BAHAWALPUR MEDICAL COLLEGE (BMC)
BAHAWALPUR

STUDY GUIDE
BLOCK-3-FIRST YEAR MBBS
2K23 CRRICULUM
CVS & RESPIRATORY
2023-2027

BAHAWALPUR MEDICAL COLLEGE

TABLE OF CONTENTS

LIST OF ABBREVIATIONS	
CFRC	Clinical-Foundation, Rotation, Clerkship
CVS	Cardio Vascular System
CBL	Case Based Learning
LGIS	Large Group Interactive Session
PBL	Problem Based Learning
PERLs	Professionalism, Ethics, Research and Leadership skills.
TBL	Team Based Learning
SDL	Self-Directed Learning
UHS	University of Health Sciences

VISION STATEMENT

"UHS is a leading University aiming to keep its graduates apt with ever emerging global health challenges, evolving educational methodologies and emerging technological advancement to maintain its distinguishable position as Medical University."

MISSION STATEMENT

"BMC is committed to produce humane healthcare professionals having empathy, high ethical values, technological standards and core competencies in patient management and research to cater the healthcare need of community."

1. OUTCOME OF MBBS PROGRAM

By the end of the five year the MBBS programs **BAHAWALPUR MEDICAL COLLEGE** (aims to produce medical graduates who are able to):

1. Demonstrate an appropriate Basics knowledge of medical sciences.
2. Elicit professional skills while providing patient centered care by relevant and comprehensive physical examination.
3. Exhibit ethical and moral values in health promotion and disease prevention at population level to the care of individual patients.
4. Evaluate the use of laboratory tests and imaging studies and interpret the results to arrive at clinical decision making.
5. Commit to lifelong learning to keep up to date with developments in medical practice and trends in disease at population level by strong leadership and management skills.
6. Perform the common medical and surgical techniques in clinical settings including the 'basic life support.
7. Engage in research activity aimed at improvement of quality of health care including behavior modification of individual and community for quality life.

2. CURRICULUM FRAMEWORK

- The University of Health Sciences Lahore has designed a five-year modular framework for Integrated Curriculum based on Specific Systems, Clinical Clerkships, Quran and Professionalism.
- The time calculation for completion of modules and blocks is based on 35 hours per week.
- Total hours of teaching, learning and formative/summative internal assessment to be completed in a year are 1200.

Year	Block	Modular Configuration
Year-I	1	Foundation-1
		Hematopoietic & Lymphatic
	2	Musculoskeletal & Locomotion-1
	3	Cardiovascular-1
		Respiratory-1
		PERLs 1
		Quran-1
		Islamiat & Pak Studies
		Clinical Skills Foundation C-FRC-1 (Clinical-Foundation, Rotation, Clerkship)
Year-2		GIT & Nutrition-I
		Renal-I
		Endocrinology & Reproduction-I
		Neurosciences-I
		Head & Neck Special Senses
		Inflammation
		PERLs-2
		Quran-2
		Islamiat & Pak Studies
		Clinical Skills Foundation C-FRC-2 (Clinical-Foundation, Rotation, Clerkship)
Year-3		Foundation-2
		Infectious Diseases
		Neoplasia
		Musculoskeletal & Locomotion-2
		Hemopoitic, Immunity & Transplant-2
		Cardiovascular -2
		Respiratory-2
		Forensic Medicine
		Community Medicine & Family Health-1
		PERLs-3
		Quran-3
		Clinical Skills Foundation C-FRC-3 (Clinical-Foundation, Rotation, Clerkship)

Year-4		GIT & Nutrition-2
		Renal-2
		Endocrinology & Reproduction-2
		Neurosciences-2
		Maternal & Child Health
		Ophthalmology
		Otorhinolaryngology
		Community Medicine & Family Medicine-2
		Psychiatry & Behavioral Sciences
		PERLs-4
		Quran-4
		Clinical Skills Foundation C-FRC-4 (Clinical-Foundation, Rotation, Clerkship)
Year-5		Gynecology & Obstetrics
		Pediatrics
		Medicine
		Surgery
		Clinical Clerkships
		Clinical Skills Foundation C-FRC-5 (Clinical-Foundation, Rotation, Clerkship)

A few salient features that have been incorporated in Curriculum 2K23 for all the three domains of training after deliberations and through an iterative process by subject experts, medical educationists and the university lead as follows.

1. **Horizontal Integration- COGNITIVE:**

   The framework of Curriculum 2K23 has 44 modules spanning 05 years. The horizontal integration is evident in the modular configuration where different basic disciplines approach the themes simultaneously. Modules have been structured where all the basic disciplines are represented based on their respective weightage of content. Assessment framework ensures that the applied/clinical aspect also is inculcated in the concept development of the learner keeping the clinical relevance and context at the core.

2. **Clinical Relevance & Theme-COGNITIVE:**

   All module objectives are preceded by the recommended themes and clinical relevance. These are grounded in the rationale of the module so that pattern of learningcould be steered for a practical professional approach. However institutional discretiondoes not prohibit adopting any other thematic approach provided that the program outcomes are adequately achieved.

3. **Vertical Integration- COGNITIVE:**

   Spiral placement of the modules within the frameworkensures a revisit of the basic sciences. In the first step theapplied / clinical learning objectives orientate the learner and the repetitive module horizontally rhymes with the clinical rotations with a backdrop of basic sciences. The final year of clerkship is the final revisit, which is primarily workplace based and principally involves the perfect integrated blend of tri-domain learning.

4. **C-FRC-PSYCHOMOTOR:**

   Clinical Skills follow a spiral which is entirely skills dominant. This spiral is the core of psychomotor training. The first two years will be of **Clinical Skills- Foundation** whichwill represent clinical orientation. The clinical orientation will be conducted in wards, skills lab and simulation centers (depending on the available resources). The clinical orientation along with the applied/clinical component of the knowledge base willchannelize the learner for the practical and

professional aspect of learning.
The subsequent two years the spiral will move on to **Clinical Skills Rotations**. The rotations in different wards will be based on foundational developmental already commenced in pre-clinical years. The year 3 and year 4 which have the rotations will also have the second visitof the modules which would now be more clinically inclined with a stronger base of Pharmacology and Pathology. Community oriented practices and family medicine will also be broadening the element of systems thinking and diversity of practice for a healthcare leader of tomorrow.

5. **Clinical Clerkship:** Finally, **Clinical Clerkships** are aimed to be entirely facilitated in workplace environments. The clerkship model will involve the delegation of duties thus adding to the acquisition of professional accountability as a competency.The psychomotor training and skills acquisition will be the maximum in the year of clerkship. The entire process of C-FRC will be endorsed in a logbook which would be the training base of the learner for future references and exam evaluations.

6. **PERLs-AFFECTIVE:**

Affective training has been formally inculcated in the curricular framework. The model of PERLs has been introduced so that the yield of doctors has a strong, resilient, ethically driven character. PERLs stands for Professionalism, Ethics, Research and Leadership skills. PERLs rounds up professional development for the effective application of the knowledge and skills base achieved. For a professional to be social accountable and to be able to play the healthcare leadership role for societal elementslike advocacy, equity or resources and healthcare access, a formal training is a must.
The categorical approach for this training has been achieved by rolling in the assessment of the competencies acquired along with development of portfolios. PERLs will run throughout the year via portfolio development. The portfolio development itself is a methodology which ensures student centered learning. The method of self-reflection which is integral for portfolio development places the learner in the right spot to steer his/her own learning needs.

The spiral of PERLs will be monitored directly by the respective department of Medical Education. However, the teaching sessions, and mentoring process, can and will be assigned to other disciplines. For example, communication skills can have an input from the faculty of Family Medicine and research can be facilitated by the Community Medicine & Public Health faculty. Ethics can be jointly covered by the Forensic department and Behavioral sciences. Leadership is an ambit where the students will be motivated if the institutional leads themselves get involved and can also have the input of the successful alumni. The Faculty of Medical Education will look after the entire process and will also engage in the teaching sessions, when and wherever required.
Type of evidence, activities to be performed, learning situation for the acquirement of the competencies, for the portfolio should be defined and enlisted by the academic council along with the help of the department of medical education. A 'mentoring platform' can flaunt the spirit of affective learning through the PERLS spiral. So it is recommended that a mentorship program should be developed at the respective institutes.

7. **Other Curricular Elements:**

The framework of Curriculum 2K23 has certain other newer elements. These elementsdefine our local context, our existing educational practices and conformity to evidencerelating best international practices. Some will be commencing from the first year, however, rest will be a part of the following years. A few of these are:

- Quran
- Clinical
- Entrepreneur ship
- Family Medicine
- Minimal Service Delivery StandardsElectives
- Basic Life Support

Note: All subjects, topics, laboratory, practical and clinical work to be examined regularly and credit to be accounted in internal evaluation.

3. INTRODUCTION TO STUDY GUIDE

The purpose of this study guide is the logical integration of curriculum outlines includes learning objectives, learning strategies and assessment pattern.

The target audiences of this study guide are **The First Year MBBS Student**. The highly proficient teaching faculty will provide necessary guidance related to achieve intended learning objectives, effective use of teaching tools and integrated teaching methods. The curriculum includes teaching strategies such as Large Group Interactive Session (LGIS), small group interactive methods like Team Based Learning (TBL), Case Based Learning (CBL), Problem Based Learning (PBL), Tutorials, Reflective Writing, Bedside Teaching, Simulation, Skills Lab, Demonstrations, Laboratory Practical, Ward Rounds and Case Presentations. These are the 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.

4. INTRODUCTION OF CVS & RESPIRATORY MODULE

CARDIOVASCULAR SYSTEM (CVS) MODULE	
Introduction	✚ This module is the first step towards producing doctors who have the basic information for decision making regarding understanding of CVS. ✚ This module provides the basis for CVS and then rotations of medicine in later years. ✚ It helps students to develop necessary skills in diagnosing and developing management plans for common cardiovascular Conditions. ✚ It will focus on the normal structure and functions of the CVS. ✚ It will help students apply this information and skills to solve clinically relevant problems suitable for this level of students.
Rationale of CVS Module	✚ The CVS comprises the study of the heart & circulatory system. ✚ The initial learning activities will help in understanding the normal structure & development of the organs of the system. ✚ Understanding of anatomical details of each component of CVS will be accompanied by study of normal physiological mechanisms. This will help in better understanding the possible pathological conditions of the system, including some of the most prevalent conditions in society like Ischemic Heart Disease. Hypertension, Shock, Heart block, Heart Failure. ✚ This will be followed by discussion on some important group of drugs used for treatment and/or prevention of these conditions (administration route, mechanism of action and side effects). ✚ The impact of cardiovascular diseases on society and the effect of ageing on cardiovascular system will be discussed.
Target Students	First Year MBBS Students
Module Outcome	✚ Describe the normal structure of heart including development. ✚ Describe the normal structure of heart including development, topographical anatomy, neurovascular supply, and histology. ✚ Review the arrangement of circulatory system (arteries, veins, lymphatics). ✚ Define the congenital anomalies of cardiovascular system with reference to normal development and early circulation. ✚ Define functions of cardiac muscle along with its properties. ✚ Interpret pressure changes during cardiac cycle along with regulation of cardiac pumping. ✚ Interpret normal & abnormal ECG, ST-T changes, and its abnormalities. Identify the risk factors and role of lipids in coronary blockage and atherosclerosis (hyperlipidemia/ dyslipidemia). ✚ Define cardiac output and its modulating/controlling factors. ✚ Differentiate left and right sided heart failure and correlate it with the importance of pressure differences. ✚ Enumerate different types of arrhythmias and describe the electrical events that produce them. ✚ Discuss the psychosocial impact of cardiovascular diseases in society.
Theme	✚ Heart ✚ Circulation

Clinical Relevance	✚ Cardiac Failure ✚ Arrhythmias ✚ Atherosclerosis & Ischemic Heart Diseases ✚ Hypertension ✚ Shock ✚ Congenital Heart Diseases. ✚ Peripheral Arterial Diseases.
Duration	Seven weeks

RESPIRATORY SYSTEM MODULE	
Introduction	✚ This Respiratory Module has been plan to provide insight of basic concepts regarding the structural functional knowledge of Respiratory System. ✚ This module links with Respiratory Second Module in Spiral-2 where the students appreciate and link the basics with applied aspects.
Rationale of Respiratory Module	✚ The diseases related to the respiratory system are on the rise not only in developing countries but also in developed countries. ✚ The infant mortality rate in Pakistan is highest in Southeast Asia and one of the important reasons is common respiratory infections in children. ✚ With the world suffering from COVID-19 not only physically but also mentally, it is very important for medical students to study in detail the structures functions, prevention, epidemiology, genetic basis of diseases and their management. ✚ The respiratory system is responsible for bringing oxygen into the body and removing carbon dioxide. It is made up of several organs and structures, including the nose, pharynx, larynx, trachea, bronchi, lungs, and diaphragm.
Target Students	First Year MBBS Students
Module Outcome	By the end of this module the students will be able to: ✚ Apply basic sciences knowledge to understand the causes of common Respiratory problems. ✚ Explain the pathogenesis of respiratory diseases. ✚ Enlist the main investigations relevant to respiratory disorders. ✚ Recognize risk factors and preventive measures of main respiratorydiseases.
Theme	✚ Rib Cage ✚ Thoracic vertebrae. ✚ Upper respiratory System ✚ Lower respiratory System
Clinical Relevance	✚ Acute Respiratory Distress Syndrome ✚ Bronchial Asthma ✚ Tuberculosis. ✚ Pneumonia.
Duration	Four weeks

5. CURRICULUM MAP

PROPOSED YEAR WISE CURRICULUM OUTCOMES OF MBBS PROGRAM

COMPETENCIES	FIRST YEAR MBBS / SECOND YEAR MBBS	THIRD YEAR MBBS	FOURTH YEAR MBBS	FINAL YEAR MBBS
KNOWLEDGEABLE	Correlate between gross Anatomy, Human Physiology & Pathology	Relate the effects & interactions of physical, emotional & social environments to health & disease of human being.	Apply Evidence Based Medicine Concept to provide best Possible Cost Effective Care.	Relate the effects and Interaction of Physical, Emotional & Social Environment to Health & Disease of Humanities.
	Differentiate between Normal & Abnormal Structure & Functions of the Body.	Relate the Natural History of the acute & chronic communicable, non-communicable diseases with respective etiologic agents and effects of appropriate intervention on the progress of the disease.	Ensure compliance with the Legal System as it Impacts on Healthcare and the PM&DC Regulations.	Relate the natural history of the acute & chronic communicable, non-communicable diseases wit respective etiologic agents and effects of appropr intervention on the progress of the disease.
	Differentiate between Normal & Abnormal Molecular, Cellular, Biochemical, Physiological & Pathophysiological Mechanisms	Apply Evidence Based Medicine Concept to provide best Possible Cost Effective Care.	Ensure Patient Safety & Infection Control in their Clinical Practice.	Apply Evidence Based Medicine Concept to pro best Possible Cost Effective Care.
	Differentiate between Normal & Abnormal Human Behavior.	Ensure compliance with the Legal System as it Impacts on Healthcare and the PM&DC Regulations.		Ensure compliance with the legal system as it impacts on healthcare and the PM&DC regulati
	Differentiate between Biological & Social Determinants and Risk factors of Disease, Various Etiological Causes and Causative Agents for Specific Inquiries, Illnesses & Diseases.	Ensure Patient Safety & Infection Control in their Clinical Practice.		Ensure Patient Safety & Infection Control in the Clinical Practice.

