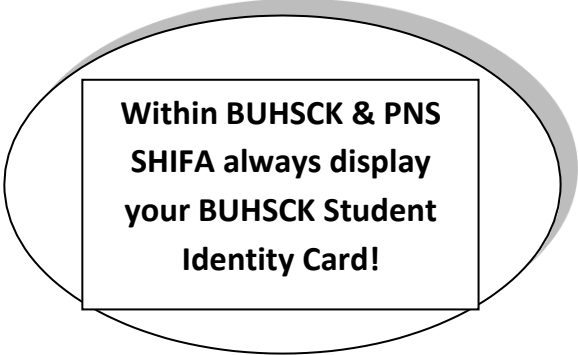
Liaison with parents

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.

CLUBS FOR EXTRACURRICULAR ACTIVITIES

Different clubs for extracurricular activities are established for students to participate.

1. Literary and debates society
2. Arts and dramatics society
3. Adventure club
4. Event club
5. Community support club
6. Sports club
7. Media club
8. Music club



**Within BUHSCK & PNS
SHIFA always display
your BUHSCK Student
Identity Card!**

WHOM TO CONTACT?

Administration BUMC

Prof. Dr. Khalid Mustafa, Vice Principal

Prof. Dr. Saifullah Shaikh, Academic Coordinator

Brig. (R) Shahid Ali Khan, Clinical Coordinator, BUMC

Prof. Dr. Yasmin Taj, Head of Attendance Department.

Surg. Cdre. Dawood Ahmed, Liaison Officer, PNS SHIFA

Ms. Marvi Bhutto, Chairperson, Student Affairs



Smoking is strictly prohibited!

MENTORING SESSION

BUHSCK has student assisting programs such as mentoring. Mentors have been already assigned at the start of the teaching program in 1st year. The students will meet the assigned mentor in the mentor's office to discuss academic, non-academic, experiences, problems for advice and guidance

Mentors	Supervisors	Program Manager
Dr. Jawaria Zeeshan, Anatomy	Dr. Kamran Yousuf, Pharmacology	Maj. Gen. (R) Prof. Shehla M. Baqai HI(M) Principal/ Dean
Dr. Shiza Khan, Pharmacology		
Dr. Arooba Akram, Anatomy		
Dr. Afsheen Zehra, Biochemistry	Prof. Yasmeen Mahar, Anatomy	
Dr. Areeba Younus, Anatomy		
Dr. Ayesha Ayaz, CHS		
Dr. Zakia Amir, Physiology		
Dr. Madiha Fiaz, Biochemistry	Prof. Saifullah Shaikh, Physiology	
Dr. Misbah Riaz, Biochemistry		
Dr. Arif Ashir, Pharmacology		

Following will be the meeting schedule:-

<u>Meeting</u>	<u>Duration</u>	<u>Summary submitted to</u>
Mentors (12 minutes with each student)	2 hours / week	Program
ManagerSupervisors (with the mentors)	1 hour / fortnightly	
Program Manager (with supervisors)	Last Friday of every month	

Following students will be supervised by mentors as follows:-

S.No.	Senior Mentor	Mentors	Roll Numbers
1	Dr. Kamran Yousuf, Pharmacology	Dr. Jawaria Zeeshan, Anatomy	1817 - 1831
2		Dr. Shiza Khan, Pharmacology	1832 -1846
3		Dr. Arooba Akram, Anatomy	1847 - 1861
4	Prof. Yasmeen Mahar, Anatomy	Dr. Afsheen Zehra, Biochemistry	1862 - 1876
5		Dr. Areeba Younus, Anatomy	1879 - 1891
6		Dr. Ayesha Ayaz, CHS	1892 - 1906
7		Dr. Zakia Amir, Physiology	1907 - 1921
8	Prof. Saifullah Shaikh, Physiology	Dr. Madiha Fiaz, Biochemistry	1922 -1936
9		Dr. Misbah Riaz, Biochemistry	1937 - 1951
10		Dr. Arif Ashir, Pharmacology	1952 - 1966

INTRODUCTION TO DEPARTMENTS

- Pharmacology
- Pathology
- Forensic Medicine

Department of Pharmacology

S.No	Name	Designation
1.	Prof. Dr. Nasim Karim	Senior Professor / HOD
2.	Prof. Dr. Khalid Mustafa	Senior Professor / Vice Principal,
3.	Prof. Dr. Syed Ijaz Hussain Zaidi	Senior Professor
4.	Prof. Dr. Talea Hoor	Senior Professor
5.	Dr. Ayesha Khan	Sr. Asst. Prof
6.	Dr. Mehar Fatima	Sr. Asst. Prof
7.	Dr. Kamran Yousuf	Sr. Asst. Prof.
8.	Dr. Mehwish Mansoor	Assistant Professor
9.	Dr. Shizma Junejo	Assistant Professor
10.	Dr. Ghazal Raza	Assistant Professor
11.	Dr. Syeda Hafiza Afsheen Nazar	Senior Lecturer
12.	Dr. Sameera Pervaiz	Senior Lecturer
13.	Dr. Arif Ashir	Lecturer
14.	Dr. Syed Ahsan Jamal	Lecturer
15.	Dr. Shiza Khan	Pharmacist

Department of Pathology

S. NO	FACULTY NAME	DESIGNATION
1	Prof. Dr. Yasmeen Taj	Senior Professor / HOD
2	Prof. Dr. Naveed Faraz	Senior Professor
3	Prof. Dr. Summayya Shawana	Senior Professor
4	Dr. Shaista Bakhat	Associate Professor
5	Dr. Santosh Kumar	Associate Professor
6	Dr. Hadia Khursheed	Assistant Professor
7	Dr. Sadia Arif	Assistant Professor
8	Dr. Hira Faisal	Senior Lecturer
9	Dr. Maria Ali	Senior Lecturer
10	Dr. Erum Khaliq	Senior Lecturer
11	Dr. Kiran Saleem	Lecturer
12	Dr. Khawar Abbas	Lecturer
13	Dr. Zara Akram	Lecturer

Department of Forensic Medicine

S. NO	FACULTY NAME	DESIGNATION
1	Dr Jalil Qadir	Sr. Assistant Professor
2	Dr Huma Mumtaz	Assistant Professor
3	Dr Abdul Haque Arain	Senior Lecturer
4	Dr Imdad Ali	Senior Lecturer
5	Dr Dost Muhammad Hulio	Senior Lecturer
6	Dr Haya Farrukh	Lecturer

CURRICULUM GUIDELINES

Module VII	Cell Injury, Inflammation, General and Special Bacteriology Pain Relief and Medico Legal Procedures
Duration	12 weeks

Module VIII	Coagulation Disorders, Infections and Tumors with their Treatment Causes of Unnatural Death with Tissue changes, Special Bacteriology and Virology
Duration	12 weeks

Module IX	Basic and Applied Immunology, Parasitic and Mycotic Diseases, Genetics; Hormonal Therapy; Medico Legal aspect of Sexual Offences and Toxicology
Duration	12 weeks

Module-VII

Cell Injury, Inflammation, General and Special Bacteriology Pain-Relief and Medico Legal Procedures

Course Content

General pathology/microbiology/pharmacology/toxicology Cell injury/adaptations/inflammation, diseases caused by inflammation-chronic and acute/wound healing Analgesics/anti-inflammatory-steroidal and non-steroidal agents/immune suppression/legal procedure/traumatology

Course Learning Outcomes

1. Understand Core Biological Mechanisms and Laboratory Diagnostics

Recognize the essential structure and function of bacterial cells, including growth, genetics, resident flora, and pathogenesis. Apply this understanding in laboratory settings to diagnose diseases, considering antibiotic resistance and vaccines while following established protocols and standards.

2. Analyse Pathophysiological and Pharmacological Processes

Describe and correlate fundamental pathological concepts such as cell injury, adaptation, inflammation, and wound healing. Integrate knowledge of pharmacokinetics and pharmacodynamics to interpret drug actions, particularly those affecting the autonomic nervous system and pain, and assess factors influencing drug interactions within the human body.

3. Apply Forensic Principles in Clinical and Legal Contexts

Interpret fundamental concepts of forensic medicine, with an emphasis on legal procedures, trauma assessment, and medicolegal responsibilities within the Pakistani legal system.

Objectives

1. Describe drug development, preclinical & clinical trials of drugs
2. Recognize importance of rational prescribing of drugs.
3. Differentiate and compare different cellular adaptive responses along with examples.
4. Describe the stepwise mechanisms for cell injury caused by hypoxia, ischemia, reperfusion and free radicals.
5. Differentiate between reversible and irreversible cell injury based on morphological changes in the different morphological patterns of Necrosis.
6. Explain the mechanisms of apoptosis with the help of flow diagrams.
7. Describe the morphological changes and clinical consequences of different intracellular accumulations (lipids, glycogen, pigments)
8. Differentiate between dystrophic and metastatic calcification based on underlying cause and morphological appearance.
9. Compare dystrophic and metastatic calcification based on underlying cause and morphological appearance.
10. Differentiate between self-inflicted, defense wound, or wounds produced by criminal intent
11. Describe medico legal aspects of different mechanical injuries
12. Compare and contrast between ante-mortem and postmortem wounds
13. Describe the causes of death and methods of dating of wound
14. Describe the medico legal aspect of chest, abdominal and neck injuries
15. Identify the injuries caused by firearm and estimate the distance between firearm and body
16. Describe the precautions adopted in autopsy procedure and preservation of bullets in death from firearms
17. Explain the various types of skull fractures and coup and counter coup injuries with

examples

18. Discuss the role of forensic expert in explosive (blast) injuries
19. Describe the injuries caused by road traffic accidents to pedestrians, vehicle occupants and motor cyclists.
20. Interpret the nature of injuries in the light of Qisas and Diyat Ordinance 1991
21. Discuss medico-legal aspect of injury and death caused by starvation, cold, heat, electricity, lightning & Burns.
22. Discuss the classification, effects and postmortem appearance of burns
23. Discuss the role of a medical officer handling a case of death due to burns
24. Describe the common pathological features of all types of non –accidental violence in the family e.g. Child abuse/ battered baby and laws related to it.
25. Associate different routes of administration of drugs with their advantages and disadvantages
26. Infer the principles and factors affecting absorption, distribution, metabolism and excretion of drugs
27. Calculate bioavailability of drug, volume of distribution, clearance, half-life and extraction ratio from the given data
28. Articulate the principles and factors affecting the mechanism of action, actions & adverse effects of drugs
29. Describe various types of drugs- receptor interactions
30. Interpret various types of dose-response curves.
31. Categorize the principles governing Drug-Drug interactions.
32. Plot the given values on the graph paper and calculate therapeutic index and therapeutic window from it
33. Interpret competitive, non –competitive antagonist and antagonism on the given graphs
34. Recognize & diagnose various types of adverse Drug reactions
35. Deduce drug treatment of various types of adverse Drug reactions
36. Differentiate b/w drug and poison
37. Describe the classification, administration, elimination and factors affecting action of poison
38. Discuss the role of a doctor in the management of poisoning
39. Discuss the analytical procedure to screen a poison in a forensic lab
40. Elaborate the actions of local and systemic chemical mediators of inflammation with the vascular and cellular changes seen in inflammation
41. Recognize and differentiate the different morphological patterns of acute inflammation.
42. Describe chronic granulomatous inflammation with regards to the underlying mechanism, morphological appearance, cellular response and clinical management.
43. Discuss the effects of different cytokines in the acute phase responses.
44. Contrast the mechanism of wound healing by primary and secondary intention based on morphological appearance and clinical response
45. Relate the effects of different local and systemic factors to delay in wound healing
46. Describe abnormal wound healing based on underlying abnormality of repair process
47. Discuss the overview of general bacteriology.

48. Discuss the significance of medically important bacteria on the basis of their classification.
49. Describe the structure of bacterial cell wall.
50. Correlate pathogenesis of bacteria with host defenses.
51. Correlate the bacterial genes to cause antibiotic resistance.
52. Explain antimicrobial drug stewardship.
53. Explain the normal flora as permanent residents of certain body sites.
54. Describe the types and principles of sterilization.
55. Discuss the effectiveness of bacterial vaccine
56. Describe the growth cycle of bacteria and their response to antibiotic during growth cycle
57. Describe the types and principles of disinfection.
58. Describe the pathogenesis, clinical presentation, diagnosis of staphylococcus.
59. Describe the pathogenesis, clinical presentation, and diagnosis of streptococcus.
60. Describe the pathogenesis, clinical presentation and diagnosis of Gram-negative cocci.
61. Describe the pathogenesis, clinical presentation and diagnosis of Gram-positive sporeforming rods.
62. Discuss the pathogenesis, clinical presentation and lab diagnosis of non-spore forming Grampositive rods.
63. Explains the ethical principles by telling the laboratory procedure to make patients diagnosis.
64. Describe the mechanism of action, clinical uses & adverse effects of steroidal anti-inflammatory drugs (glucocorticoids)
65. Describe the mechanism of action, clinical uses & adverse effects of non-steroidal anti-inflammatory drugs
66. Describe the mechanism of action, clinical uses & adverse effects of drugs acting on opioid receptors (μ , κ , λ , δ)
67. Describe the prophylactic and acute treatment of Migraine
68. Diagnose & differentiate common types of arthritis
69. Describe drug treatment of rheumatoid arthritis, osteoarthritis & gout
70. Describe the various types of law and relation with medicine
71. Discuss the ethics of professional behavior of a doctor
72. Describe the various types of inquiry of all unnatural deaths
73. Discuss the power and sentence authorized to Pakistani Courts
74. Describe the types of witnesses, evidence and procedure of recording medical evidence in the court.
75. Describe the protocol of appearance in the courts
76. Discuss the constitution and functions of PMC (Pakistan Medical Council) including the privileges and obligations of a registered medical practitioner.
77. Discuss professional misconduct, professional secrecy, privileged communication and medical negligence
78. Discuss the ethical principles in medical examination, including the importance of obtaining consent.
79. Describe the mechanism, action, clinical uses and adverse effects of drugs acting on receptors of parasympathetic nervous system (Muscarinic, nicotinic)
80. Discuss the clinical features and medicolegal importance of poisoning by organophosphate