SKILLFUL	**Perform basic radiological procedures related to normal & abnormal functions of the body.**	• **Take a focused history and identify the patient's risk factors with appreciation of the bio-psychosocial model.**	**Take a focused history and identify the patient's risk factors with appreciation of the bio-psychosocial model.**	**Perform Procedure with the Consent of Patient, ensuring Infection Control when giving Injectio I/V, I/M, S/C. I/D) , Managing Infusion Lines Blood Transfusions, providing first Aid, Basic Li Support, Including CPR, Nebulizers, NG Intuba Wound Care and dressings. Catheterization**
	Perform practical procedures for handling instruments.	• **Perform Physical & Mental state examination in order to identify Specific Problems & Differentiate from others.** • **Identify Non Conformity to Anatomical & Physiological configuration.**	• **Perform Physical & Mental state examination in order to identify Specific Problems & Differentiate from others.** • **Identify Non Conformity to Anatomical & Physiological configuration.**	**Critique the advantages & disadvantages, indications, contraindications, limitations, complications of the current treatment modalitie justify the use of each with best available scientif evidence**
	Manage time and prioritize tasks & uses of resources.	• **Formulate a Provisional Diagnosis with Justification and two to three likely differential diagnosis.**	• **Formulate a Provisional Diagnosis with Justification and two to three likely differential diagnosis.**	**Formulate management plan in partnership with patients ensuring their safety.**
	Ensure Patient Safety always including Strict Infection Control Practices.	• **Order appropriate investigations with the Consent of the Patient.**	**Order appropriate investigations with the Consent of the Patient.**	**Advice and counsel the patient & their family**

		Order appropriate investigations with the consent of the patient, ensuring infection control in giving injections (IV, IM, SC, ID), managing infection lines & blood transfusions, providing first aid, basic life support (including cardiopulmonary resuscitation, nebulizers, wound care, Monitoring Oxygen saturation/therapy, taking swabs and pap-smear, performing ECG and peak flow spirometry, blood sugar testing, catheterization, dipstick urine analysis and simple skin suturing	**Educate the patient regarding their health proble available options, management plan, self-care & of prescribed drugs & equipment such as Inhale**
		Critique the advantages & disadvantages, indications, contraindications, limitations, complications of the current treatment modalities, justify the use of each with best available scientific evidence	**Recognize & take into consideration issues of eu equality & that opportunities are missed if not perceived to be useful by others.**
		Formulate management plan in partnership with patients ensuring their safety.	**Describe & debate the reasons of success or failu of various approaches to increase prevention & t decrease social inequities.**
		Advice and counsel the patient & their family	

			Educate the patient regarding their health problems, available options, management plan, self-care & use of prescribed drugs & equipment such as Inhalers.	
			Recognize & take into consideration issues of equity, equality & that opportunities are missed if not perceived to be useful by others.	
			Describe & debate the reasons of success or failure of various approaches to increase prevention & to decrease social inequities.	
			Manage time & prioritize the task & use of resources.	
			Ensure patient safety always including strict Infection Control Policies.	
CRITICAL THINKER	**Adapt a Problem solving Approach in Discussing Problems/ Issues**	**Use of Information Obtained from & Correlated from different sources. Critical data evaluation (Interpret, Analyze, Synthesize and evaluate to form decisions).**	**Use of Information Obtained from & Correlated from different sources. Critical data evaluation (Interpret, Analyze, Synthesize and evaluate to form decisions).**	**Use of Information Obtained from & Correlated from different sources. Critical data evaluation (Interpret, Analyze, Synthesize and evaluate to fo decisions).**

	Use of Information & correlate them from different sources. Critical data evaluation (Interpret, Analyze, Synthesize and evaluate to form decisions).	Dealing Effectively with Complexity, Uncertainty & Probability in Medical Decision Making, Reflecting on the latest Evidence & Application to the Health Problem	Dealing Effectively with Complexity, Uncertainty & Probability in Medical Decision Making, Reflecting on the latest Evidence & Application to the Health Problem	Dealing Effectively with Complexity, uncertainty probability in medical decision making, reflectin the latest evidence & application to the health problem
	Regular Reflection on their own practice & on standards of medical practice.		Raising Concerns about Public Risks & Patient Safety.	Regular reflection on their own practice & on standards of medical practice
				Initiating Participating in or Adapting to Chang required, ensuring that the Profession and the Patient both Benefit.
				Flexibility and a Problem Solving Approach
				Commitment to Quality Assurance and Monitori by Participating in Audits and Reporting critical Incidence to improve Medical Practice and Decr Risk to Self, Patient and Public.
RESEARCHER	Demonstrate Practices of Effective Academic Writing	Critically Review Literature	Identify a Researchable problem & Critically review the literature.	Identify the Measurable Problem and Critically review the Literature.
	Discuss Importance of Research Process in Academic Medicine.	Identify Research Problem	Phrase Succinct Research Question	Phrase Succinct Research Question

	Identify Components of an Original Article		Formulate Research Question.	Formulate Hypothesis	Formulate Hypothesis
	Critique on selected Original Article in Journal Club Meeting		Formulate Research Hypothesis	Identify the Appropriate Research Design(s) in Epidemiology and Analytical Test in Biostatistics to answer the Research Questions.	Identify the Appropriate Research Design(s) in Epidemiology and Analytical Test in Biostatistic answer the Research Questions.
			Identify the Appropriate Research Design(s) in Epidemiology and Analytical Test in Biostatistics to answer the Research Questions.	Collect Analyze & Evaluate Data & Present Results where Possible	Collect Analyze & Evaluate Data & Present Resu where Possible
				Demonstrate Ethics in Conducting Research and in Ownership of Intellectual Property.	Demonstrate Ethics in Conducting Research an Ownership of Intellectual Property.
Professionalism & Ethics	Discuss the Role of Ethics in Medical Practice	Demonstrate principles of patient Autonomy, beneficence, nonmaleficence, distributive justice, confidentiality, informed consent and ethics.	Respect the views & interests of the Patient & the Patient's Family	Demonstrate Professional Values of Self & Professional Accountability, Honesty, Probity & Ethics without discrimination on the basis of Age, Gender, Religion or Beliefs , Color, Race, Ethnic or National origin, Cultural , Disability, Disease, Lifestyle, Marital and Parental status, Sexual Orientation and Social or Economic Status	Demonstrate professional values Self & Professional Accountabili Honesty, Probity & Ethics witho discrimination on the basis of Ag Gender, Religion or Beliefs , Col Race, Ethnic or National origin, Cultural , Disability, Disease, Lifestyle, Marital and Parental st Sexual Orientation and Social or Economic Status

6. TIME TABLE

BAHAWALPUR MEDICAL COLLEGE

FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

4TH-8TH-SEPTEMBER-2023 (25TH-WEEK SCHEDULE) (THORAX, LIPIDS)

DAY VENUE	08:30-09:30 LECTURE HALL I	09:30-10:30 LECTURE HALL I	10:30-10:50	10:50-12:20 DISECTION HALL	12:20-13:20 LECTURE HALL I	13:20-13:40	13:40-14:40 LECTURE HALL I	14:40-16:00 CSIM
Monday 04-09-2023	GENERAL ANATOMY CVS Intro CVA-001 Prof Tazeen	PHYSIOLOGY Outline of CVS CV-P-001 Prof A Qaiser	BREAK	MEDIASTINUM-1 CVA-001 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHYSIOLOGY Mechanism of Pul-Ventilation Re-P-001 Prof Tahir AM	NAMAZ & LUNCH BREAK	BIOCHEMISTRY Classification of Lipid CVB-001-002 Dr Gul/ PNI	PHYSIOLOGY BLOOD PRESSURE-Demonstration (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Tuesday 05-09-2023	LIBRARY/ SELF STUDY	PHYSIOLOGY Physiological Anatomy of Cardiac Muscles CV-P-001 Prof A Qaiser		EDIASTINUM-2-CVA-001 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Significance of FA CVB-003 Dr Faryal		BEHAVIORAL SCIENCE Psychosocial Aspects of CVS-CV-BhS-001 Ms Faseeha	PHYSIOLOGY BLOOD PRESSURE -Performance) (Supervised by Senior faculty). A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Wednesday 06-09-2023	HISTOLOGY Cardiac Muscle-I CV-A-014 Prof Tazeen	PHYSIOLOGY Properties of Cardiac Muscles-I CV-P-001 Prof A Qaiser		MEDIASTINUM-3 CVA-001 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHYSIOLOGY Breathing Mechanism-I Re-P-001 Prof Tahir AM		BIOCHEMISTRY Biomedical Importance of Ecosonoid CVB-004 Dr Faryal/ PNI	PHYSIOLOGY BLOOD PRESSURE Performance) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Thursday 07-09-2023	BIOCHEMISTRY Revision CVB-001-004 Dr Faryal/ PNI	GROSS ANATOMY Superior Inferior Vena Cava-1 Dr Rabail Tariq/PTK		10:50-12:30 LAB/PRACTICAL A=Anatomy= Cardiac Muscles (CVA-020) B= Physiology-Examination of Pulse-CVP-031 C=Biochemistry= Cholesterol Est-(CVB-011)	12:30-13:20 PHYSIOLOGY Breathing Mechanism-2 Re-P-001 Prof Tahir AM		13:40-15:00 LAB/PRACTICAL B=Anatomy= Cardiac Muscles (CVA-020) C= Physiology-Examination of Pulse-CVP-031 A=Biochemistry= Cholesterol Est-(CVB-011) (CVB-011)	15:00-16:00 GROSS ANATOMY Superior Inferior Vena Cava-2 Dr Faraz
Friday 08-09-2023	EMBRYOLOGY Early Development of Heart CV-A-006 Prof Tazeen	CHS Primordial Model to Prevent CVS CV-CM-001 Dr Iqra Zulfiqar		CBL HYPERTENSION-CVAg-001 Prof Tahir AM,Prof Qaisar ,Prof NI, Dr Ghazala R, Prof Tazeen All Demonstrators of Anatomy, Physiology, Biochemistry	PATHOLOGY Hemodynamics & CVS CV-Pa-001 Dr Shahjehan Zafar/PAG	13:20-14:00 JUMMA BREAK	14:00-15:30 LAB/PRACTICAL C=Anatomy= Cardiac Muscles (CVA-020) A= Physiology- Physiology-Examination of Pulse-CVP-031 B=Biochemistry= Cholesterol Estimation (CVB-011)	15:30-16:00 SDL

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FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

11TH-15TH-SEPTEMBER-2023 (26TH-WEEK SCHEDULE) (THORAX, LIPIDS)

DAY VENUE	08:30-09:30 LECTURE HALL I	09:30-10:30 LECTURE HALL I	10:30: 10:50	10:50-12:20 DISECTION HALL	12:20-13:20 LECTURE HALL I	13:20- 13:40	13:40-14:40 LECTURE HALL I	14:40-16:00 CSIM
Monday 11-09-2023	GENERAL ANATOMY Clinical Picture of Mediastinum Syndrome CVA-014 Prof Tazeen	PHYSIOLOGY Properties of Cardiac Muscles-II CV-P-001 Prof A Qaiser	BREAK	PERICARDIUM-1 CVA-002 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Lipoprotein-I CVB-005 Dr Gul Zeba/ PNI	NAMAZ & LUNCH BREAK	PHYSIOLOGY Surfactant Re-P-003 Prof Tahir AM	PHYSIOLOGY General Examination-Demonstration (Supervised by Prof Tahir). A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Tuesday 12-09-2023	CHS Health Promotion-I CV-CM-003 Dr Iqra Zulfiqar	PHYSIOLOGY Conducting System-I CV-P-001 Prof A Qaiser		PERICARDIUM-2 CVA-002 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY HDL, VLDL CVB-005 Dr Gul Zeba/ PNI		PHARMACOLOGY Antihypertensive CV-Ph-001 Dr Zafar Iqbal	PHYSIOLOGY General Examination-Performance (Supervised by Prof Tahir). A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Wednesday 13-09-2023	HISTOLOGY Classification of Arteries & Tunics-1 CVA-014 Prof Tazeen	PHYSIOLOGY Conducting System-2 CV-P-001 Prof A Qaiser		PERICARDIUM-3 CVA-002 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHYSIOLOGY Lung Compliance-I Re-P-003 Prof Tahir AM		BIOCHEMISTRY Lipoprotein Disorders-I CVB-006-007 Dr Gul Zeba/ PNI	PHYSIOLOGY General Examination Demonstration (Supervised by Prof Tahir). A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Thursday 14-09-2023	CHS Health Promotion-2 CV-CM-003 Dr Iqra Zulfiqar	HISTOLOGY Classification of Arteries & Tunics-1 CVA-014 Prof Tazeen		10:50-12:30 CBL	12:30-13:20		13:40-15:00 LAB/PRACTICAL	15:00-16:00
				CHEST PAIN-CVAg-002 Prof Tahir AM, Prof NI, Dr Ghazala R, Prof Tazeen All Demonstrators of Anatomy, Physiology, Biochemistry	PAK STUDIES Nature Of Civics Mr Adnan Zahoor		A=Anatomy= Cardiac Muscles (CVA-020) B= Physiology- Chest Examination-CVP-032 C=Biochemistry= Estimation of HDL, HDL (CVB-012)	Library/Self Directed Learning
Friday 15-09-2023	BIOCHEMISTRY Lipoprotein Disorders-2- CVB-006-007 Dr Ghazala P	PHYSIOLOGY Lung Compliance-2 Re-P-003 Prof Tahir AM		LAB/PRACTICAL	PATHOLOGY Infarction CV-Pa-001 Dr Shahjehan Zafar/PAG	13:20- 14:00	14:00-15:30 LAB/PRACTICAL	15:30-16:00
				B=Anatomy= Cardiac Muscles (CVA-020) C= Physiology- Chest Examination A=Biochemistry= Estimation of HDL, HDL (CVB-012)		JUMMA BREAK	C=Anatomy= Cardiac Muscles (CVA-020) A= Physiology- Chest Examination B=Biochemistry= Estimation of HDL,HDL (CVB-012)	SDL

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FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

18TH-22ND-SEPTEMBER-2023 (27TH-WEEK SCHEDULE) (THORAX, LIPIDS)

DAY VENUE	08:30-09:30 LECTURE HALL I	09:30-10:30 LECTURE HALL I	10:30: 10:50	10:50-12:20 DISECTION HALL	12:20-13:20 LECTURE HALL I	13:20- 13:40	13:40-14:40 LECTURE HALL I	14:40-16:00 CSIM
Monday 18-09-2023	GENERAL ANATOMY CAT Prof Tazeen	PHYSIOLOGY Action Potential SA/SV-I CV-P-001 Prof A Qaiser	BREAK	External & Internal Features of Heart-1 CVA-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Cholesterol-I CVB-007 Dr Ghazala-R	NAMAZ & LUNCH BREAK	PHYSIOLOGY Pulmonary Volume & Capacities-1 Re-P-003 Prof Tahir AM	PHYSIOLOGY Demonstration JVP (CV-P033) (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Tuesday 19-09-2023	CHS Secondary Tertiary Prevention-I CV-CM-005 Dr Iqra Zulfiqar	PHYSIOLOGY Action Potential in Ven-I CV-P-001 Prof A Qaiser		External & Internal Features of Heart-2-CVA-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHYSIOLOGY Pulmonary Volume & Capacities-2 Re-P-003 Prof Tahir AM		BIOCHEMISTRY Cholesterol-2 CVB-007 Dr Ghazala-R	PHYSIOLOGY JVP(CV-P033) Performance (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Wednesday 20-09-2023	HISTOLOGY Arterial Histology CVA-015 Prof Tazeen	PHYSIOLOGY Action Potential in Ven-2 CV-P-001 Prof A Qaiser		External & Internal Features of Heart-3-CVA-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY REVISION CVB-003-004 Dr Gul Zeba/ PNI		PHARMACOLOGY Anti-Angina Drugs CV-Ph-002 Dr Zafar Iqbal	PHYSIOLOGY JVP(CV-P033) Performance (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Thursday 21-09-2023	HISTOLOGY Classification & Histology of Venous System-1 CVA-016 Prof Tazeen	PHARMACOLOGY Anti-Angina Drugs CV-Ph-002 Dr Zafar Iqbal		10:50-12:30 CBL EDEMA Prof Tahir AM, Prof Qaisar, Prof NI, Dr Ghazala R, Prof Tazeen All Demonstrators of Anatomy, Physiology, Biochemistry	12:30-13:20 CHS Secondary Tertiary Prevention-2-CV-CM-005 Dr Iqra Zulfiqar		13:40-15:00 LAB/PRACTICAL A=Anatomy= Blood Vessels (CVA-021) B= Physiology- Chest Examination C=Biochemistry= Cardiac Marker-(CVB-013)	15:00-16:00 ISLAMIAT Mr Nabeel
Friday 22-09-2023	PHYSIOLOGY Determination of Lung Volume-1 Re-P-003 Prof Tahir AM	MENTORING A=Dr Faryal B=Dr Kiran C=Dr Bazla D=Dr Gul E=Dr Hibba		LAB/PRACTICAL B=Anatomy= Blood Vessels (CVA-021) C= Physiology- Chest Examination A=Biochemistry= Cardiac Marker-(CVB-013	PATHOLOGY Atherosclerosis CV-Pa-002 Dr Shahjehan Zafar	13:20- 14:00 JUMMA BREAK	14:00-15:30 LAB/PRACTICAL C=Anatomy= Blood Vessels (CVA-021) A= Physiology- Chest Examination B=Biochemistry= Cardiac Marker (CVB-013)	15:30-16:00 SDL