- compounds (insecticides)
83. Describe the mechanism, actions, clinical uses and adverse effects of drugs acting on receptors of parasympathetic nervous system (muscarinic, nicotinic)
 84. Discuss the clinical features and medico legal importance of poisoning by organophosphate compounds (insecticides)
 85. Describe the mechanism, actions, clinical uses and adverse effects of drugs acting on receptors of sympathetic nervous system (alpha, beta, dopamine)
 86. Discuss the diagnosis and management of Bronchial Asthma
 87. Describe the drug treatment of Bronchial Asthma
 88. Prescribe treatment of simple cough
 89. Describe the various types of law and relation with medicine
 90. Discuss the ethics of professional behavior of a doctor
 91. Describe the various types of inquiry of all unnatural deaths
 92. Discuss the power and sentence authorized to Pakistani Courts
 93. Describe the types of witnesses, evidence and procedure of recording medical evidence in the court.
 94. Describe the protocol of appearance in the courts
 95. Discuss the constitution and functions of PMC (Pakistan Medical Council) including the privileges and obligations of a registered medical practitioner.
 96. Discuss professional misconduct, professional secrecy, privileged communication and medical negligence
 97. Discuss the ethical principles in medical examination, including the importance of obtaining consent.
 98. Discuss the clinical features and medicolegal importance of poisoning by organophosphate compounds (insecticides)
 99. Understand different methods for making instrument and surfaces to be used free from microorganism
 100. Understand the interventions to control the communicable diseases in daily routine life as well as in catastrophic situation

WHO Protocol of Diarrhea
Chicken Pox
Poliomyelitis
Dysentery
Typhoid
Accident and emergencies
Disaster Management
Cholera

101. Establish a therapeutic and professional relationship with patients and their families. Explore their own competence with regards to the dimensions of difference in opinion and attitudes.
102. Demonstrate caring, compassion, empathy and respect

PLOs	CLO	Subject	Pathology	Pharmacology	Forensic Med	Com/LS/PR & Eth	Assessment	
1	(pharma) 3	Lecture	3,4,5,7,40,41, 43, 44, 46,47, 49,50, 54,57,58, 59, 60, 62 6, 8, 9, 41, 42, 49, 53, 54, 55, 56, 57, 64, 65	1, 26, 28, 29, 31, 34,35,36,37 66, 67, 68, 69,70,71 81, 83, 85,86, 88	13, 14, 15, 19, 24, 25, 37, 38, 39, 70, 71, 72, 73, 74, 75, 77, 78, 79, 80, 85, 86		MCQ/SEQ	OSPE
							1, 2, 26, 28, 29, 31, 64, 65, 66 79, 80, 81, 84 3,4,5,7,40,41 43,44,46,48-50, 51, 52-53,54, 55-59-62 6, 8, 9, 41, 42, 48, 49, 51, 54, 60, 61, 62 24, 36, 37, 38, 39, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 88	2, 27, 30, 32, 34, 45, 46 45, 46 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23,97,63
		Interactive/SGD	48,51,52, 55, 56,61,63	25, 27, 30, 32, 33	10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 23, 26, 80,			
		CBL	45,46, 50	69, 87, 71		89, 90, 91		
		PBL	3,4,5,7,40,41, 43,44,46,48, 51,52, 60, 63	2, 34, 35				
		Assignment						

LAB SKILLS / PRACTICALS MODULE – VII

PHARMACOLOGY:

1. Identify the sources of drugs
2. Comprehend basic pharmacological terminologies
3. Identify the pharmaceutical preparations. (Part-1)
4. Identify the pharmaceutical preparations. (Part-2)
5. (a) Identify the units of weights and measures belonging to different systems
(b) Interconvert the units of weights & measures
6. Identify the different routes (I/V, I/M, S/C, I/P, I/D, topical) of drug administration in laboratory animals (mice, rat, rabbit, frog)
7. (a) Prepare one percent stock solution of KMnO_4
(b) Find out the ingredients needed to prepare 100 ml of 0.01 % solution of KMnO_4 from a stock solution of 1% strength
8. Calculate the drip rate in adults and children
9. Find out the amount of the ingredients needed to prepare 60ml of 5% dextrose in normal saline solution
10. Calculate the dose of drugs in adults & children
11. Study the given case 1 and discuss it in small group session
12. Study the given case 2 and discuss it in small group session
13. Application of statistics in biological experiments

Pathology:

Identify and describe the gross morphological features of following:

1. Hyperplasia (Prostate)
2. Atrophy (Uterus, kidney)
3. Hypertrophy (Heart)
4. Infarction (Bowel)
5. Caseation necrosis (Lymph node)
6. Gangrene (intestine)
7. Calcification (uterus)
8. Acute Inflammation (Appendix)
9. Chronic Inflammation (Gall Bladder)

Identify and describe the microscopic features of following:

1. Hyperplasia (prostate, endometrium)
2. Hypertrophy (heart)
3. Metaplasia (esophagus)
4. Coagulative necrosis (kidney)
5. Liquefactive necrosis (brain)
6. Caseation necrosis (Lymph Node)
7. Fatty change (Liver)

8. Hemosiderosis (liver)
9. Calcification
10. Acute inflammation (appendix)
11. Chronic inflammation (Gall bladder)
12. Chronic granulomatous inflammation (Lymph Node, Intestine)

Microbiology

1. To study different parts of a compound microscope and their functions
2. To study and perform procedure of simple staining and study the morphology of bacteria
3. To study and perform Gram staining
4. To study various types of culture media
5. To perform and observe antimicrobial drug sensitivity and resistance
6. To study various biochemical reactions and their interpretations.

Forensic Medicine:

1. Prepare a medico legal report of an injured person
2. Identify the weapons of assault and major injuries caused by these weapons
3. Identify firearms and various parts of its cartridges
4. Prepare a medico legal report of a case of suspected poisoning
5. Identify aspirin by physical and chemical methods
6. Identify Acetaminophen (Paracetamol) by physical and chemical methods
7. Interpret the nature of injuries in the light of Qisas and Diyat Ordinance 1991
8. Explain the various types of skull fractures in detail.
9. Discuss the classification, effects and postmortem appearance of burns

Module- VIII

**Coagulation Disorders, Infections and
Tumors with their Treatment**

**Causes of Unnatural Death with Tissue
changes, Special Bacteriology and Virology**

Course Contents

Dynamics of intra and extra vascular compartments including shock & thrombosis and their treatment/diseases caused by bacteria & viruses and drugs used in their treatment principles of neoplasia and anti-cancer drugs/disease processes causing dyspepsia, dysphagia, constipation, diarrhea & their treatment/thanatology/autopsy/infanticide/asphyxia death/corrosive irritants/cardiac poisons

Course Learning Outcomes

4. **Demonstrate Integrated Knowledge of Infectious Diseases and Treatment Strategies**
Recognize the clinical presentations, laboratory diagnostic techniques, and preventive measures for bacterial and viral infections. Correlate microbial pathogenesis with pharmacological interventions, particularly the use of antimicrobial drugs, to effectively manage and treat infectious diseases.
5. **Analyse Pathophysiological Processes and Therapeutic Approaches**
Relate key pathological concepts, including fluid dynamics within vascular compartments, shock, thrombosis, and neoplasia, to appropriate therapeutic interventions. Apply knowledge of pharmacology to understand the mechanisms of anti-cancer drugs and treatments for gastrointestinal disorders such as dyspepsia, dysphagia, constipation, and diarrhea.
6. **Apply Forensic Principles in Medical and Legal Contexts**
Discuss foundational forensic topics, including thanatology, autopsy, infanticide, asphyxia, corrosive irritants, and cardiac poisons. Interpret these principles in relation to medico-legal investigations and procedures, ensuring alignment with ethical and legal standards.