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FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

25TH-29TH -SEPTEMBER-2023 (28TH-WEEK SCHEDULE) (THORAX, ENZYMES)

DAY VENUE	08:30-09:30 LECTURE HALL I	09:30-10:30 LECTURE HALL I	10:30: 10:50	10:50-12:20 DISECTION HALL	12:20-13:20 LECTURE HALL I	13:20- 13:40	13:40-14:40 LECTURE HALL I	14:40-16:00 CSIM
Monday 25-09-2023	PHYSIOLOGY CAT (CVS) Prof AMQ	HISTOLOGY Classification & Histology of Venous System-2 CVA-016 Prof Tazeen	BREAK	BLOOD SUPPLY Heart-1 CVA-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Properties of Enzymes CVB-008 Prof Nasim Ilyas	NAMAZ & LUNCH BREAK	PHYSIOLOGY Determination of Lung Volume & Capacities Re-P-003 Prof Tahir AM	PHYSIOLOGY Demonstration CXR (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Tuesday 26-09-2023	PHYSIOLOGY ECG-I CV-P-004 Prof A Qaiser	CHS Tertiary Prevention in Heart Disease-I CV-CM-005 Dr Iqra Zulfiqar Demonstration		BLOOD SUPPLY Heart-2 CVA-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Classification of Enzymes CVB-008 Prof Nasim Ilyas		PHARMACOLOGY Anti-Arrhythmic Drugs CV-Ph-003 Dr Zafar Iqbal	PHYSIOLOGY Performance CXR (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Wednesday 27-09-2023	EMBRYOLOGY Heart Tube-1 CVA-007 Prof Tazeen	PHYSIOLOGY ECG-2 CV-P-004 Prof A Qaiser		BLOOD SUPPLY Heart-3 CVA-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Action of Enzymes CVB-008 Prof Nasim Ilyas		PHYSIOLOGY Alveolar Ventilation-1 Re-P-004 Prof Tahir AM	PHYSIOLOGY Performance CXR (Supervised by Prof Tahir) A=Lect-Hall-I B=Physiology-Lab C=Biochemistry -Lab
Thursday 28-09-2023	CHS Tertiary Prevention IN Heart Disease-I CV-CM-005 Dr Iqra Zulfiqar	EMBRYOLOGY Heart Tube-2 CVA-007 Prof Tazeen		10:50-12:30 CBL	12:30-13:20		13:40-15:00 LAB/PRACTICAL	15:00-16:00
				ASTHMA Prof Tahir AM,Prof Qaisar, Prof NI, Dr Ghazala R, Prof Tazeen All Demonstrators of Anatomy, Physiology, Biochemistry)	PAK-STUDIES Concept of Sovereignty Mr Adnan Zahoor		A=Anatomy= Blood Vessels (CVA-021) B= Physiology- Spirometry C=Biochemistry= Lipid Profile-(CVB-014)	LIBRARY
Friday 29-09-2023	PHYSIOLOGY Alveolar Ventilation-2 Re-P-004 Prof Tahir AM	SURGERY Pericardial Sinus CV-A-004 Dr Muhammad Asghar		LAB/PRACTICAL	PATHOLOGY SHOCK CV-Pa-004 Dr Shahjehan Zafar	13:20- 14:00	14:00-15:30 LAB/PRACTICAL	15:30-16:00
				B=Anatomy= Blood Vessels (CVA-021) C= Physiology- Spirometry A=Biochemistry= Lipid Profile-(CVB-014)		JUMMA BREAK	C=Anatomy= Blood Vessels (CVA-021) A= Physiology- Spirometery B=Biochemistry= Lipid Profile (CVB-014)	SDL

BAHAWALPUR MEDICAL COLLEGE

FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

2ND-6TH-OCTOBER-2023 (29TH-WEEK SCHEDULE) (THORAX, ENZYMES)

DAY VENUE	08:30-09:30 LECTURE HALL I	09:30-10:30 LECTURE HALL I	10:30 :10:50	10:50-12:20 DISECTION HALL	12:20-13:20 LECTURE HALL I	13:20-13:40	13:40-14:40 LECTURE HALL I	14:40-16:00 CSIM
Monday 02-10-2023	BIOCHEMISTRY CAT (CVS) Lipid Test Prof Nasim Ilyas	PHYSIOLOGY Dead Space-1 Re-P-003 Prof Tahir AM	BREAK	Cardiac Plexus-1 CVA-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHYSIOLOGY Effects of Ions on ECG-3 CV-P-005 Prof A Qaiser	NAMAZ & LUNCH BREAK	GENERAL ANATOMY Lymphatic Drainage of Heart CV-A-003 Prof Tazeen	PHYSIOLOGY Heart Sound-Demonstration (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Tuesday 03-10-2023	BIOCHEMISTRY Factors Affecting Enzymes CVB-009 Prof Nasim Ilyas	PHYSIOLOGY Arrhythmias CV-P-006 Prof A Qaiser		Cardiac Plexus-2 CVA-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHYSIOLOGY Dead Space-2 Re-P-003 Prof Tahir AM		BEHAVIORAL SCIENCE Vocational Issues CV-BhS-001 Ms Faseeha	PHYSIOLOGY Heart Sound-Performance (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Wednesday 04-10-2023	EMBRYOLOGY Development of Embryonic Veins CVA-010 Prof Tazeen	PHYSIOLOGY Brady Arrhythmias- CV-P-006 Prof A Qaiser		Radiology CT/MRI CVA-004 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Enzyme Regulation CVB-009 Prof Nasim Ilyas		PHYSIOLOGY Respiratory Passage Way-1 Re-P-004 Prof Tahir AM	PHYSIOLOGY Heart Sound-Performance (Supervised by Prof Tahir A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Thursday 05-10-2023	BIOCHEMISTRY Enzyme Inhibition CVB-009 Prof Nasim Ilyas	Pediatrics Articular/Ventricular Septal Defects CV-A-009 Prof Abdul Rehman		10:50-12:30 CBL	12:30-13:20		13:40-15:00 LAB/PRACTICAL	15:00-16:00
				ECG Prof Tahir AM, Prof Qaisar, Prof NI, Dr Ghazala R, Prof Tazeen All Demonstrators of Anatomy, Physiology, Biochemistry)	PAK-STUDIES Mr Adnan Zahoor		A=Anatomy=Epiglottis Larynx (Re-A-025) B= Physiology- Chest Auscultation) C=Biochemistry=Chest Movements by Stethograph (Re-B-005)	ISLAMIAT
Friday 06-10-2023	CHS CAT CV-CM-001-005 Dr Iqra Zulfiqar	EMBRYOLOGY Fate of Pharyngeal Arch Arteries CVA-009 Prof Tazeen		LAB/PRACTICAL	PATHOLOGY Types of Heart Failure CV-Pa-004 Dr Shahjehan Zafar/PAG	13:20-14:00	14:00-15:30 LAB/PRACTICAL	15:30-16:00
				B=Anatomy= Epiglottis Larynx (Re-A-025) C= Physiology- Chest Auscultation A=Biochemistry=Chest Movements by Stethograph (Re-B-005)		JUMMA BREAK	C=Anatomy= Epiglottis Larynx (Re-A-025) A= Physiology=Chest Auscultation B=Biochemistry=Chest Movements by Stethograph (Re-B-005)	SDL

BAHAWALPUR MEDICAL COLLEGE

FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

9TH-13TH-OCTOBER-2023 (30TH-WEEK SCHEDULE) (THORAX, ENZYMES)

DAY VENUE	08:30-09:30 LECTURE HALL I	09:30-10:30 LECTURE HALL I	10:30 :10:50	10:50-12:20 DISECTION HALL	12:20-13:20 LECTURE HALL I	13:20-13:40	13:40-14:40 LECTURE HALL I	14:40-16:00 CSIM
Monday 09-10-2023	ANATOMY CAT Prof Tazeen	PHYSIOLOGY Tachy Arrhythmias- CV-P-006 Prof A Qaiser	BREAK	TRACHEA-1 Re-A-002 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Importance of Enzymes CVB-009 Prof Nasim Ilyas	NAMAZ & LUNCH BREAK	PHYSIOLOGY Respiratory Passage Way-2 Re-P-004 Prof Tahir AM	PHYSIOLOGY CHEST EXAMINATION A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Tuesday 10-10-2023	PHYSIOLOGY Prof A Qaiser	PEDIATRICS Congenital Defects CV-A-009 Prof Abdul Rehman		TRACHEA-2 Re-A-002 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Hypercholestremia CVB-010 Prof Nasim Ilyas		PHARMACOLOGY Drugs used in Cardiac Failure CV-Ph-004 Dr Zafar Iqbal	PHYSIOLOGY CHEST EXAMINATION (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Wednesday 11-10-2023	EMBRYOLOGY AV Canal & Sinus Venosis-1 CVA-010 Prof Tazeen	PHYSIOLOGY Pulmonary Systemic Circulation CV-P-008 Prof A Qaiser		TRACHEA-3 Re-A-002 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Phospholipids-1 CVB-009 Dr Ghazala		PHYSIOLOGY Pulmonary Circulation-I Re-P-004 Prof Tahir AM	PHYSIOLOGY CHEST EXAMINATION (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Thursday 12-10-2023	BIOCHEMISTRY Phospholipids-2 CVB-009 Dr Ghazala	EMBRYOLOGY AV Canal & Sinus Venosis-2 CVA-010 Prof Tazeen		10:50-12:30 CBL ECG CVP-003 Prof Tahir AM, Prof Qaisar, Prof NI, Dr Ghazala R, Prof Tazeen All Demonstrators of Anatomy, Physiology, Biochemistry)	12:30-13:20 CHS Risk factor Assessment of CVS Disease-I CV-CM-007 Dr Iqra Zulfiqar		13:40-15:00 LAB/PRACTICAL A=Anatomy= Trachea (Re-A-026) B= Physiology= Peak Expiratory Flow Rate (Re-P-030) C=Physiology=Chest Movements by Stethograph (Re-B-005)	15:00-16:00 LIBRARY
Friday 13-10-2023	PHYSIOLOGY Pulmonary Circulation-2 Re-P-004 Prof Tahir AM	CHS Risk factor Assessment of CVS Disease-I CV-CM-007 Dr Iqra Zulfiqar		LAB/PRACTICAL B=Anatomy=Trachea (Re-A-026) C= Physiology=Peak Expiratory Flow Rate (Re-P-030) A=Physiology=Chest Movements by Stethograph (Re-B-005)	PATHOLOGY Types of Heart Failure CV-Pa-004 Dr Shahjehan Zafar	13:20-14:00 JUMMA BREAK	14:00-15:30 LAB/PRACTICAL C=Anatomy= Trachea (Re-A-026) A= Physiology= Peak Expiratory Flow Rate (Re-P-030) B=Physiology=Chest Movements by Stethograph (Re-B-005)	15:30-16:00 SDL

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FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

16TH-20TH-OCTOBER-2023 (31ST-WEEK SCHEDULE) (THORAX, ENZYMES)

DAY VENUE	08:30-09:30 LECTURE HALL I	09:30-10:30 LECTURE HALL I	10:30: 10:50	10:50-12:20 DISECTION HALL	12:20-13:20 LECTURE HALL I	13:20- 13:40	13:40-14:40 LECTURE HALL I	14:40-16:00 CSIM
Monday 16-10-2023	PHYSIOLOGY CAT-RESPIRATION Prof AMQ	General Anatomy Upper Respiratory Tract Re-A-001 Prof Tazeen	BREAK	THORACIC CAVITY-1 Re-A-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHYSIOLOGY Pressures in Pulmonary System Re-P-004 Prof Tahir AM	NAMAZ & LUNCH BREAK	PHYSIOLOGY Nervous Regulation of Circulation CV-P-009-010 Prof A Qaiser	PHYSIOLOGY Auscultation/ Breathing Sounds-Demo (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Tuesday 17-10-2023	CHS Risk factor Assessment of CVS Disease-I CV-CM-007 Dr Iqra Zulfiqar	PHYSIOLOGY Rapid Control of Arterial Pressure CV-P-011 Prof A Qaiser		THORACIC CAVITY-2 Re-A-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Biological Importance of Phospholipids Re-B-002 Dr Ghazala R		PHARMACOLOGY Drugs used in Cardiac Failure CV-Ph-004 Dr Zafar Iqbal	PHYSIOLOGY Auscultation/ Breathing Sounds-Performance (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Wednesday 18-10-2023	EMBRYOLOGY Bony Cage of Thoracic Cavity Re-A-015 Prof Tazeen	PHYSIOLOGY Long Term Control of Arterial Pressure CV-P-012 Prof A Qaiser		THORACIC CAVITY-3 Re-A-003 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	Cardiology Pericardial Disease CV-A-023		PHYSIOLOGY Principles of gaseous Exchange Re-P-005 Prof Tahir AM	PHYSIOLOGY Auscultation/ Breathing Sounds-Performance (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Thursday 19-10-2023	BEHAVIORAL SCIENCE CAT CV-BhS-001 Ms Faseeha	HISTOLOGY Respiratory Epithelium Re-A-020 CVA-010 Prof Tazeen		10:50-12:30 CBL	12:30-13:20		13:40-15:00 LAB/PRACTICAL	15:00-16:00
				ASTHAMA Re-B—001-003 Prof Tahir AM, Prof Qaisar, Prof NI, Dr Ghazala R, Prof Tazeen All Demonstrators of Anatomy, Physiology, Biochemistry)	BIOCHEMISTRY Elastin Disorders Re-B-003 Dr Ghazala R		A=Anatomy=Bronchial Tree (Re-A-027) B= Physiology= O2 Saturation (Re-P-031 C=Physiology=Tutorial	LIBRARY
Friday 20-10-2023	PHYSIOLOGY Transport of O2 in Blood-1 Re-P-005 Prof Tahir AM	PERLS Portfolio CVB-009 Dr Kiran		LAB/PRACTICAL	PATHOLOGY Acute Respiratory Distress Syndrome Re-Pa-001 Dr Shahjehan Zafar	13:20- 14:00	14:00-15:30 LAB/PRACTICAL	15:30-16:00
				B=Anatomy=Bronchial Tree (Re-A-027) C= Physiology= O2 Saturation (Re-P-031 A=Physiology=Tutorial		JUMMA BREAK	C=Anatomy= Bronchial Tree (Re-A-027) A= Physiology= O2 Saturation (Re-P-031) B=Physiology=Tutorial)	SDL

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FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

23RD-27TH-OCTOBER-2023 (32ND-WEEK SCHEDULE) (THORAX, ENZYMES)

DAY VENUE	08:30-09:30 LECTURE HALL I	09:30-10:30 LECTURE HALL I	10:30 :10:50	10:50-12:20 DISECTION HALL	12:20-13:20 LECTURE HALL I	13:20-13:40	13:40-14:40 LECTURE HALL I	14:40-16:00 CSIM
Monday 23-10-2023	BIOCHEMISTRY CAT -ENZYMES Prof Nasim Ilyas	PHYSIOLOGY Cardiac Output CV-P-013 Prof A Qaiser	BREAK	RIB CAGE-1 Re-A-004 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHYSIOLOGY Transport of O2 in Blood-2 Re-P-005 Prof Tahir AM	NAMAZ & LUNCH BREAK	General Anatomy Thoracic Vertebrae Re-A-006 Prof Tazeen	PHYSIOLOGY ABGs-Demonstration (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Tuesday 24-10-2023	CHS Prevention of ARI Re-CM-001 Dr Iqra Zulfiqar	PHYSIOLOGY Skeletal Muscle & Coronary Circulation CV-P-014-015 Prof A Qaiser		RIB CAGE-2 Re-A-004 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Acid Base Balance Re-B-004 Dr Ghazala R		PHARMACOLOGYCough Suppressants Re-Ph-001 Dr Zafar Iqbal	PHYSIOLOGY ABGs--Performance (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Wednesday 25-10-2023	HISTOLOLOGY Clinical Correlates ReA-024 Prof Tazeen	PHYSIOLOGY Circulatory Shock CV-P-016 Prof A Qaiser		RIB CAGE-3 Re-A-004 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BIOCHEMISTRY Acid Base Disorders Re-B-004 Dr Ghazala R		BEHAVIORAL SCIENCE CAT CV-BhS-001 Ms Faseeha	PHYSIOLOGY Inhaler Use Performance (Supervised by Prof Tahir) A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Thursday 26-10-2023	BIOCHEMISTRY Clinical Interpretation of Acid Base Balance Re-B-004 Dr Ghazala R	EMBRYOLOGY Diaphragm Re-A-016 Prof Tazeen		10:50-12:30-CBL	12:30-13:20		13:40-15:00 LAB/PRACTICAL	15:00-16:00
				HYPOXIA Re-P=016 Prof Tahir AM,Prof Qaisar, Prof NI, Dr Ghazala R, Prof Tazeen All Demonstrators of Anatomy, Physiology, Biochemistry)	PHYSIOLOGY Transport of CO2 in Blood-1 Re-P-007 Prof Tahir AM		A=Physiology=Tutorial B= Physiology= Age Induced Lung Fibrosis (Re-Ag-001) A=Biochemistry== Determination of Ph Meter (Re-B-005)	LIBRARY
Friday 27-10-2023	PHYSIOLOGY Transport of O2 in Blood-3 Re-P-005 Prof Tahir AM	BIOCHEMISTRY/CM Role of Vitamins in RTIs Re-CM-001 Dr Ghazala R/Dr Iqra Zulfiqar		LAB/PRACTICAL	PATHOLOGY/AGING Increase Vulnerability to Infection & Neoplasia Re-Ag-002 Dr Shahjehan Zafar	13:20-14:00	14:00-15:30 LAB/PRACTICAL	15:30-16:00
				B=Physiology=Tutorial C= Physiology= Age Induced Lung Fibrosis (Re-Ag-001) B=Biochemistry== Determination of Ph Meter (Re-B-005)		JUMMA BREAK	C=Physiology=Tutorial A= Physiology- - Physiology= Age Induced Lung Fibrosis (Re-Ag-001) C=Biochemistry== Determination of Ph Meter (Re-B-005)	SDL

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FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

30TH-OCTOBER-3RD-NOVEMB2023 (33RD-WEEK SCHEDULE) (THORAX, ENZYMES)

DAY VENUE	08:30-09:30 LECTURE HALL I	09:30-10:30 LECTURE HALL I	10:30 :10:50	10:50-12:20 DISECTION HALL	12:20-13:20 LECTURE HALL I	13:20-13:40	13:40-14:40 LECTURE HALL I	14:40-16:00 TUTORIAL
Monday 30-10-2023	PHYSIOLOGY Transport of CO2 in Blood-2 Re-P-007 Prof Tahir AM	PHYSIOLOGY Heart Sounds CV-P-017 Prof A Qaiser		PLURAL CAVITY-I Re-A-013 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	General Anatomy Thoracic Vertebrea Re-A-006 Prof Tazeen		PHYSIOLOGY Humoral Control of Blood Flow-2 CV-P-009 Prof A Qaiser	PHYSIOLOGY TUBERCULOSIS (Supervised by Prof Tahir) Re-P-017 A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Tuesday 31-10-2023	CHS Epidemiology of Respiratory Disease Re-CM-002-003 Dr Iqra Zulfiqar	PHYSIOLOGY Heart Failure CV-P-018-019 Prof A Qaiser		PLURAL CAVITY-2 Re-A-013 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	BEHAVIORAL SCIENCES Psychosocial Cough Re-Bhs-002 Dr Zafar Iqbal		PHYSIOLOGY Transport of CO2 in Blood-2 Re-P-007 Prof Tahir AM	PHYSIOLOGY Vulvular Heart Diseases (Supervised by Prof Tahir) CV-P-022 A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Wednesday 01-11-2023	HISTOLOLOGY Clinical Correlates ReA-024 Prof Tazeen	PHYSIOLOGY IHD CV-P-020 Prof A Qaiser	BREAK	PLURAL CAVITY-3 Re-A-013 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHARMACOLOGY Antihistamines Re-Ph-002 Dr Zafar Iqbal	NAMAZ & LUNCH BREAK	PHYSIOLOGY Ventilation Perfusion Ratio-1 Re-P-008 Prof Tahir AM	PHYSIOLOGY Endocardial & Myocardial Diseases-CV-P-024 A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Thursday 02-11-2023	CHS Occupational Lung Diseases Re-CM-004 Dr Iqra Zulfiqar	EMBRYOLOGY Diaphragm Re-A-016 Prof Tazeen		10:50-12:30 CBL	12:30-13:20		13:40-15:00 TUTORIAL	15:00-16:00
				RESPIRATORY FAILURE Prof Tahir AM, Prof Qaisar, Prof NI, Dr Ghazala R, Prof Tazeen All Demonstrators of Anatomy, Physiology, Biochemistry)	SURGERY ABCs in Trauma Patients Re-P-028 Dr M Asghar		PHYSIOLOGY Artificial Respiration A=Lect-Hall-I B=Physiology-Lab C=Biochemistry -Lab	LIBRARY
Friday 03-11-2023	PHYSIOLOGY Transport of CO2 in Blood-2 Re-P-007 Prof Tahir AM	RADIOLOGY Imaging in CVS Disorders CV-P-027		TUTORIAL- PHYSIOLOGY	PATHOLOGY Restrictive Lung Disease Re-Pa-003 Dr Shahjehan Zafar	13:20-14:00	14:00-15:30-TUTORIAL	15:30-16:00
				SPIROMETER (Re-P-032) A=Physiology-Lab B=Biochemistry Lab C=Skills Lab		JUMMA BREAK	PHYSIOLOGY Bronchitis –(Re-P-022) A=Lect-Hall-I B=Physiology-Lab C=Biochemistry -Lab	SDL

BAHAWALPUR MEDICAL COLLEGE

FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

6TH-10TH-NOVEMBER-2023 (34TH-WEEK SCHEDULE) (THORAX, ENZYMES)

DAY VENUE	08:30-09:30 LECTURE HALL I	09:30-10:30 LECTURE HALL I	10:30-10:50	10:50-12:20 DISECTION HALL	12:20-13:20 LECTURE HALL I	13:20-13:40	13:40-14:40 LECTURE HALL I	14:40-16:00 TUTORIAL
Monday 06-11-2023	PHYSIOLOGY Nervous Regulation of Respiration Re-P-013 Prof Tahir AM	PHYSIOLOGY HTN, Vulvular Heart Disease, Pericardial Disease-I CV-P-022-023 Prof A Qaiser	BREAK	Chest Land Marks on X-Ray Re-A-014 A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHYSIOLOGY CO Poisoning Re-P-012 Prof Tahir AM	NAMAZ & LUNCH BREAK	General Anatomy Neurovascular Supply of Thorax Re-A-010 Prof Tazeen	PHYSIOLOGY Venous Thrombosis Embolism CV-P-026 A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Tuesday 07-11-2023	PHYSIOLOGY Hypoxia Re-P-016 Prof Tahir AM	PHYSIOLOGY Endocardial, Myocardial Disease CV-P-024-025 Prof A Qaiser		REVISION-1 Respiration A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	PHYSIOLOGY Exercise & Respiration Re-P-016 Prof Tahir AM		PHARMACOLOGY Anti-Histamines Re-Ph-003 Dr Zafar Iqbal	PHYSIOLOGY Imaging in CVS Disorders CV-P-027 A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Wednesday 08-11-2023	PHYSIOLOGY Imaging of CVS CV-P-027-030 Prof A Qaiser	PEDIATRICS Fetal Circulation at Birth CVP-029 Prof Abdul Rehman		REVISION-2 Respiration A=DH-Dr Hiba B=Museum-Dr Rabial C=Lecture Hall-I-Dr Rabbiya	HISTOLOLOGY Pneumocystis ReA-028 Prof Tazeen		PHYSIOLOGY Chemical Control of Respiration Re-P-014 Prof Tahir AM	PHYSIOLOGY Superior Mediastinum Syndrome CV-P-028 A=Lect-Hall-I –Dr Uzma B=Physiology-Lab- Dr Bazla C=Biochemistry –Lab-Dr Zahra
Thursday 09-11-2023	EOB-III			PREPARATORY LEAVES			PREPARATORY LEAVES	
Friday 10-11-2023	EOB-III			PREPARATORY LEAVES			PREPARATORY LEAVES	

BAHAWALPUR MEDICAL COLLEGE

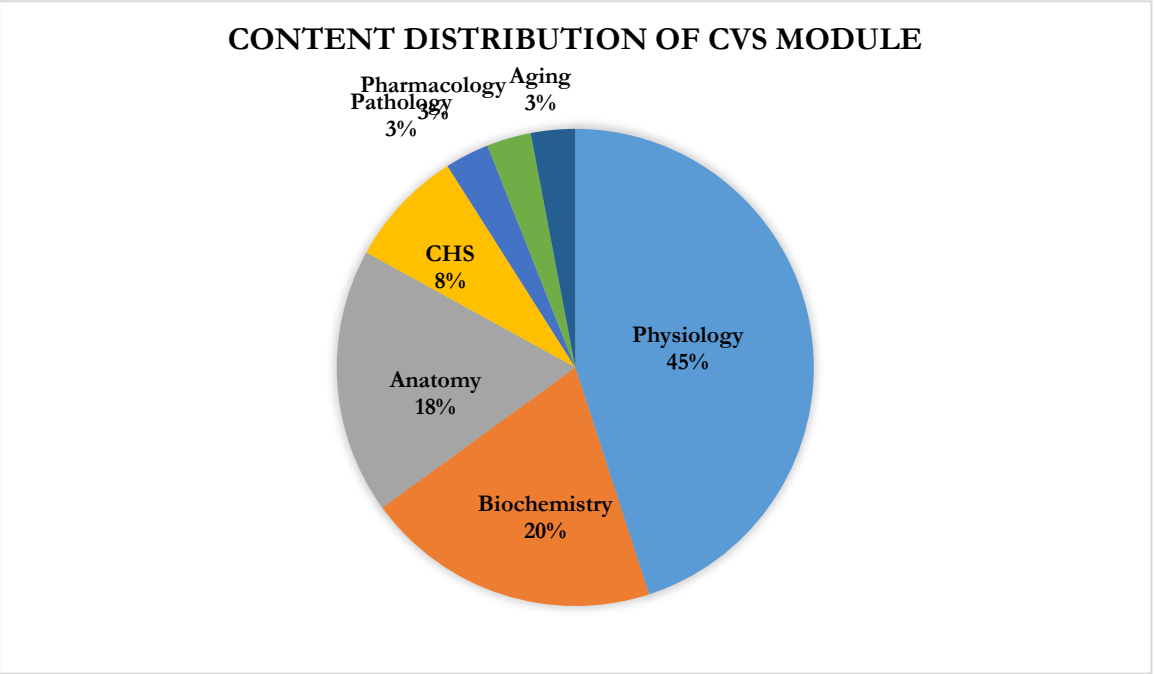
FIRST PROFESSIONAL MBBS-2023-BATCH-2

CARDIOVASCULAR & RESPIRATORY SYSTEM - MODULE-4-5

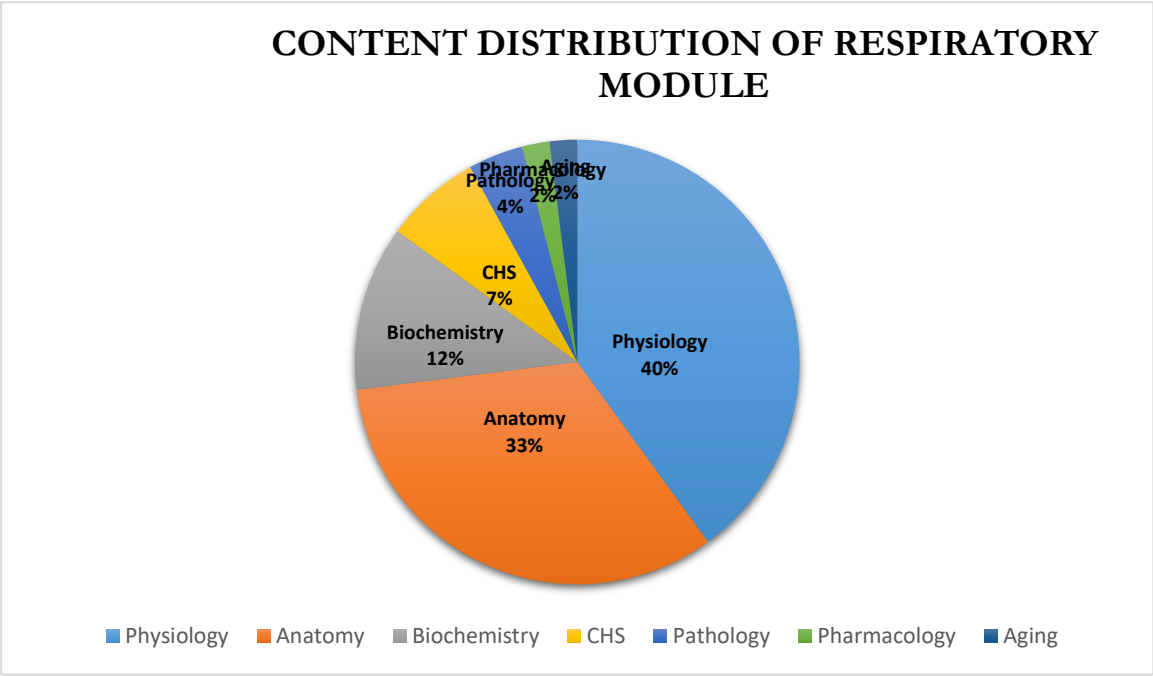
13TH-17TH-NOVEMBER-2023 (35TH-WEEK SCHEDULE) (THORAX, ENZYMES)

DAY DATE	9:30 AM -12:30 PM GROUP-A	9:30 AM -12:30 PM GROUP-B	9:30 AM -12:30 PM GROUP-C
Monday 13-11-2023	EOB-III (THEORY) LECTURE HALL I	END OF BLOCK-III EXAM (THEORY) LECTURE HALL 2	EOB-III (THEORY) DISECTION HALL
Tuesday 14-11-2023	END OF BLOCK III-PREPARATORY LEAVES		
Wednesday 15-11-2023	9:30 AM -14:00 PM		
	EOB-3 (OSPE/OSCE/VIVA (INTERNAL & EXTERNAL) GROUP-B		
Thursday 16-11-2023	EOB-3 (OSPE/OSCE/VIVA (INTERNAL & EXTERNAL) GROUP-A		
Friday 17-11-2023	EOB-3 (OSPE/OSCE/VIVA (INTERNAL & EXTERNAL) GROUP-C		