Objectives

103. To understand the different virulence factors that help different bacteria to invade immune system of host
104. To write out different laboratory investigation and clinical features to find out bacteria involve in infection
105. Compare the pathophysiologic categories of edema based on underlying mechanism and clinical features.
106. Relate the abnormalities of normal hemostasis with the development of thrombosis and its clinical consequences.
107. Compare different types of emboli based on underlying cause and clinical presentation.
108. Differentiate between the various types of infarcts according to the mechanism of development, morphological features and clinical consequences.
109. Describe the types of shock as regards their etiology, pathogenesis and management.
110. Describe the drugs used in the treatment of heart failure and fluid retention.
111. Discuss the drug treatment of hypertension
112. Discuss the clinical management of hypertension.
113. Discuss the tachy- and- Brady arrhythmias with ECG changes.
114. Summarize the drug treatment of arrhythmias.
115. Observe the medical and interventional treatment of arrhythmias.
116. Describe the features, and medico legal aspect of aconite and nicotine poisoning.
117. Discuss the pathogenesis of thrombosis and embolism and their clinical consequences.

118. Elaborate the onset, development and consequences of infarction.
119. Describe the clinical uses and problems of oral and parenteral anticoagulant drugs. 18. Correlate the various coagulating agents and their clinical uses.
120. Choose the appropriate drug treatment according to the type of anemia.
121. Discuss the clinical consequences of high level of lipids in blood
122. Describe the mechanism, actions, clinical uses and adverse effects of lipid lowering drugs.
123. Describe mechanism, actions, clinical uses and adverse effects of vasodilator drugs with respect to ischemic heart disease.
124. Describe beta lactam cell wall synthesis inhibitor antibacterial drugs (penicillin and cephalosporin)
125. Explain non-beta lactam cell wall synthesis inhibitor antibacterial drugs (carbapenems, monobactams and vancomycin)
126. Describe protein synthesis inhibitor anti- microbial drugs (tetracyclines, aminoglycosides, macrolides, chloramphenicol and clindamycin)
127. Describe the mechanism, actions, clinical uses and adverse effects of anti-folate antibacterial drugs (sulfonamides and quinolones)
128. Describe helicobacter pylori infections and peptic ulcer disease
129. Differentiate between drug treatment of nausea, vomiting, constipation & diarrhea
130. Describe the drug treatment of acidity, heart burn, gastric and duodenal ulcers
131. Describe the drugs used for treatment of inflammatory diseases of intestine
132. Describe the clinical features and medico legal aspect of corrosive and irritant poisons.
133. Describe different diseases transmitted by ingestion including diagnosis and prevention
134. Categorize the drug therapy for tuberculosis (first & second line) and leprosy
135. Describe DOTS from public health importance
136. Describe the clinical features and medico legal aspect of kerosene oil poisoning
137. Describe the pathogenesis and diagnosis of Mycobacteria
138. Describe the pathogenesis, clinical presentation and diagnosis of mycobacterium.
139. Explain the overview of Gram-negative rods and discuss the pathogenesis and clinical presentation of E coli.
140. Describe the pathogenesis, clinical presentation and diagnosis of vibrio cholera.
- 141.
142. Discuss different biochemical tests for identification of Gram-negative rods.
143. Explain the role of pathogens to cause infection in hospitalized patients.
144. Describe the pathogenesis, clinical presentation and diagnosis of Pseudomonas aeruginosa.
145. Correlate the clinical presentation of spirochetes with lab diagnosis.
146. Describe the role of intracellular bacteria in causing a disease.
147. Discuss pathogenesis, clinical presentation and diagnosis of mycoplasma and actinomyces.
148. Comprehend the role of respiratory Gram-negative rods to cause various pulmonary diseases.
149. Discuss the pathogenesis and clinical presentation of zoonotic organisms.
150. Write out the points in viral structure to identify disease causing viruses.
151. Discuss classification of different viruses on the basis of their structure.
152. Use morphology and replication of viruses to prescribe laboratory investigation for their identification
153. Correlate pathogenesis of viruses with host defense.
154. Discuss the effectiveness of viral vaccine.
155. Discuss the role of herpes simplex 1 & 2 & varicella zoster virus as contagious diseases.
156. Discuss the pathogenesis, clinical presentation and diagnosis of cytomegalovirus and Ebstein bar virus.
157. Discuss pathogenesis, clinical presentation and diagnosis of measles and mumps.
158. Explain the different types of influenza virus and its preventive strategies.
159. Correlate the pathogenesis of rabies and rubella with their clinical presentation.

160. Explain the pathogenesis of non-enveloped viruses.
161. Describe different types of hepatitis and their pathogenesis.
162. Correlate the pathogenesis of HIV with its clinical presentation and lab diagnosis.
163. Describe the mechanism of action, clinical uses and adverse effects of antiviral drugs
164. Describe symptoms of a case of malaria including diagnosis, treatment and prevention
165. Describe diseases transmitted by contact: Scabies, Trachoma, Lice and Leprosy.
166. Describe the nomenclature, characteristics and classification of tumors
167. Discuss the molecular basis of carcinogenesis with special emphasis on proto-oncogene, oncogene and tumor suppressor genes.
168. Classify tumors according to tissue of origin and clinical behavior
169. Compare benign and malignant tumors based on their morphological characteristics and clinical behavior.
170. Comprehend the role of genetic alterations in carcinogenesis.
171. Explain the effects of physical, chemical and viral carcinogen and relate them to tumorigenesis
172. Explain the clinical effects of tumors based on size, site and syndromes they produce.
173. Describe the significance of tumor markers in the diagnosis and management of cancers
174. Interpret the principles governing use of anticancer drugs
175. Describe the drug treatment of common types of ovarian, prostatic, colon, breast and blood cancers
176. Describe the methods of collection and laboratory tests for biological stains
177. Explain the criteria for the diagnosis of brain death, organ harvesting and organ donation
178. Discuss the mode, cause, manner, mechanism and medicolegal aspect of sudden and unexpected death
179. Discuss the physicochemical changes in tissues and organs after death and approximate time of death
180. Describe rules, requirements, type and objectives of autopsy
181. Describe the procedure and incisional techniques of postmortem
182. Describe exhumation in adults and in infants
183. Recognize dead born, still born and infanticide
184. Discuss suicide, types and epidemiology
185. Describe medico legal aspect of violent asphyxia death
186. Describe the medico legal aspects of snake bite.
187. Discuss the clinical features and medico legal aspect of asphyxiants.
188. Observe cases of forensic importance in medico-legal section and mortuary of hospital
189. Discuss the procedure of selection, preservation, labeling and dispatch of biological material for chemical analysis.
190. Bioethics
191. Discuss the religious views on euthanasia CHS
192. To comprehend the different approaches to control the disease problems
193. To introduce concepts related to disease transmission using the epidemiologic approach to infectious diseases as a model
194. To understand the WHO recommended interventions to address non-communicable diseases (NCDs)
195. Use patient-centered interviewing skills to effectively gather relevant biomedical and psychosocial information
196. Correlate ethics, morals, and values to their leadership dilemmas