7. DISTRIBUTION & DURATION OF TEACHING ACTIVITIES AMONGST DIFFERENT DISCIPLINE



Content Distribution Of CVS Module With Various Teaching Strategies						
Disciplines	**LGIS**	**Demonstration**	**Practical**	**CBL**	**CFRC**	**Poster Presentation**
Anatomy	✓	✓	✓	✓		✓
Physiology	✓	✓	✓	✓	✓	✓
Biochemistry	✓	✓	✓	✓		✓
Pathology	✓			✓		✓
Pharmacology	✓			✓		✓
CHS	✓			✓		✓
Aging	✓			✓		✓



Content Distribution Of Respiratory Module With Various Teaching Strategies						
Disciplines	**LGIS**	**Demonstration**	**Practical**	**CBL**	**CFRC**	**Poster Presentation**
Anatomy	✓	✓	✓	✓		✓
Physiology	✓	✓	✓	✓	✓	✓
Biochemistry	✓	✓	✓	✓		✓
Pathology	✓			✓		✓
Pharmacology	✓			✓		✓
CHS	✓			✓		✓
Aging	✓			✓		✓

8. LEARNING OBJECTIVES OF CVS & RESPIRATORY SYSTEM

LEARNING OBJECTIVES OF CARDIOVASCULAR MODULE			
THEORY			
CODE	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC
	GROSS ANATOMY	TOTAL HOURS = 14	
CV-A-001	• Define mediastinum giving its boundaries and Compartments. • List the contents of its variouscompartments.	Human Anatomy	Mediastinum
	• Justify the clinical picture of superior mediastinum syndrome anatomically	Integrate With Surgery	
	• Describe the formation, tributaries and termination of Superior Vena Cava.	Human Anatomy	
	• Describe the formation, branches, and relations of ascending aorta, aortic arch and descending thoracic aorta.		
	• Discuss the distribution of ascending aorta, aortic arch and descending thoracic aorta in reference to their branches		
	• Describe formation, course and tributaries of azygous, hemi-zygous and accessory hemi zygous veins		
	• Describe the course, relations, and distribution of vagus and thoracic splanchnic nerves in relation to nerve supply of heart.		
CV-A-002	• Describe Pericardium and its parts with emphasis on their neurovascular supply and lymphatic drainage	Human Anatomy	Pericardium
	• Describe the pericardial cavity mentioning transverse and oblique sinuses. Discuss their clinical significance		
	• Describe the surgical significance of pericardial sinus	Integrate With Surgery	
	• Describe the anatomical correlates of pericardial rub, pericardial pain, pericarditis, pericardial effusion, and cardiac tamponade.	Integrate With Medicine	
	• Describe the Anatomical basis for pericardiocentesis.		
CV-A-003	• Describe the external features of heart. • List various chambers of heart mentioning their salient features and openings.	Human Anatomy	Heart
	• Describe the arterial supply of heart: coronary arteries and their distribution with special emphasis on collaterals established during ischemia.		
	• Describe the sites of anastomosis between right and left coronary arteries with the participating vessels.		
	• Discuss the anatomical correlates of cardiac arterial supply.	Integrate With Cardiology/Medicine	
	• Describe the anatomical basis for cardiac catheterization		
	• Describe the anatomical correlates of elctrocardiography, heart block, atrial fibrillation,	Integrate With Medicine	

	artificial cardiac pacemaker, cardiac referred pain.		
	• Describe the anatomical basis for echocardiography, coronary angiography. Angioplasty & Coronary Grafts.	Integrate With Cardiology/Medicine	Heart
	• Describe the features of angina pectoris and myocardial infarction and correlate them anatomically		
	• Describe the venous drainage of heart.	Human Anatomy	
	• . Describe the alternative venous routes to the heart.		
	• Identify the vessels supplying the heart with their origins/terminations.		
	• Describe the Lymphatic of heart		
	• Describe the Formation, relations and Distribution of Cardiac Plexus.		
	• Describe components and significance of fibrous Skeleton of heart.		
	• Describe the cardiac valves		
	• Explain the anatomical basis for valvular heart diseases.	Integrate With Cardiology/Medicine	
	• Perform surface marking of various anatomical landmarks of heart and great vessels.	Human Anatomy	
	• Perform percussion and auscultation of heart.	Integrate With Medicine	
	• Identify the salient features of heart and great vessels on CT/MRI.	Integrate With Radiology	
CV-A- 004	• Describe the surgical importance of pericardial sinus	Surgery	
CV-A- 005	• Discuss the anatomical principles of Varicose,	Surgery	
CODE	**EMBRYOLOGY & POST-NATAL DEVELOPMENT**	**TOTAL HOURS=14**	
CV-A- 006	• Describe the early development of heart and blood vessels	Human Embryology	Introduction
CV-A- 007	• Define parts of primitive heart tube and give its Folding.		Development of Heart
	• Describe the development of various chambers of Heart with emphasis on their partitioning.		
	• Identify various parts of developing heart tube and structures derived from them during embryonic and fetal life (Models and specimens)		
CV-A- 007-a	• Describe the embryological basis of dextrocardia and Ectopia Cordis.		Development of Heart & Development of Lymphatic System
	• Describe the development of sinus venosus.		
	• List clinically significant types of atrial septal defects along with their embryological basis and features. Describe probe patent foramen ovale	Integrate with Pediatrics	
	• Describe the partitioning of truncus arteriosus and bulbus cordis	Human Embryology	
	• Describe the formation of ventricles and Inter ventricular septum	Integrate with Pediatrics	
	• Describe the clinical features and embryological	Integrate with Pediatrics	

CV-A-008	basis of ventricular septal defects		
	• Describe the development of cardiac valves and conducting system.	Human Embryology	
	• Describe the development of lymphatic system	Human Embryology	
CV-A-009	• Describe the embryological correlates and clinical presentation of developmental defects of heart: Tetralogy of Fallot, Patent ductus arteriosus, Unequal division of arterial trunks, Transpositionof great vessels and Valvular stenosis, Co arctation of aorta	Integrate with Pediatrics	Development of Artries
	• Describe the formation and fate of pharyngeal arch arteries	Human Embryology	
	• Describe the anomalies of great arteries emerging from heart: Coarctation of aorta, anomalous arteries	Integrate with Cardiology/Medicine	
CV-A-010	• Describe the development of embryonic veins associated with developing heart: Vitelline veins, Umbilical Veins and Common cardinal vein and their fate	Human Embryology	Development of Veins
	• Describe the formation of superior & inferior vena cava and portal vein with their congenitalanomalies		
	• With the help of diagrams illustrate the development of superior vena cava, inferior venacava and portal vein		
CV-A-011	List the derivatives of fetal vessels and structures: Umbilical vein, ductus venosus, umbilical artery, foramen ovale, ductus arteriosus	Human Embryology	Fetal Vessels& Circulation
	Describe Fetal and neonatal circulationmentioning transitional neonatal circulation with itsclinical implication	Integrate with Pediatrics/ Obgyn	
CV-A-012	List clinically significant types of atrial septal defects along with their embryological basis and features. Describe patent foramen ovale.	Pediatrics	Congenital Heart defects
	Describe the embryological correlates and clinical presentation of developmental defects of heart: Tetralogy of Fallot, Persistent ductus arteriosus, Unequal division of arterial trunks, Transposition of great vessels and Valvular stenosis		
CODE	**MICROSCOPIC ANATOMY (HISTOLOGY PATHOLOGY)**	**TOTAL HOURS=4**	
CV-A-013	• Describe the microscopic and ultramicroscopic structure of cardiac muscle emphasizing on T-tubules, sarcoplasmic reticulum and intercalated discs.	Histology	Cardiac Muscle
	• Identify, draw and label histological structure of cardiac muscle		
CV-A-014	• Describe general histological organization of blood vessels: Tunica intima, media and adventitia.	Histology	Blood Vessels Organizations
	• Identify, draw and label histological sections		

	of elastic artery, muscular artery, arterioles, vein, capillaries and sinusoids		
CV-A-015	• Describe histological features of arteries: Muscular arteries, elastic arteries, Arterioles	Histology	Arteries

CV-A-016	• Describe histological features of veins and exchange vessels: large veins, medium sizedveins, venules, Capillaries, and sinusoids • Compare and contrast the light microscopic structure of arteries and veins	Histology	Veins
CV-A-017	• Describe the histopathological basis of thrombus and embolus formation.	Integrate with Pathology	Thrombus/Embolus formation
CV-A-018	• Explain the histological basis of arteriosclerosis and atherosclerosis	Histology	Arteriosclerosis atherosclerosis
CV-A-019	• Describe role of arterioles in hypertension		Hypertension

PRACTICAL			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	Histology	**Total Hours = 3**	
CV-A-020	• Identify, draw and label histological structure of cardiac muscle	Histology	Histologicalfeatures of Cardiac Muscle
CV-A-021	• Identify, draw and label histological sections of elasticity artery, muscular artery, arterioles, vein,capillaries and sinusoids	Histology	Histologicalfeatures of Blood Vessels

NORMAL FUNCTION			
Theory			
CODE	**MEDICAL PHYSIOLOGY**	**Total Hours = 75**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
CV-P-001	• Explain the physiological anatomy of cardiac muscle. • Explain the functional importance of intercalated discs. • Discuss the properties of cardiac muscles. • Describe and draw the phases of action potential of ventricle.		

	• Describe and draw the phases of action potential of SA node along with explanation of the mechanism of self-excitation/ Auto rhythmicity of SA node.	Physiology	CardiacMuscle
	• Define and give the duration of the Absolute and relative refractory period in cardiac muscle.		
	• Draw & explain pressure & volume changes of left ventricle during cardiac cycle.		
	• Explain & draw relationship of ECG with cardiac cycle.		
	• Explain & draw the relationship of heart sounds with cardiac cycle.		
	• Enlist, draw, and explain the physiological basis of atrial pressure waves in relation to cardiac cycle.		
	• Define & give the normal values of the cardiac output, stroke volume, end diastolic volume & end systolic volume	Integrate with Medicine	
CV-P-002	• Describe the Frank starling mechanism.	Physiology	Regulationof heart pumping
	• Describe the autonomic regulation of heart pumping.		
	• Describe the effect of potassium, calcium ions & temperature on heart function.		
	• Define chronotropic effect- positive and negative.		
	• Define the inotropic effect: positive and negative.		
	• Define dromotropic effect: positive and negative		
	• Describe the location of adrenergic & cholinergic receptors in heart.		
	• Name the receptors present in coronary arterioles.		
	• Explain sympathetic & parasympathetic effects onheart rate & conduction velocity		
CV-P-003	• Draw and explain the conducting system of heart	Physiology	Conductingsystem of heart
	• Describe the physiological basis and significance of AV nodal delay.		

	• Explain the ectopic pacemaker.	Integrate with Cardiology/ Medicine	
CV-P-004	• Enlist, draw, and explain the physiological basis & give durations of waves, intervals, and segments ofnormal ECG.	Physiology	Fundamentals of ECG
	• Describe the standard limb leads, Augmented limb leads & precordial leads.		
	• Define Einthoven's Triangle & Einthoven's Law		
	• Explain the physiological basis of upright T wave in normal ECG.		
	• Describe the location and significance of J point in ECG.		
	• Explain the physiological basis of current of injury.		
	• Enlist the ECG changes in angina pectoris.	Integrate with Medicine	
	• Enlist the ECG changes in myocardial infarction.		
	• Plot the mean cardiac axis.	Physiology	
	• Enlist the physiological & pathological causes of right axis deviation of heart.		
	• Enlist the physiological & pathological causes of left axis deviation of heart		
	• Describe the abnormalities of T wave and theircauses.	Integrate with Medicine	
CV-P-005	• Describe the effect of hypokalemia and hyperkalemia on ECG	Integrate with Biochemistry	Effect of electrolyteon ECG
	• Describe the effect of hypocalcemia and hypercalcemia on ECG.		
CV-P-006	• Define tachycardia and enlist its causes.	Integrate with Medicine	
	• Define bradycardia and enlist its causes.		

	• Classify arrhythmias	Physiology	Cardiac arrhythmia
	• Explain the physiological basis of sinus arrythmia.		
	• Explain the physiological basis of reflex bradycardia in Athletes.		
	• Explain the carotid sinus syndrome.		
	• Enlist the causes of atrioventricular block.	Integrate with Cardiology/ Medicine	
	• Explain the types of atrioventricular blocks.		
	• Explain the ECG changes in 1^{st}, 2^{nd} & 3^{rd} degree heart block.		
	• Explain the cause, physiological basis & ECGchanges in Stokes Adam syndrome/ventricular escape.	Physiology	
	• Enlist the causes of premature contractions.	Integrate with Cardiology/ Medicine	
	• Explain the causes and ECG changes of prematureatria contractions.		
	• Explain the physiological basis of pulses deficit.	Physiology	
	• Explain the causes and ECG changes in PVC.	Integrate with Cardiology/ Medicine	
	• Enlist the causes and ECG findings in Long QT syndrome.		
	• Explain the causes, physiological basis, features,ECG changes & management of ventricular fibrillation.		
	• Explain the causes, physiological basis, features & ECG changes of atrial fibrillation.		
	• Explain the physiological basis, features & ECG changes of atrial flutter.	Physiology	
	• Compare Flutter and Fibrillations	Physiology	
CV-P-007	• Explain the functional parts of circulation (arteries, arterioles, capillaries, veins, venules).	Physiology	Organization of Circulation
CV-P-008	• Explain the pressures in systemic & pulmonary circulation.	Physiology	Blood flow
	• Explain the types of Blood flow and significance of • Reynolds number.		
CV-P-009	• Discuss acute local control of local blood flow.		Local & Humoral Control
	• Discuss acute humoral control of local blood flow.		
	• Explain long term control of local blood flow.		

	• Name the organs in which auto regulation of blood flow occurs during changes in arterial pressure(metabolic & myogenic mechanisms).	Physiology	of Blood flow
CV-P-010	• Explain the role of autonomic nervous system for regulating the circulation.	Physiology	Nervous Regulation of circulation
	• Explain the vasomotor center.		
	• Explain the control of vasomotor center by higher nervous centers.		
	• Explain emotional fainting/vasovagal syncope.		
	• Identify vessels constituting micro-capillaries.Enumerate hydrostatic and osmotic factors that under Starling's Hypothesis of capillary Functions.		
CV-P-011	• Explain the role of nervous system in rapid control of arterial blood pressure.	Physiology	Rapid control of arterial blood pressure
	• Explain the regulation of arterial blood pressure during exercise.		
	• Enlist different mechanisms for short term regulation of arterial blood pressure.		
	• Explain the role of baroreceptors in regulation of arterial blood pressure.		
	• Explain the role of chemoreceptors in regulation of arterial blood pressure.		
	• Make a flow chart to discuss the role of Atrial volume reflexes/Bainbridge reflex in control of blood pressure.		
	• Make a flow chart to show the reflex responses to increased blood volume which increase blood pressure and atrial stretch.		
	• Describe the role of CNS ischemic response in regulation of the blood pressure.		
	• Explain the Cushing reflex		
	• Explain the role of abdominal compression reflex to increase the arterial blood pressure.		
CV-P-012	• Make a flow chart to discuss the role of renin angiotensin system for long term control of blood pressure.	Physiology	Role of kidneys in long term Regulationof Arterial Blood Pressure
	• Make a flow chart to show the regulation of blood pressure in response to increase in ECF volume.		
	• Make a flow chart to show the regulation of blood pressure in response to increase in salt intake.		
	• Define cardiac output, cardiac index & venous return with their normal values.		