LAB SKILLS / PRACTICALS MODULE – 8

Pharmacology

By the end of this module every student should be able to:

1. Prepare dilutions from 1mg of the given drug having strength of 10^{-3} up to 10^{-8} dilution
2. Interpret the effect of antibiotic drugs on bacterial colonies
3. Interpret the effects of given drugs on the eyes of rabbit
4. Interpret the effects of agonist and antagonist drugs on the eyes of rabbit
5. Identify the parts of kymograph and organ bath assembly
6. Interpret the effects of different dilutions of a given drug on an isolated piece of rabbit intestine. (Drug-A)
7. Interpret the effects of different dilutions of a given drug on an isolated piece of rabbit intestine. (Drug-B)

Pathology

Identify and describe the gross morphological features of following:

1. Keloid
2. Lipoma
3. Leiomyoma
4. Follicular adenoma (thyroid)
5. Fibroadenoma (Breast)
6. Carcinoma-Breast
7. Adenocarcinoma Pylorus

Identify and describe the microscopic features of following:

1. Keloid
2. Granulation tissue
3. Thrombus
4. Lipoma
5. Leiomyoma (uterus)
6. Fibroadenoma (breast)
7. Follicular adenoma (thyroid)
8. Leiomyosarcoma (uterus)
9. Liposarcoma
10. Adenocarcinoma Stomach
11. Ductal Breast carcinoma

Microbiology

1. To study Staphylococci and laboratory investigations for their identification
2. To study Streptococci and laboratory investigations for their identification
3. To study Mycobacterium and laboratory investigations for its identification
4. To study Salmonella and laboratory investigations for its identification
5. To study Escherichia coli and laboratory investigations its identification
6. To study hepatitis virus and lab diagnosis
7. To study HIV laboratory diagnosis

Forensic medicine

By the end of this module every student should be able to

1. Identify and examine blood and seminal stains
2. Identify and examine hair and fiber
3. Identify the different types of snakes and discuss the management of snake bite
4. Prepare a medico legal report of a case of vitriolage
5. Prepare a death certificate.
6. Identify the following by physical and chemical means:
 - a. Castor and Croton tiglium
 - b. Abrusprecatorius and marking nut
 - c. Copper and mercury
 - d. arsenic and lead
 - e. Aconite and nicotine
 - f. Kerosene oil

Module- IX

Basic and Applied Immunology, Parasitic and Mycotic Diseases, Genetics; Hormonal Therapy; Medico Legal aspect of Sexual Offences and Toxicology

Course content

Immunology/immuno-pharmacology/genetics/mycology/ parasitology/anti-parasitic drugs/ pharmacogenetics Drugs acting on cns/endocrine pharmacology/ forensic obstetrics/sexual offences/ personal identity/ special toxicology

Course Learning Outcomes

7. Identify and Manage Infectious Diseases Through Integrated Diagnostic and Preventive Measures

Recognize the clinical presentations, laboratory diagnostics, and preventive strategies for viral, fungal, and parasitic infections. Apply knowledge of immunology and immune pharmacology to understand the host defence mechanisms and pharmacological treatments used to manage these infections.

8. Integrate Concepts of Genetics, Pharmacology, and Pathophysiology in Disease and Drug Interactions

Explain core concepts in genetics, pharmacogenetics, and pharmacodynamics as they relate to immune response, CNS function, and endocrine regulation. Discuss the action and application of drugs on the central nervous system and endocrine system, with emphasis on the interplay between genetic factors and drug efficacy.

9. Apply Forensic Medicine Principles in Medico-legal and Clinical Practice

Describe the essential aspects of forensic obstetrics, sexual offenses, personal identity, and toxicology. Integrate these principles in clinical practice to effectively address medico-legal cases, ensuring adherence to ethical and legal standards in forensic investigations.

Objectives

197. Discuss clinical presentation and laboratory diagnosis of cutaneous and subcutaneous mycoses.
198. Discuss clinical presentation and laboratory diagnosis of opportunistic mycoses.
199. Classify parasites on the basis of different morphological structures and their site of infection
200. Describe etiology, mode of transmission, control and preventive strategies of Entamoeba Histolytica.
201. Describe the etiology, mode of transmission, control and preventive strategies of giardialamblia, cryptosporidium, trichomonas vaginalis.
202. Describe etiology, mode of transmission, lab diagnosis and preventive measures of toxoplasmosis and pneumocystis.
203. Describe the etiology, mode of transmission, lab diagnosis and preventive measures of plasmodium.
204. Describe etiology, mode of transmission, lab diagnosis and preventive measures of leishmania.
205. Describe the etiology, mode of transmission, lab diagnosis and preventive measures of Cestodes (Taenia).
206. Describe the etiology, mode of transmission, control and preventive strategies of Diphyllbothrium latum and Echinococcus Granulosis.
207. Describe the etiology, mode of transmission, control and preventive strategies Trematodes (Schistosoma).

208. Describe the etiology, mode of transmission, control and preventive strategies for parasitic diseases of public health importance: *Ankylostoma duodenale*, *Ascaris lumbricoides*, *enterobius*, *strongyloides*.
209. Describe the etiology transmission, control and preventive strategies of *trichinella* and *Trichuris*.
210. Differentiate between the drug treatment of different types of Helminthic infections
211. Compare the different patterns of inheritance of single gene disorders, (i.e. autosomal dominant, autosomal recessive, X-linked dominant/recessive and Y- linked disorders)
212. Differentiate between single gene disorders with atypical patterns of inheritance and Mendelian disorders based on characteristics of inheritance
213. Explain chromosomal disorders, involving autosomes and sex chromosomes, as regards to the underlying chromosomal abnormality, risk factors and clinical features
214. Interpret normal and abnormal karyotypes and describe them using shorthand system of notation.
215. Comprehend the significance of molecular and cytogenetic analysis (PCR, southern blot, FISH) for diagnosing genetic disorders
216. Describe the impact of genetic makeup on variation in drug responsiveness
217. Discuss the diagnosis of epilepsy and seizures
218. Describe the mechanism, actions, clinical uses, adverse effects of sedative and hypnotic drugs
219. Describe the drug treatment of convulsions and fits
220. Describe the drugs used for producing general and local anesthesia
221. Describe the mechanism, uses and adverse effects of skeletal muscle relaxants
222. Discuss the sign and symptoms, and examination of Parkinsonism patients Distinguish between the signs of upper and lower motor neuron defects
223. Describe the clinical features and diagnosis of bipolar disorders.
224. Describe the clinical features and diagnosis of Schizophrenia.
225. Describe the clinical features and types of depression. Describe drugs used for the treatment of depression
226. Describe the drug treatment of Parkinsonism
227. Describe drugs that have abusive or stimulant effects on the brain
228. Describe the drugs used for treating psychosis and mania
229. Discuss the drugs producing insanity.
230. Differentiate true and feigned insanity.
231. Describe the procedure of diagnosis and admission of a mentally sick person.
232. Explain limitations of civil and criminal responsibilities towards a mentally sick person.
233. Describe the clinical features and medico legal aspect of Neurotics (opium, datura, cannabis indica, alcohol, barbiturates poisoning).
234. Differentiate between food poisoning and mechanical poisoning
235. Discuss different types of addiction including prevention and rehabilitation of cases
236. Illustrate the immune responses with the help of flow diagram
237. Describe the role of antibodies and complement system in immune responses.
238. Discuss the role of MHC in transplant rejection
239. Relate the loss of central and peripheral tolerance to the development of different autoimmune diseases and the subsequent clinical effects
240. Classify the immunodeficiency disorders based on deficiency of major immune components and clinical consequences
241. Differentiate between hypersensitivity reactions (type I, type II, type III, and type IV) on the basis

of underlying mechanism along with relevant examples.

242. Describe the drugs that modulate immune system (Immunosuppressants & Immunomodulators)
243. Describe the drug treatment of hypothyroidism and hyperthyroidism
244. Describe the mechanism of action, clinical uses, adverse effects and contraindications of sex hormonal agents
245. Describe the mechanism of action, clinical uses and adverse effects of drugs affecting uterine motility
246. Discuss the medico-legal aspects of impotence, virginity, pregnancy, delivery and criminal abortion
247. Describe the signs of pregnancy, recent and remote delivery
248. Describe criminal abortion, its methods and complications
249. Classify diabetes mellitus on the basis of WHO criteria
250. Describe the oral and parenteral drug treatment of diabetes mellitus
251. Describe clinical uses and adverse effects of parathyroid hormonal preparations.
252. Describe the methods of identification and establishing race, age and sex
253. Describe the role of fingerprints, foot prints, DNA fingerprinting and Bertillon systems in identification of individual
254. Describe the method of identification of mutilated, decomposed, burnt bodies and skeletal and fragmentary remains
255. Determine stature/height from skeletal/bony/ fragmentary remains
256. Describe sexual offences and their punishment
257. Describe the examination protocol for the rape victim and the accused (Zina-bil-jabr)
258. Describe the examination procedure of active and passive agents (habitual/non habitual) of sodomy
259. Explain the method of collection, preservation of specimens, preparation of slides and swabs in sexual offences in forensic science laboratory.
260. Describe the common sexual perversions including definition and causes.
261. Differentiate amongst the different types of contraceptives
262. Describe the indications, contraindications and side-effects of different contraceptives

Bioethics

263. Define abortion
264. Explore the pro and anti-arguments for abortion
265. Discuss the religious views on abortion

CHS

Introduction to Research (what & why)
Synopsis writing including identifying a topic
Discussing the topic
Literature search
Discussion on literature search
Research questions and identifying variables
Research questions and identifying variables
Objective writing

266. Seek and synthesize relevant information from other sources, including the patient's family, with the patient's consent
267. Perceive change and think critically about obstacles to change
268. Fulfill responsibilities as a learner and a colleague

PLOs	CLO	Subject	Pathology	Pharmacology	Forensic Med	Com/LS/Pr & Eth	Assessment	
1, 2	(pharma) 11	Lecture	1, 2, 4, 5, 7, 8, 9,11,12,	201, 202, 203, 204, 208, 218, 219, 220, 221, 227, 228, 229, 243, 245, 250, 251	15, 35, 29, 31,33, 34, 35, 37, 39, 50, 51,52, 56, 59, 60, 63, 64		MCQs/Seq	OSPE
							1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 38, 39, 40, 42, 43, 7, 20, 21, 23, 25, 30, 31, 32, 45, 46, 52, 35, 37, 38, 39, 50, 63, 64, 73, 74	1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 15, 38, 42, 43, 5, 6, 8, 20, 31, 55, 33, 34, 36, 51, 52, 56, 57, 28, 46, 65, 66, 58, 59, 60, 61, 62
		Interactive /SGD	3, 6, 10,13	201, 202, 204, 210, 242, 244	33, 34, 36, 37, 38, 39, 51, 52, 57, 61, 62, 63,			
		CBL	7, 10, 41	226, 225	58, 59,	75, 76, 77		

LAB SKILLS / PRACTICALS MODULE – 9

Pharmacology

By the end of this module, every student should be able to:

- a. Interpret the effect of lignocaine and procaine on the legs of frog
- b. Identify the slides and write the treatment of the causative Helminths / Protozoa
- c. Identify the characteristics of pharmacognosy specimens --10 specimens
- d. Identify the effect of strychnine and picrotoxin on the CNS of frog
- e. Identify the parts of prescription order
- f. Write a prescription for the following common diseases in Pakistan:
Type I diabetes, Type II diabetes, Bronchial asthma, Diarrhea, Pulmonary tuberculosis, Hypertension, Peptic ulcer, Malaria, Arthritis (OA, RA), Amoebiasis, Hypothyroidism, Hyperthyroidism, Helminthic infestations, Urinary tract infection, Sore throat, pneumonia etc.

Pathology:

Identify the gross morphological features of following:

1. Follicular adenoma (thyroid)
2. Fibroadenoma (Breast)
3. Dermoid cyst
4. Teratoma (Testis)
5. Carcinoma-uterus
6. Carcinoma-Breast
7. Carcinoma -Cervix
8. Seminoma
9. Retinoblastoma
10. Giant cell tumor of hand

Identify the microscopic features of following:

1. Keloid
2. Granulation tissue
3. Thrombus
4. Leiomyoma (uterus)
5. Fibroadenoma (breast)
6. Follicular adenoma (thyroid)
7. Leiomyosarcoma (uterus)
8. Breast carcinoma

Microbiology

1. To isolate and observe candida.
2. To observe Entamoeba Histolytica and Giardia Lamblia eggs in stool

examination.

3. To observe *Ascaris lumbricoides*, *Trichuris Trichuria* eggs in stool examination.
4. To observe *Taenia* and *Ankylostoma duodenale* eggs in stool examination.
5. To observe different stages of *plasmodium* microscopically.
6. To study different biohazards in Lab.