CV-P-013	• Explain the pathological causes of high & low cardiac output.	Integrate with Cardiology/ Medicine	Cardiacoutput
	• Discuss the factors regulating cardiac output		
	• Discuss factors regulating venous return	Physiology	
CV-P-014	• Explain the regulation of skeletal muscle blood flowat rest & during exercise.	Physiology	Skeletalmuscle circulation
CV-P-015	• Explain the physiological anatomy of coronary circulation.	Physiology	Coronary circulation
	• Explain the regulation of coronary blood flow.		
	• Explain the physiological basis of angina, myocardial & sub endocardial infarction		
CV-P-016	• Define & enlist different types of shock.	Physiology	
	• Explain the causes, features, and pathophysiology of hypovolemic/hemorrhagic shock.		
	• Explain the causes, features, and pathophysiology of septic shock.		
	• Explain the causes, features, and pathophysiology of neurogenic shock.	Integrate with Pathology	Circulatoryshock
	• Explain the causes, features, and pathophysiology of anaphylactic shock.		
	• Discuss the treatment of different types of shock.	Integrate with Medicine	
	• Explain the different stages of shock.	Physiology	
	• Explain the mechanisms that maintain the cardiacoutput & arterial blood pressure in non-progressive shock.		
	• Enlist different types of positive feedback mechanisms that can lead to the progression ofshock.		
CV-P-017	• Enlist the different types of heart sounds and explain the physiological basis of each.	Physiology	Heart Sounds
	• Enlist the causes of 3^{rd} and 4^{th} heart sounds.		
	• Explain the causes & physiological basis of murmurs caused by valvular lesions.		
	• Enumerate abnormal heart sounds and describe the physiological basis of each.	Integratewith Medicine	
CV-P-018	• Classify different types of heart failure		Heart Failure
	• Discuss the signs and symptoms of Heart failure.		
	• Discuss the management of Heart failure.		

CV-P-019	Discuss the signs and symptoms of: Arrhythmias.	General Medicine/ Cardiology	Arrhythmias
	• Discuss the management of Arrhythmias.		
CV-P-020	• Enlist various categories of ischemic heart diseases		IschemicHeart Disease (IHD)
	• Discuss the signs and symptoms of ischemic heart diseases		
	• Discuss the management of ischemic heart diseases.		
	• Discuss the signs and symptoms of: Hypertension.		
CV-P-021	• Discuss the management of Hypertension.		Hypertension
CV-P-022	• Enlist various valvular heart diseases		ValvularHeart Diseases
	• Identify presentations and signs and symptoms of valvular heart diseases		
	• Outline management strategies		
CV-P-023	• Identify various pericardial diseases	General Medicine/ Cardiology	Pericardial Diseases
	• Identify presentations and signs and symptoms		
	• Outline management strategies		
CV-P-024	• Identify various endocardial and myocardial diseases	General Medicine/ Cardiology	Endocardialand myocardial diseases
	• Identify presentations and signs and symptoms		
	• Outline management strategies		
CV-P-025	• Define Peripheral arterial diseases	General Medicine	Peripheral Arterial Diseases (PAD)
	• Identify symptoms and signs of PAD		
	• Outline management strategies		
CV-P-026	• Enlist various sites of venous thromboembolism	General Medicine,Surgery	Venous thrombo-embolism
	• Identify various symptoms and signs of DVT		
	• Identify various symptoms and signs of pulmonary embolism		
	• Outline management strategies		
CV-P-027	• Identify the salient features of heart and great vessels on CT/ MRI	Radiology	Imaging inCVS disorders
	• Discuss the principles of cardiac catheterization		
CV-P-028	• Justify the clinical picture of superior mediastinum syndrome anatomically	Surgery	Superior mediastinum Syndrome
CV-P-029	• Describe Fetal and neonatal circulation mentioning transitional neonatal circulation with it clinical implication	ediatrics,Obgyn	Fetal circulation at Birth

CV-P-030	• Psychological basis of emotional fainting and its impact	Behavioral Sciences	Emotional Fainting
CODE	**SPECIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	MEDICAL BIOCHEMISTRY	**Total Hours = 30**	
CV-B-001	• Classify lipids.	Biochemistry	Classificationn of lipids
CV-B-002	• Discuss the biomedical functions & properties oflipids.	Biochemistry	Functions oflipids & Properties of lipids
CV-B-003	• Classify fatty acids. Discuss the role of trans saturated, saturated, poly- and mono-unsaturatedfatty acids in diet on lipid profile. • Discuss lipid peroxidation and its significance	Biochemistry	Classificationn of fatty acids
CV-B-004	• Explain the biochemical and therapeutic roles of eicosanoids (prostaglandins, leukotrienes, thromboxane, and prostacyclin)	Biochemistry	Eicosanoids
CV-B-005	• Describe the types, structure, biomedical importance of Lipoproteins • Discuss the synthesis, transport and fate of Lipoproteins	Biochemistry	Circulation Lipoproteins
CV-B-006	• Interpret the disorders associated with impairment of lipoprotein metabolism especially atherosclerosisand LDL oxidized	Biochemistry	Hyper lipidemias
CV-B-007	• Explain the sources, properties, and biomedical role of cholesterol • Describe the reactions of cholesterol biosynthesisand its regulation & fate. • Discuss Genetic basis of the Hypercholesterolemia	Biochemistry	Cholesterol
CV-B-008	Describe enzymes with reference to: • Active sites • SpecificityCatalytic • Cofactor efficiency • Coenzyme • Holoenzyme • Apoenzyme • Prosthetic group • Zymogens Location	Biochemistry	Hypercholesterolemia
CV-B-009	• Classify enzymes according to the reaction theycatalyze.	Biochemistry	Enzyme
	• Explain the mechanism of enzyme action fromreactants to products (catalysis). a) Illustrate enzyme kinetics in relation to MM b) Equation & Line weaver- Burke plot		
	• Discuss the effect of various factors (with specialreference to Km/V max) on enzymatic activity. • Substrate concentration • Temperature • PH • Enzyme concentration		

CV-B-009	• Explain the regulation of enzymatic activity. a. Compare allosteric regulation with regulation by covalent modification. b. Discuss the effect of inhibitors on enzymatic activity which includes: Competitive inhibition Uncompetitive inhibition c. Interpret the effect of organophosphorus poisoning on enzyme activity on basis of given data.		
CV-B-009	• Explain the application of enzyme in clinicaldiagnosis and therapeutic use	Integrate with Medicine/ Cardiology	
CV-B-010	• Discuss the signs and symptoms of hyperlipidemia • Interpret data related to hyperlipidemia	Biochemistry / Medicine	Type I to V hyperlipidemias

PHYSIOLOGY PRACTICAL			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**Total Hours = 10+08=18**	
		DISCIPLINE	**TOPIC**
CV-P-031	• Record an electrocardiogram by correct lead placement and connections.	Physiology	ECG
CV-P-032	• Perform auscultation of chest to recognize normal heart sounds.		Heart Sounds
CV-P-033	• Examine neck veins to determine Jugular Venous Pulse.		JVP
CV-P-034	• Examine arterial pulse to recognize normal characteristics of pulse.		ArterialPulse
CV-B-011	• Perform estimation of Cholesterol by kit method	Biochemistry	Cholesterol Estimation
CV-B-012	• Perform estimation of HDL, LDL		HDL, LDL Estimation
CV-B-013	• Estimation of cardiac markers		Cardiac Marker Estimation
CV-B-014	• Interpret lab reports based on enzymes for diseases like cardiac disorders and hyperlipidemias		Interpretationn of Lab report

AGING			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**Total Hours = 5**	
		DISCIPLINE	**TOPIC**
CV-Ag-001	• Discuss the effect of age on blood vessels with reference to hypertension	Physiology/ Geriatrics/ Medicine	Hypertension
CV-Ag-002	• Discuss the risk of cardiac attack in old age and weather conditions		CardiacAttack
CV-Ag-003	• Discuss the effect of age on valvular system of the heart.		Valvulardiseases
CV-Ag-004	• Discuss the effect of age on neural conduction of the heart in relation to arrythmia.		Arrythmia
CV-Ag-005	• Discuss the protective role of female hormone against CVS diseases in women of reproductiveage group	Physiology/ Obstetrics and Gynecology	Role of female hormone on CVS disease

PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS			
		Total Hours = 5+5= 10	
CODE	**SPECIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
CV-Pa-001	• Classify types of thrombosis, embolism, and infarction	Pathology	Hemodynamics and CVS
CV-Pa-002	• Discuss the pathophysiology of thrombosis, embolism, and infarction		Atherosclerosis
CV-Pa-003	• Identify the types and causes of hypertension		Hypertension
CV-Pa-004	• Discuss the pathophysiology of atherosclerosis, hypertension, and shock		Shock
CV-Pa-005	• Discuss the clinical consequences of hypertension and atherosclerosis		CardiacFailure
	• Classify the types of heart failure		
	• Identify the causes leading to heart failure		
CV-Pa-006	• Identify the types of ischemic heart disease		IschemicHeart Disease
	• Discuss the pathophysiology of different types of ischemic heart disease		
CV-Ph-001	• Outline the pharmacological concepts of drugs used in hypertension.	Pharmacologyy	Anti hypertensive drugs
CV-Ph-002	• Outline the pharmacological concepts of drugs used in angina.		Antianginaldrugs
CV-Ph-003	• Outline the pharmacological concepts of drugs used in arrythmias.		Antiarrhythmics drugs
CV-Ph-004	• Outline the pharmacological concepts of drugs used in cardiac failure.		Drugs forcardiac failure

CV-Ph-005	Outline the pharmacological concepts of drugs usedin peripheral vascular diseases.		Drugs for peripheralvascular diseases

DISEASE PREVENTION & IMPACT			
CODE		**Total Hours = 15**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
CV-CM-001	• Describe the various strategies and models to prevent diseases.	Community Medicine and Public Health	Disease Prevention Models
CV-CM-002	• Describe primordial prevention and its application to preventing CVS diseases.		Primordial Prevention
	• Depict the concept of primary prevention in context to CVS and able to apply on CVS diseases.		
CV-CM-003	Discuss the basic concept of health promotion and its application to CVS.		Health Promotion
CV-CM-004	• Discuss various methods of behavioral change interventions at community level.		Behavioral Change Intervention
CV-CM-005	• To apply secondary and tertiary preventions on CVS diseases (coronary heart disease, ischemicheart disease, hypertension)		Secondary & Tertiary Prevention
CV-CM-006	• Describe the concept of cardiovascular diseases as non-communicable diseases		Non-communicable disease
CV-CM-007	• Identify the risk factors in the community for CVS diseases.		Risk factor assessment ofCVS diseases
	• Learn and apply interventions to prevent the risk factors in community.		
CV-BhS-001	• Identify and deal with the various psychosocial aspects of cardiovascular conditions (such as Hypertension, Coronary artery disease, Heart failure, Arrythmias, and other cardiovascular conditions) on Individual, Family and Society.	BehavioralSciences	Personal, Psychosocial and vocationalissues

CARDOVASCULAR SYSTEM MODULE

Objectives	Skills	Miller's PyramidLevel reflected
Auscultation of heart sounds	**Heart sounds**	**Shows**
Detection of ankle swelling/edema – pitting /non-pitting	**Edema**	**Shows**
Abdominal jugular reflex	**JVP**	**Shows**
Identify main organs of the thoraxon CXR	**CXR**	**Shows**
Perform detection of pedal andcarotid pulses	**Pedal and carotid pulse**	**Shows**
Perform cervical and axillary lymphnode examination	**Lymph node Examination**	**Shows**

LEARNING OUTCOMES OF RESPIRATORY SYSTEM MODULES			
CODE	**SPECIFIC LEARNING OUTCOMES**	**DISCIPLINE**	**TOPIC**
	GROSS ANATOMY	**TOTAL HOURS =30**	
Re-A-001	• Describe the anatomical features and neurovascular supply of nasal cavity	Human Anatomy	Upper Respiratorytract
	• Describe the anatomical features and neurovascular supply of pharynx	Human Anatomy	
	• Describe the anatomical features and neurovascular supply of larynx	Human Anatomy	
Re-A-002	• Describe the anatomical features of the Trachea with its extent, relations, neurovascular supply and lymphatics.	Human Anatomy	Trachea
Re-A-003	• Give the boundaries of thoracic cavity, superior and inferior thoracic apertures andlist the structures contained/ traversing them.	Human Anatomy	ThoracicCavity
	• Describe the anatomical correlates of Thoracic inlet syndrome & Thoracic outlet syndrome.	Integrate with Surgery	
	• Identify and differentiate the typical from atypical ribs.		

Re-A-004	• Describe the anatomical features of ribs and give their attachments.	Human Anatomy	Rib Cage
	• Describe the anatomical correlates of supernumerary cervical rib.	Integrate with Surgery	
	• Classify the articulations of the ribs.	Human Anatomy	
	• Describe the anatomical features of these articulations.		
	• Describe the movements with the muscles producing articulations.	Human Anatomy	
	• Describe the effects of fracture to the neck of rib and give its anatomical justification	Integrate with Orthopedics	
	• Describe the anatomical correlates of Flail Chest.		
Re-A-005	• Describe the anatomical correlates of Thoracotomy	Integrate with Surgery	Intercostalspace
	• Define the attachments, relations, nerve supply and actions of intercostal muscles	Human Anatomy	
	• Define an intercostal space and give details of its contents		
	• Describe the anatomical correlates of intercostal incisions	Integrate with Surgery	
Re-A-006	• Describe the anatomical features and attachments on typical & atypical thoracicvertebrae.	Human Anatomy	Thoracic Vertebrae
	• Differentiate between typical and atypical vertebrae		
	• Explain the thoracic part of vertebral column (normal curvature, intervertebral joints, muscles & fascia of the back, blood supply, lymphatic drainage, nerve supply of back) Associated Clinical conditions -Kyphosis, Scoliosis		
Re-A-007	• Describe the bony features and attachments on the sternum	Human Anatomy	Sternum
	• Describe the anatomical correlates of median sternotomy.	Integrate with Surgery	
	• Describe the anatomical correlates of sternal biopsy.		
	• Describe the presentation of sternal fractures and correlate it anatomically	Integrate with Orthopedics	
Re-A-008	• Describe the endo thoracic fascia with its attachments.		Connectivetissue of thorax

	• Describe the supra-pleural membrane with its attachments.	Human Anatomy	
Re-A-009	• Classify the joints of the thorax mentioning their articulations, movements with themuscle producing them.	Human Anatomy	Joints ofthorax
	• Describe the mechanism of thorax: pump handle and bucket handle movements.		
Re-A-010	• Describe the origin, course, relations and distribution of intercostal nerves and vessels	Human Anatomy	Neurovascular supply of thorax
	• Describe the course and relations of Internal thoracic vessels.		
	• Describe the alternate routes of venous drainage in blockage of superior/ inferiorvena cava	Integrate with medicine	
Re-A-011	• Describe the cutaneous nerve supply and dermatomes of thorax.	Human Anatomy	
	• Give anatomical justification of the manifestations of herpes zoster infection on thoracic wall.	Integrate with medicine	Cutaneous Nerve supply of thorax
	• Discuss anatomical correlates of intercostal nerve block	Integrate with Anesthesia	
Re-A-012	• Name the parts of diaphragm mentioning their attachments and neurovascular supply	Human Anatomy	Diaphragm
	• Explain the role of diaphragm in respiration		
	• Enumerate the diaphragmatic apertures with their vertebral levels, mentioning the structures traversing them.	Integrate with medicine	
Re-A-013	• Describe the pleura giving its parts, layers, neurovascular supply, and lymphaticdrainage	Human Anatomy	Pleural Cavity
	• Describe the pleural cavity giving its recesses and the lines of pleural reflection		
	• Describe the anatomical correlates of pleural pain pleurisy, pneumothorax, pleural effusion	Integrate with Medicine	
Re-A-014	• Describe the anatomical features, relations of lungs	Human Anatomy	Lungs
	• Describe the neurovascular supply and lymphatic drainage of lungs.		
	• Compare and contrast the anatomical features and relations of right and left lung		
	• Describe the root of the lung and pulmonary ligament with arrangement of structures at the hilum		
	• Define Bronchopulmonary segments. Give • their vascular supply, lymphatic drainageand clinical significance		