Forensic Medicine

By the end of this module, every student should be able to:

1. Determine the age of an individual by means of examination of teeth
2. Determine the age of an individual by means of X-Rays (ossification of bones)
3. Examine the different types of fingerprints
4. Determine the sex of an individual by examination of bones/skeleton
5. Determine the fetal age
6. Prepare medico legal report of a rape victim
7. Prepare medico legal report of a passive agent of sodomy
8. Prepare medicolegal report on a case of drunken person
9. Identify *Nux Vomica* by visual, olfactory, tactile means
10. Identify *Aconite* by physical and chemical means

Community Health Sciences

1. Develop the skill to select a good research topic
2. Generate the synopsis according to the research guidelines
3. Clarify the indicators and measurement of concepts in study.
4. Utilize the required extent of literature search within a reasonable time and cost frame.
5. Develop research questions & Identifying Variables
6. Define Sample & different methods of Sample Size Calculation
7. Create a technique of developing a Questionnaire
8. Differentiate various data collection methods & Presentation
9. Format the source of information as a recommended style of references at the end of the research proposal
10. Identify the ethical principles in general or in application of specialized knowledge, results of research, creative expression, or design processes.

Field visits help in the conversion of theoretical concepts into its practical application of Public Health in various settings
 Participate actively by generating reasoning and solution strategies
 Acquire a better grasp of linking their clinical knowledge with public health approach.

<u>Teaching Strategies</u>	<u>Assessment Tools</u>
Discussion LGIS SGD	Assignment Quizzes BCQs and SEQs Report proposal writing

The presentation of research proposal will be organized on the last day of the session.

Communication Leadership and Professionalism

<u>Learning objectives</u>	<u>Instructional strategies</u>
<ul style="list-style-type: none"> • Appreciate the role of patient's nonverbal behaviors and voice tone in effective communication. • Communicate using a patient-centered approach that encourages patient trust and autonomy and is characterized by empathy, respect, and compassion • Understand role of leadership in health care system • Discuss different strategies to manage time and resources effectively • Develop a comprehensive set of practical skills and tools to rely on like time management, agenda setting, group dynamics, and team building • Work cooperatively in groups, share ideas and take part in discussion • Practice honesty and integrity in all interactions • Advocate for the needs and wellbeing of patients, learners and peers 	<ul style="list-style-type: none"> • Small group discussion video presentation with multiple scenarios • Role play • Demonstration on Standardized patients • Small group exercises • Student presentations. • PBL, PSIL, Journal club

PAPERWISE DISTRIBUTION OF TOPICS FOR INTEGRATED ASSESSMENT

MODULE VII, VIII & IX

Paper	Subject	Module VII	Module VIII	Module IX
Paper- I	Pharmacology	Autacoids, NSAIDs, Opioids, Rheumatoid Arthritis, Gout, Migraine	Penicillin, Cephalosporin, Tetracycline, Aminoglycosides, Macrolides, Chloramphenicol, Sulfonamides, Fluoroquinolones, Ant tuberculous drugs, Antiviral drugs, Anticancer	Anti-thyroid drugs, Drug treatment of Hypothyroidism, Female sex hormones, Male sex hormones, Oral hypoglycemic, Insulin
	Pathology	Cellular Adaptation, Reversible and irreversible injury, Mechanism of cell injury, Necrosis, Apoptosis, Intracellular accumulations, Pathological calcification Introduction to Microbiology, Structure of Bacteria. Pathogenesis, Growth Cycle. Genetics, Normal Flora	Thrombosis, Embolism, Congestion, Edema, Hyperemia, Infarction, Shock, E. coli, Klebsiella Gram negative rods related to respiratory tract, Gram negative rods related to zoonotic, Vibrio Cholera, Pseudomonas Aeruginosa, proteus Salmonella and shigella	Immune response Cells of immune system, Hypersensitivity reactions, Antibodies and complement system, immune deficiency disorders, Introduction to Mycology, Cutaneous and sub cutaneous mycosis, Opportunistic Mycosis, Systemic Mycosis Introduction of Parasitology, Entamoeba Histolytica
	Forensic Medicine	Legal Aspects, Injuries, Legal procedure, Laws in relation to a medical man, Regional injuries, Transportation injuries, PMDC	Thanatology, Death from starvation, cold, heat, electricity opioid poisoning Sedatives and hypnotics Electrocution	Personal identity, Animal poisons (snakes), Kerosene oil poisoning

Paper	Subject	Module VII	Module VIII	Module IX
Paper- II	Pharmacology	Cholinoceptor activating drugs, Cholinoceptor blocking drugs, Adrenoceptor activating drugs, Drug treatment of asthma Adrenoceptor blocking drugs	Antihypertensive drugs Diuretics, Drugs for CCF, Antiarrhythmic drugs, Antianginal drugs, Thrombolytics/Antiplatelets, Oral Anticoagulants, Parenteral Anticoagulants	Benzodiazepines, Barbiturates, Antiepileptic drugs, General anesthetic, Local anesthetic, Anti-Parkinsonian, Antipsychotic drugs, Lithium Antidepressant drugs, Alcohol
	Pathology	Acute Inflammation, Chemical mediators of Inflammation, Sterilization and disinfection, Classification of bacteria, Host Defenses, Laboratory diagnostics, Mechanism and Resistance of Antimicrobial Drugs, Bacterial Vaccines	Mycobacterium, Mycobacterium leprae and atypical mycobacterium, Spirochetes, Actinomycetes, nocardia mycoplasma, Rickettsiae And Chlamydia Structure and replication of virus, Pathogenesis of virus, Genetics and gene therapy of virus, Classification and lab diagnosis of virus, Viral vaccines, Nomenclature of neoplasia, Characteristics of benign and malignant tumors, Tumor Markers	Immune tolerance Autoimmune disorders, MHC and Transplant rejection. Giardia, Cryptosporidium, Trichomonas, Toxoplasmosis, Pneumocystis, Minor protozoa Acanthamoeba, Naegleria, Babesia, Balantidium, Microsporidia, Cyclospora, Plasmodium
	Forensic Medicine	General toxicology, Traumatology, Firearm, Qisas and Diyat, Alcohol, Corrosives	Asphyxial deaths, Metallic, nonmetallic poisons, Asphyxiants, Environmental trauma Special trauma (bombs and missiles)	Sexual offences, Cardiac poisons, Spinal poison, Aspirin and acetaminophen toxicity