	• Describe the anatomical correlates of chest tube intubation	Integrate with surgery	
	• Describe the anatomical correlates of thoracentesis		
	• Explain the pathophysiology of Atelectasis.	Integrate with pulmonology	
	• Describe the anatomical correlates of bronchoscopy	Integrate with pulmonology	
	• Describe the anatomical basis for medico-legal significance of lungs in determining theviability of newborn	Integrate with ForensicMedicine	
	• Identify various anatomical landmarks on chest X-Rays, CT and MRI	Integrate with Radiology	
	EMBRYOLOGY & POST-NATAL DEVELOPMENT	**TOTAL HOURS = 6**	
Re-A-015	• Describe the development of ribs, sternum,and thoracic vertebrae. Give the associatedcongenital malformations	Human Embryology	Bony components of thoracic cavity
Re-A-016	• List the embryological sources of the diaphragm. Describe the events taking place in the development and descent of the diaphragm	Human Embryology	Diaphragm
	• Describe the embryological basis of congenital anomalies of the diaphragm: diaphragmatic hernias, eventuation of diaphragm, epigastric hernia, hiatal hernia, retrosternal hernia	Integrate with Pediatrics	
Re-A-017	• Describe the development of upper respiratory tract: larynx and trachea	Human Embryology	Upper Respiratory Tract
	• Describe congenital anomalies of larynx and trachea: laryngeal web, laryngeal atresia,tracheal stenosis and atresia.	Integrate with Pediatrics	
	• List the types of tracheo-esophageal fistulas. Describe their embryological basis and clinical presentation	Integrated with Surgery	Lungs
Re-A-018	• List the phases of lung development with their time periods. Describe the eventstaking place in each phase	Human Embryology	
	• Describe the embryological basis and clinical presentation of respiratory distresssyndrome/Hyaline membrane disease.	Integrate with Pediatrics	

	MICROSCOPIC STRUCTURE	Total Hours = 4	
Re-A-019	• Give the general histological organization of respiratory system.	Histology	Organization of respiratory system
Re-A-020	• Describe the microscopic and ultra-microscopic structure of respiratory epithelium	Histology	Respiratory epithelium
Re-A-021	• Describe the histology of blood-air barrier	Histology	blood-air barrier
Re-A-022	• Describe the histological features of epiglottis and larynx	Histology	Epiglottis & larynx
Re-A-023	• Describe the histological features of trachea and lungs	histology	trachea and lungs
Re-A-024	• Explain the histological basis of: ➢ Coughing ➢ Atelectasis ➢ Infant respiratory distress syndrome ➢ Diffuse alveolar damage ➢ Lung carcinoma	Integrate with pathology	Clinical correlates

ANATOMY PRACTICAL			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	Histology	**Total Hours = 5**	
Re-A-025	• Identify, draw and label the histologic sections of epiglottis and larynx.	Histology	Epiglottis&larynx
Re-A-026	• Describe the histological features of bronchialtree: trachea, bronchi, bronchioles, alveoli		Trachea & Organizationof respiratory system
Re-A-027	• Identify, draw and label the histological sectionsof bronchial tree: trachea, bronchi, bronchioles, alveoli, Lung		Bronchial tree & Lung
	• Describe the mucosal changes encountered in the trachea-bronchial tree		
	• Compare and contrast the histological features of various components of bronchial tree: trachea, bronchi, bronchioles, alveoli.		
Re-A-028	• Describe, compare and contrast the light and electron microscopic features of type I and type II pneumocytes		Pneumocytes
	• Draw the compliance diagram of air filled and saline filled lungs	Medical Physiology	

THEORY			
	MEDICAL PHYSIOLOGY	**Total Hours = 45**	
CODE	**SPECIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
Re-P-001	• Enlist the muscles of inspiration and expiration in quiet breathing	Integratewith Anatomy	Breathing
	• Enlist the muscles of inspiration and expiration in labored breathing		
	• Explain the components of the work of breathing	Medical Physiology	
	• Discuss the mechanics of pulmonary ventilation		
	• Explain periodic breathing		
	• Explain the causes and pathophysiology of sleep apnea	Integratewith medicine	
Re-P-002	• Define lung compliance		Lung Compliance
	• Enlist the factors that affect lung compliance		
	• Draw the Compliance Diagram of Filled & Saline Filled Lungs.	Medical Physiology	
	• Enlist the Components of Surfactants.		
	• Describe the role of surfactant in Lung Compliance.		
	• Explain the Role of surfactant in Premature Babies.	Integrate with Pediatrics	
Re-P-003	• Define the different lung volumes and capacities and their clinical significance.	Medical Physiology	Lung Volumes & Capacities
	• Discuss fev1/FVC ratio and its clinical significance Enlist the lung volumes and capacities that cannot		
	• Enlist the lung volumes and capacities that cannot be measured by spirometer.		
	• Define Dead Space and Explain its Type.		
	• Discuss FEV1/FVC ratio in relation to Bronchial Asthma.	Integrate with Pulmonologist	
	• Discuss FEV1/FVC ratio in relation to Chronic Obstructive Pulmonary disease/restrictive lung diseases		
	• Discuss FEV1/FVC ratio in relation to pulmonary embolism		
Re-P-004	• Define alveolar ventilation.	Medical Physiology	Alveolar Ventilation
Re-P-005	• Define minute respiratory volume		Principles of Gaseous Exchange
	• Explain the ultrastructure of respiratory membrane		
	• Discuss the factors affecting diffusion of gases across the respiratory membrane		
	• Explain the diffusion capacity of respiratory membrane for oxygen and carbon dioxide		
	• Define alveolar, pleural and trans pulmonary pressure.		
	• Explain differences in the partial pressures of atmospheric, humidified, alveolar air and explain		

	physiological basis of change in each pressure		
Re-P-006	• Explain different forms of Oxygen in Blood.	Medical Physiology	Transport of Oxygen in Blood
	• Draw and explain oxy hemoglobin dissociation curve		
	• Enlist the factors that cause rightward shift of oxy hemoglobin dissociation curve.		
	• Enlist the factors that cause leftward shift of oxy hemoglobin dissociation curve		
	• Explain The Bohar's Effect.		
	• Define; enlist the types, and causes of cyanosis	Integrate with Medicine	
Re-P-007	• Enlist different forms in which CO2 is transported in the blood.	Medical Physiology	Transport of CO2 in Blood
	• Explain the Carboxy hemoglobin dissociation curve.		
	• Explain the Haldane effect.		
	• Explain the chloride shift/Hamburger phenomenon.		
	• Define the respiratory exchange ratio (RER)		
Re-P-008	• Explain the alveolar oxygen and carbon dioxide pressure when VA/Q = infinity, zero and normal	Medical Physiology	VA/Q (Ventilation Perfusion Ratio)
	• Explain the concept of physiological shunt when VA/Q ratio is less than normal		
	• Explain the concept of physiological dead space when VA/Q ratio is above normal		
Re-P-009	• Enlist the respiratory & non-respiratory functions of lungs.	Medical Physiology	Protective Reflexes
	• Explain the nervous control of bronchiolar musculature		
	• Trace the reflex arc of cough reflex and sneeze reflex		
Re-P-010	• Explain the principal means by which acclimatization occurs	Medical Physiology	Activation & Space
	• Explain the events that occur during acute mountain sickness		
	• Enlist the features of chronic mountain sickness		

Re-P-011	• Explain the pathophysiology, features, prevention and treatment of decompression sickness.	Medical Physiology	Deep seadiving
Re-P-012	• Draw and explain the effect of CO poisoning on oxyhemoglobin dissociation curve	Medical Physiology	CO poisoning
	• Explain the pathophysiology, features, and treatment of CO poisoning.	Integratewith medicine	
Re-P-013	• Enumerate the components of respiratory centers and explain their functions.	Medical Physiology	Nervous regulation of respiration
	• Explain the inspiratory RAMP signal		
	• Explain the Herring Breuer reflex/lung inflation reflex and its clinical significance		
Re-P-014	• Explain the location of chemo sensitive area (central chemoreceptors) and peripheralchemoreceptors)	Medical Physiology	Chemicalcontrol of respiration
	• Explain the effect of hydrogen ions & carbon dioxide on the chemo- sensitive area		
	• Explain the role of oxygen in the control of respiration/peripheral chemoreceptors		
Re-P-015	• Explain the regulation of Respiration during Exercise	Medical Physiology	Exercise and respiration
Re-P-016	• Enlist the effects of acute hypoxia	Medical Physiology	Hypoxia
	• Explain the hypoxia inducible factor a master switch for body response to hypoxia		
	• Define and explain different types of hypoxias	Integratewith Medicine	
Re-P-017	• Explain the pathophysiology of Tuberculosis.	Integratewith Pathology	Tuberculosis
Re-P-018	• Describe the pathophysiology of Pneumonia	Integrate with Pathology	Pneumonia
Re-P-019	• Define Dyspnea	GeneralMedicine	Dyspnea
	• Enlist different causes of dyspnea		
	• Differentiate between cardiac and respiratory dyspnea		

	• Outline management strategies for dyspnea		
Re-P-020	• Enlist the causes of Pneumothorax • Describe the signs and symptoms of Pneumothorax	Surgery	Pneumothorax
Re-P-021	• Enlist the causes of Pleuritis • Describe the signs and symptoms of Pleuritis • Discuss the management of Pleuritis		Pleuritis
Re-P-022	• Enlist the causes of Bronchitis • Discuss the signs and symptoms of Bronchitis • Discuss the management of Bronchitis	GeneralMedicine	Bronchitis
Re-P-023	• Classify different types of pneumonia • Discuss the sign symptoms of pneumonia • Discuss the management of pneumonia		Pneumonia
Re-P-024	• Classify different types of asthma • Discuss the signs and symptoms of asthma • Discuss the management of asthma		Asthma
Re-P-025	• Classify different types of Tuberculosis • Discuss the signs and symptoms of tuberculosis • Discuss the management of Tuberculosis		Tuberculosis
Re-P-026	• Classify different types of acute respiratory distress syndrome • Discuss the signs and symptoms of acute respiratory distress syndrome • Discuss the management of acute respiratory distress syndrome	GeneralMedicine	Acute respiratory distress syndrome
Re-P-027	• Define respiratory failure • Describe various types of respiratory failure • Enlist various causes of respiratory failure • Outline management strategies of respiratory failure	GeneralMedicine	RespiratoryFailure
Re-P-028	• Describe ABC in a trauma patient	Surgery	First Aid in Surgical Patients

MEDICAL BIOCHEMISTRY		Total Hours = 15	
Re-B-001	• Explain and interpret the pedigree of single genedefect i.e., Emphysema and cystic fibrosis (autosomal recessive)	Medical Biochemistry	Geneticdefects
Re-B-002	• Explain the biochemical significance of phospholipids	Medical Biochemistry	Phospholipids
	• Interpret Respiratory Distress syndrome on the basis of given data	Integrate with Physiology	
Re-B-003	• Describe the structure, synthesis, degradation and functions of Elastin	Medical Biochemistry	Elastin
	• Discuss the pathophysiology of Emphysema.	Integrate with Pathology	
Re-B-004	• Discuss the concept of acid base balance	Medical Biochemistry	Acid basebalance
	• Interpret metabolic and respiratory disorders of acid base balance on the basis of sign, symptoms and ABG findings.		
	• Describe the Clinical interpretation of acid base Balance.	Integratewith Medicine	

Practical			
CODE	**PRACTICAL**	**Total Hours = 10**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
Re-P-029	• Perform the clinical examination of chest for therespiratory system (inspection, palpation, percussion, Auscultation)	Medical Physiology	Clinical Examination of Chest
Re-P-030	• Determine Peak Expiratory Flow rate with PeakFlow Meter		Peak Expiratory Flow rate measurement
Re-P-031	• Determine Blood Oxygen Saturation with finger Pulse Oximeter		Oxygen Saturation
Re-P-032	• Determine Respiratory Volumes & Capacities with Spirometer/ Spiro lab. (FEV1/FVC ratio)		
Re-P-033	• Student should be able to Record the movements of chest by stethograph		
Re-B-005	• Determine the pH of the solution by pH meter	Medical Biochemistry	Determination of pH

PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS			
		Total Hours = 5+3	
CODE	**SPECIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
Re-Ph-001	• Identify the drugs for Cough Suppression & Expectoration.	Pharmacology& Therapeutics	Cough Suppressants
	• Explain the mechanism of action and adverse effects of cough suppressants		
Re-Ph-002	• Explain the mechanism of action and adverse effects of anti-histamines		Anti- histamines
Re-Ph-003	• Explain the mechanism of action and adverse effects of anti-asthmatics		Anti- asthmatics
Re-Pa-001	• Describe the pathophysiology of acute respiratory distress syndrome	Pathology	Acute Respiratory Distress Syndrome
Re-Pa-002	• Describe the pathophysiology of obstructive lung disease		Obstructive lung Disease
Re-Pa-003	• Describe the pathophysiology of Restrictive Lung Disease		Restrictive Lung Disease

AGING			
CODE	**Aging theory**	**Total Hours = 3**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
Re-Ag-001	• Discuss the effect of age on decreased lungcompliance	Pathology	Age- inducedlung fibrosis
Re-Ag-002	• Discuss the role of age on respiratory clearance leading to recurrent inflammatory processes at theciliated respiratory epithelium		Increased vulnerabilityto infection & neoplasia

DISEASE PREVENTION & IMPACT			
CODE		**Total Hours = 10**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
Re-CM-001	• Identify the common risk factors of acute respiratory infections with emphasis on smoking	CommunityMedicine and Public Health	Prevention ofacute respiratory infections (ARI)
	• Discuss preventive strategies of different problems related to respiratory system		
	• Enlist the common vaccines used for the prevention of ARI		
	• Explain the role of vitamins in the respiratory tractinfections	Integrate with Biochemistry	
Re-CM-002	• Explain the effect of air pollutants on the respiratory system		Interaction of environment &
Re-CM-003	• Describe the burden of respiratory diseases	CommunityMedicine and Public Health	Respiratory system
Re-CM-004	• Enlist the common respiratory diseases related tooccupation		Epidemiology of respiratoryDiseases
Re-BhS - 001	• Identify the psychosocial factors leading to dyspnea.	Behavioral Sciences	OccupationalLung Diseases
Re-BhS-002	• Identify the psychosocial factors leading to psychogenic cough.		Dyspnea
Re-BhS-003	• Identify and deal with the various psychosocial aspects of Respiratory conditions (such as Asthma, COPD, Tuberculosis, Cystic Fibrosis, Sleep Apnea) on Individual, Family and Society.		Psychogeniccough

RESPIRATORY SYSTEM MODULE

Objective	Skill	Miller's PyramidLevel Reflected
Auscultation of Chest	Chest sounds	Shows
Detection of clubbing	Clubbing	Shows
Performance and significance ofArterial blood gases	ABGs	Shows
Identification of pneumonic patchon chest x ray	Pneumonia CXR	Shows
Identification of COPD on chest xray	COPD CXR	Shows
Administering inhaler to a patient	Inhaler use	Shows

9. OPERATIONAL DEFINITIONS

OPERATIONAL DEFINITION OF DIFFERENT TEACHING STRATEGIES	
Delivery of a curriculum also needs a diversity of educational Vernacular for the different learning styles. Following are a few of recommended Instructional Strategies. It is advised that at least three different methods of Instructions should be adopted in the institutional Planning. This will enable the diversity of Learning patterns to be facilitated.	
Interactive Session (Large Group LGIS)	➢ Lecture format is the most widely used approach to teaching especially in a large class size with average attention span of 20-30 mins. ➢ Interactive lecturing involves a two-way interaction between the presenter and the participants. ➢ Interactive methods like brainstorming, buzz group, simulation, role play, and clinical cases canbe used. **Significance of its usage:** • Relaxed environment • Diverse opinions • Active involvement • Increase attention and motivation. • Independence and group skills. • Cost effective. • Suitable for taking advantage of available audiovisual technologies
Team Based learning (TBL)	➢ TBL is a uniquely powerful form of small group learning. ➢ It provides a complete coherent framework for building a flipped course experience. ➢ There are four essential elements of TBL which include: • Teams must be properly formed and managed 5-7 students). • Getting students ready. • Applying course concepts • Making students accountable **Significance of its usage** • Students are more engaged. • Increased excitement in TBL classroom. • Teams outperform best members. • Students perform better in final and standardized exams.
Problem Based Learning (PBL)	➢ It is an instructional student-centered approach in which students work in small groups on a health problem. ➢ Identifying their own educational needs. ➢ Being responsible for the acquisition of the knowledge required to understand the scenario. **Significance of its usage** • Teamwork • Critical evaluation of literature • Self-directed learning. • Use of resources • Presentation skills • Leadership • Respect for Colleagues view.
Case Based Learning (CBL)	➢ It is an inquiry structured learning experience utilizing live or simulated patient cases to solve, or examine a clinical problem, with the guidance of a teacher and stated learning objectives.