Paper	Subject	Module VII	Module VIII	Module IX
Paper- III	Pharmacology	Drug discovery & development, Pharmacokinetic principles, Pharmacodynamics Principles, Drug interactions, Preclinical clinical trials of drugs, Rational use of drugs	Emetics and Antiemetics, IBD & Prokinetics, Drugs used in acid peptic disease, Laxatives/purgatives/ anti diarrheal drugs, Anti-anemic drugs, Antihyperlipidemic	Pharmacogenetic, Antifungal drugs, Anti-malarial, Anti-amoebic drugs, Anthelmintics
	Pathology	Morphological patterns/outcomes of acute inflammation, Systemic effects of inflammation, Chronic inflammation- Cutaneous wound healing, Pathological aspects of repair, Gram positive Cocci: Staphylococcus, Gram positive Cocci: Streptococcus, Gram negative Cocci: Neisseria meningitis, and Neisseria Gonorrhea, Spore Forming Gram positive rods:(Clostridium, Botulinum) Non-Spore Forming Gram positive rods:(Corynebacterium Diphtheria, listeria, Gardnerella Vaginalis	Carcinogenesis (Molecular), Tumor immunity, Clinical aspects of neoplasia, Grading/Staging, Herpes Simplex 1 And 2 Cytomegalo And Epstein Barr Virus, Kaposi sarcoma, Influenza virus Measles, Mumps and rubella Adenovirus and coronavirus Polio, Rota Rabies and Ebola Virus Hepatitis A, B, C, D, E Pathogenesis and lab diagnosis of HIV	Human genetic architecture and mutations, Genetic disorders (Single gene disorder I– II), Single gene disorders with atypical pattern of inheritance, Cytogenetic/molecular analysis, Leishmania, Cestodes, Diphylobothrium latum and Echinococcus/ H. nana/Dipylidium Caninum, Trematodes, Intestinal Nematodes, Tissue nematodes
	Forensic Medicine	Delirants, Organophosphates, Autopsy and Exhumation, Collection and preservation of viscera, Thermal injuries	Insanity, Forensic biology and serology CNS stimulants (ICE, Cocaine), Vegetable poisons	Pregnancy, delivery, abortion. Infanticide, Battered baby

LEARNING RESOURCES:

Books:

1. Lazo JS & Parker KL. Goodman and Gillman's The Pharmacological basis of therapeutics 12th edition McGraw Hill Company, USA 2011
2. Katzung BG, Masters SB & Trevor AJ. Basic and Clinical Pharmacology-Katzung. 13th edition TATA McGraw Hill Education Private Ltd, New Delhi 2010
3. Finkel R Cubeddu L X, Clark MA, Harvey R & Champe P. Lippincott's Illustrated Reviews Pharmacology. 7th edition, Wolters Kluwer-Lippincott Williams & Wilkins New Delhi 2015
4. Peter D. Turnpenny, Emery's Elements of Medical Genetics (14th ed.). New York: Churchill Livingstone. 2011
5. Cotran RS, Kumar V and Collins T. Robbins's Pathologic Basis of Disease (8th ed.). Philadelphia: W.B. Saunders. 2010
6. Walter JB and Talbot IC. Walter and Israel's General Pathology (7th ed.). New York: Churchill Livingstone. 1996
7. Kumar V, Cotran RS, and Robbins SL. Basic Pathology (8th ed.). Philadelphia: W.B. Saunders. 2007
8. Rubin E, Pathology (4th ed.) Philadelphia: Lippincott-Raven. 2005
9. Ivan Roitt. Riott's Essential Immunology (11th ed.). New Delhi: I.K. International Pvt. Ltd. 2007
10. Harsh Mohan. Textbook of pathology. 6th ed. Jaypee broth. 2010
11. Wheater P et al. Basic Histopathology: A Color Atlas and Text (2nd ed.). Edinburgh: Churchill Livingstone. 1990
12. Harsh Mohan. Pathology practical book. 2nd ed. Jaypee broth. 2007
13. Parikh. C. K. Parikh's Textbook of Medical Jurisprudence. Forensic Medicine and Toxicology 6th ed. 1999
14. Nasib R Awan. Principles and practice of Forensic Medicine 1st ed. 2002
15. Prof. Dr. Umar Khan. Forensic Medicine and Toxicology
16. Krishan Vij. Textbook of Forensic Medicine and Toxicology, Principles and practice. 3rd ed. 2005
17. Rao Atlas of Forensic Medicine.
18. Govindiah Color Atlas of Forensic medicine. 1999
19. Richard A Harvey. Microbiology Lippincott's Illustrated Review 3rd edition. Taylor's principles and practice of medical jurisprudence 1984
20. Park's Textbook of Preventive and Social Medicine- K. Park 20th Edition
21. Public Health In Community Medicine by Mohammad Ilyas- Ilyas. Shah. Ansari
22. Jawetz. Medical Microbiology. Lange/McGrawHill (latest edition)
23. Levinson W. Microbiology and Immunology: Review. (latest edition)
24. Michael J Pelczar. Microbiology .6th ed. Tata McGraw

Websites:

1. www.studentconsult.com
2. www.drugs.com
3. www.pharmacology.com
4. www.medicalstudent.com
5. www.asm.com
6. www.forensicmedicine.co.uk
7. Lecture notes on Forensic Medicine
8. Atlas of Forensic Medicine

ACADEMIC CALENDAR

BAHRIA UNIVERSITY HEALTH SCIENCES CAMPUS KARACHI

Third Professional MBBS

Batch 2022-2027

Academic Calendar

Revsied

Dated: 28 Jan 2025

SESSION STARTS

23rd December 2024 (Monday)

SEVENTH MODULE (12 WEEKS)

Module Starts	-	23rd Dec 2024 (Monday)
Module Ends	-	14th Mar 2025 (Friday)
Theory Examination	-	17th, 18th & 19th Mar 2025 (Monday, Tuesday & Wednesday)
OSPE / Viva Examination	-	20th, 21st & 24th Mar 2025 (Thursday, Friday & Monday)

EIGHTH MODULE (12 WEEKS)

Pre-Vacation Session (01 Week)

Module Starts	-	25th Mar 2025 (Tuesday)
Module Break	-	28th Mar 2025 (Friday)

Eid-ul-Fitr Vacations* - 31st Mar 2025 to 4th Apr 2025 (Monday to Friday)

Post-Vacation Session (09 Weeks)

Module Starts	-	7th Apr 2025 (Monday)
Module Ends	-	6th Jun 2025 (Friday)

Eid-UI-Adha Vacations* - 9th Jun 2025 to 20th Jun 2025

Post-Vacation Session (02 Week)

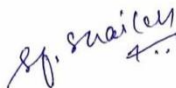
Module Starts	-	23rd Jun 2025 (Monday)
Module Ends	-	4th Jul 2025 (Friday)
Theory Examination	-	7th, 8th & 9th Jul 2025 (Monday, Tuesday & Wednesday)
OSPE / Viva Examination	-	10th, 11th & 14th Jul 2025 (Thursday, Friday & Monday)

NINTH MODULE (12 WEEKS)

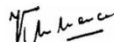
Module Starts	-	15th Jul 2025 (Tuesday)
Module Ends	-	3rd Oct 2025 (Friday)
Theory Examination	-	6th, 7th & 8th Oct 2025 (Monday, Tuesday & Wednesday)
OSPE / Viva Examination	-	9th, 10th & 13th Oct 2025 (Thursday, Friday & Monday)

FINAL EXAMINATION:

- November / December 2025



PROF. DR. SAIFULLAH SHAIKH
Academic Coordinator (Medical)
BUHSCK



DR. KHALID MUSTAFA
Vice Principal (Medical)
BUHSCK

* Subject to Sighting of Moon