	Significance of Its Usage • Induce a deeper level of learning by inculcating critical thinking skills. • Flexibility on use of case • Helps students acquire insightful information. • Stay abreast with novel advancements in healthcare
Tutorials	➢ Tutorial is a class or short series of classes, in which one or more instructors provides intensive instruction on some subject to a small group. ➢ Its purpose is to explore student point of view for discussion. ➢ It directed reflective learning skills. **Significance of Its Usage** • Develop and assess the extent of background knowledge of students which enables them to properly understand concepts which may not have been understood in lectures. • Develop problem-solving skills. Develop practice of self-learning. Reduced time to understand the topic.
Reflective Writing	➢ It is a metacognitive process that occurs before, during and after the situation with the purpose of developing greater understanding of both the self and situation so that future encounters with the situation are informed from previous encounters. **Significance of its usage** • Questioning attitude and new perspectives.Areas for change and improvement. • Respond effectively to new challenges. • Critical thinking and coping skills
Case Presentations	➢ It is a teaching method which provides descriptive information about a clinical patientscenario and to share this educational experience with the general medical and scientific community. ➢ It prepares students for clinical practice, using authentic clinical cases by linking theory to practice with the help of inquiry-based learning methods. **Significance of its usage** • Cultivate the capacity for critical analysis. • Judgment and Decision making. • Facilitate creative problem solving. • Allow students to develop realistic solutions to complex problems
Bedside Teaching	➢ Teaching and learning that occurs with actual patient as the focus. ➢ It occurs in wards,emergency departments, operating rooms, and high dependency units. **Significance of its usage** • Stimulus of clinical contact. • Psychomotor skills • Communication skills • Language skills. • Interpersonal skills • Professional attitudes and empathy • Role modeling
Simulation	➢ Person, device or set of conditions, which attempts to present education and evaluation of problems authentically. ➢ The student or trainee is required to respond to the problems as s/he would under natural circumstances. **Significance of its usage** • Safety for patients Liberty to make mistakes.

	• Manageable/variable complexity of tasks • Opportunity to develop self-efficacy before real patient encounter. • Repeatability of tasks. • Learning at different pace is permissible
Skills Laboratories	➢ It refers to specifically equipped practice rooms functioning as training facilities offering hands on training for the practice of clinical skills within non-threatening environment prior to their real-life application. ➢ This applies to both basic clinical skillsas well as complex surgical skills. **Significance of its usage** • Controlled, anxiety-free, and risk-free learning environment to students. • A platform for repeated practice for mastery in relevant clinical skills. • Increase the preparedness of student learners before transitioning to the real hospital setting. • Build strong communication skills. • Enable learners to make critical decisions.
Case Based Conference	Clinical Case based conferences allow clinicians and medical students to present difficult case material and include discussions of diagnostic, clinical formulation, and/or treatment issues. **Significance of its usage** • Provides detailed (rich qualitative) information. • Provides insight for further research. • Permitting investigation of otherwise impractical (or unethical) situations.
Lab Practical	Lab practical involve things like identifying a structure, a type of stain through a microscope, a problem with a preparation, reading biochemical test results and answering safety questions. These simulations allow students to attempt theexperiments in the laboratory in a risk-free way that provides the opportunity to makemistakes and learn how to correct them using the immediate feedback generated. **Significance of its usage** Enhance mastery of subject matter.Develop scientific reasoning. Develop practical skills. Develop teamwork abilities.
Demonstrations	The demonstration method in teaching can be defined as giving a demo or performing a specific activity or concept. It is a teaching-learning process carried outin a very systematic manner. **Significance of its usage** • Promotes learning and correlates theory with practice. • Sharpens the observation skills. • Sustain interests in learning environment • Helps teacher to evaluate student's response.
Ward Rounds	It is a composite clinical practice to review inpatients management and progress, tomake decisions about further investigations, treatment options and discharge from hospital. It is an opportunity for clinicians, students, and patients to participate in education and training at bedside. **Significance of its usage** Patient management skills History taking Physical examination Time management skills Communication skills

9. ASSESSMENT POLICY

STATUES

1. The First Professional MBBS Examination shall be held at the end of first year MBBS class

2. Every candidate shall be required to study contents of Anatomy (including Histology), Physiology, Biochemistry, Behavioural Sciences, Community Medicine & Public Health, Pathology, Pharmacology & Therapeutics, Islamic Studies/Ethics and Pakistan Studies, Clinical skills and Professionalism, Ethics, Research and Leadership. The teaching and assessment shall be done in three modular blocks

3. There will be four papers in the professional examination. Three papers shall be based on contents of three Blocks and the fourth paper on contents of Islamic Studies/Ethics and Pakistan Studies:
   a. Paper 1 will be based on contents of Block 1;
   b. Paper 2 will be based on contents of Block 2;
   c. Paper 3 will be based on contents of Block 3.
   d. Paper 4 will be based on contents of Islamic Studies/Ethics and Pakistan Studies
4. Each paper will comprise of "Written' and 'Oral/Practical/Clinical examinations except the paper of Islamic Studies/Ethics and Pakistan Studies, which shall comprise of written component alone.
5. The Written and Oral/Practical/Clinical examinations in each paper will carry 150 marks each, making the total marks of 300 for each paper of papers 1.2. And 3.
6. Total marks of the First Professional Examination will be 1000, however marks of Islamic Studies/Ethics and Pakistan Studies shall not be counted towards merit determination and determination of positions in the examination.
7. Major content areas of the year are from
   a. Anatomy including applied/clinical Anatomy,
   b. Physiology including applied/clinical Physiology &
   c. Biochemistry including applied/clinical Biochemistry
8. The Applied/Clinical content for the Anatomy, Physiology and Biochemistry shall be based on clinical correlations.
9. Minor content areas of the year are from Behavioral Sciences, Community Medicine & Public Health, Pathology, Pharmacology & Therapeutics, Clinical Foundation I and PERLS I.
10. **Written Examination**
    - There will be one written paper in each of the Papers 1, 2, and 3,
    - Each written paper will consist of One-best-type' Multiple Choice Questions (MCO) and Structured Essay Questions (SEQ) in a ratio of 70:30 %
    - Each MCQ will have five options (one best response and four distractors) and will carry one (01) mark
    - There will be no sections within an SEO, and it will be a structured question with five (05) marks each.
    - SEO's will only be based on the major content areas of the year
    - There will be total of 85 MCQs and 07 SEOS in every written paper Papers 1,2, and 3.
    - The duration of each written paper will be 180 minutes (03 hours)
    - The MCQs section will be 110 minutes duration and the SEQ section 70 minutes.

11. **Oral/Practical/Clinical Examination**
    - There will be an Oral Practical/Clinical examination in each of Papers 1 2, and 3.
    - There will be a total of twelve (12) OSPE/OSCE/Viva stations in each Oral/Practical/Clinical examination.
    - There will be seven (07) Observed OSPE stations from major subject areas.
    - There will be two (02) Observed OSCE stations, 01 from C-FRC1 and 01 from PERLs-1 in each Oral/Practical/Clinical examination.
    - There will be three (03) structured viva stations in each Oral/Practical/Clinical examination.
    - Each OSPE/ OSCE will carry night (08) marks.
    - Each structured viva station will carry 16 marks (8 marks each for internal and external examiner)
    - The duration of each Oral/Practical/Clinical examination will be 150 minutes (2.5 hours).

- Time for each OSPE and OSCE station will be eight (08) minutes Time for each structured viva station will be 20 min (10 min for each examiner)

12. Every candidate shall take the examination in the following Blocks/subjects of First Professional MBBS Examination
    A. Block 1 (Foundation Hematopoietic & Lymphatic Modules) 300 Marks
    B. Block 2 (Musculoskeletal & Locomotion Module) 300 Marks
    C. Block 3 (Cardiovascular System Respiratory Modules) 300 Marks
    D. Islamic Studies Ethics and Pakistan Studies 100 Marks 300 Marks

13. Block 3 (Cardiovascular System + Respiratory Modules)

The examination in Block 3 shall be as follows:-

1. One written paper of 120 marks having two parts:

a) Part I shall have eighty five Multiple Choice Questions (MCQs) of 85 marks and the time allotted shall be 110 minutes.

b) Part II shall have seven Structured Essay Questions (SEQs) of 35 marks and the time allotted shall be 70 minutes.

2. Oral/Practical/Clinical examination shall have 120 marks,
3. The continuous internal assessment through Block Examination conducted by the college of enrollment shall carry 60 marks, ie., 20% of the total allocated marks for the block. The score will be equally distributed to the Written and Oral/Practical/Clinical Examinations.

14. ISLAMIC STUDIES/ETHICS AND PAKISTAN STUDIES

The examination in Islamic Studies/Ethics and Pakistan Studies shall be as follows-

I. One written paper of 100 marks in Islamic Studies/Ethics and Pakistan Studies having two components: Islamic Studies/Ethics component having 60 marks, three (3) Long Essay Questions (LEOs) to be attempted out of five (5) Long Essay Questions (LEOs), having 20 marks each.

II. Pakistan Studies component having 40 marks, two (2) Long Essay Questions (LEOS) to be attempted out of four (4) Long Essay Questions (LEQS), having 20 marks each.

Note: Islamic Studies for Muslims, and Ethics for Non-Muslims candidates,

15. The marks distribution in each subject is given in Table 1

Table 1

Subject	Theory		Practical		Total
Block 1 (Foundation + Hematopoietic and Lymphatic Modules)	Part I MCQs Part II SEQS	85 Marks 35Marks	Oral and Practical / Clinical Examination	120 Marks	**300**
	Internal Assessment	30 Marks	Internal Assessment	30 Marks	
		150		**150**	
Block 2 (Musculoskeletal & Locomotion Module)	Part I MCQs Part II SEQS	85 Marks 35Marks	Oral and Practical / Clinical Examination	120 Marks	**300**
	Internal Assessment	30 Marks	Internal Assessment	30 Marks	
		150		**150**	
Block 3 (CVS & Respiratory)	Part I MCQs Part II SEQS	85 Marks 35Marks	Oral and Practical / Clinical Examination	120 Marks	**300**
	Internal Assessment	30 Marks	Internal Assessment	30 Marks	
		150		**150**	
				Total	**900**
***Islamic Studies/ Ethics and Pakistan Studies**		**Islamic Studies/Ethics** 3 LEQs to be attempted out of 5 LEQs		60 Marks	
		Pakistan Studies 2 LEQs to be attempted out of 4 LEQs		40 Marks	
				100	

MBBS 1ST Professional
PAPER 3

Written Exam					**Oral/ Practical/ Clinical Exam**			
Theme	**Subject**	**MCQ (1 mark)**	**SEQ (5 mark each)**	**Marks**	OSPR/OSCE/Viva Stations **OSPE (O8 marks each) Observed**	**OSCE (O8 marks each) Observed**	**Structured Viva (16 marks each)**	Marks
Normal Structure	Anatomy & applied/ clinical	16	2	26	1	-	1	24
Normal function	Physiology& applied/ clinical	31	4	51	4	-	1	48
	Biochemistry& applied/ clinical	18	1	23	2	-	1	32
Disease Burden & Prevention	Community Medicine Public Health	06	-	06	-	-	-	-
	Behavioral sciences	02	-	02	-	-	-	-
Pathophysiology and Pharmacotherapeutics	Pathology	07	-	07	-	-	-	-
	Pharmacology	05	-	05	-		-	-
CFRC	CFRC-1-2	-	-	-		1	-	08
PERLs	PERLs-1-2	-	-	-		1	-	08
		85	7*5=35	**120**	7 Stations x 08=56	2Stations x 08=16	3 Vivas x 16=48	**120**

9A. ASSESSMENT PLAN

BAHAWALPUR MEDICAL COLLEGE
DEPARTEMENT OF MEDICAL EDUCATION
FORMATIVE ASSESSMENT PLAN-
FIRST YEAR MBBS-BATCH-II-2023

EXAMINATION PLAN					
# of Exams	**Disciplines**	**PATTERN**	**Bimonthly Assessment**	**Day**	**End of Block (EOB)/ Module Exam**
I	Anatomy	Written test(MCQ and SEQ)	21st-March-2023	Tuesday	
	Physiology	Written test(MCQ and SEQ)	22nd -March-2023	Wednesday	
	Biochemistry	Written test(MCQ and SEQ)	31st -March-2023	Friday	
II	Anatomy	Written test (MCQ and SEQ) VIVA	10th-April-2023, 11th-April-2023	Monday & Tuesday	
	Physiology	Written test(MCQ and SEQ) OSPE	12th-April-2023, 13th-April-2023	Wednesday	
	Biochemistry	Written test(MCQ and SEQ)	14th-April-2023	Friday	
III	Anatomy	Written test(MCQ and SEQ)	2nd May-2023	Tuesday	
	Physiology	Written test(MCQ and SEQ)	3rd May-2023	Wednesday	
	Biochemistry	Written test(MCQ and SEQ)	5th- May-2023	Friday	
I-EOB	Applied Anatomy, Physiology, Biochemistry, CHS, BS, Pathology, Pharmacology **Written test (MCQ and SEQ)**			Thursday	25th- May-2023
	EOB-3-Group-A (OSPE/OSCE/Viva (Internal/External)			Monday	29th- May-2023
	EOB-3-Group-B (OSPE/OSCE/Viva (Internal/External			Tuesday	30th- May-2023
	EOB-3-Group-C (OSPE/OSCE/Viva (Internal/External			Wednesday	31st- May-2023
IV	Anatomy	Written test(MCQ and SEQ)	05th- June-2023	Monday	
	Physiology	Written test(MCQ and SEQ)	07th- June-2023	Wednesday	
	Biochemistry	Written test(MCQ and SEQ)	09th- June-2023	Friday	

V	Anatomy	Written test(MCQ and SEQ)	24th- July-2023	Monday	
	Physiology	Written test(MCQ and SEQ)	26th- July-2023	Wednesday	
	Biochemistry	Written test(MCQ and SEQ)	28th- July-2023	Friday	
II-EOB	Applied Anatomy, Physiology, Biochemistry, CHS, BS, Pathology, Pharmacology **Written test (MCQ and SEQ**)			Monday	28th- Aug-2023
	EOB-3-Group-C (OSPE/OSCE/Viva (Internal/External)			Wednesday	30th-Aug-2023
	EOB-3-Group-A (OSPE/OSCE/Viva (Internal/External			Thursday	31st-Aug-2023
	EOB-3-Group-B (OSPE/OSCE/Viva (Internal/External			Friday	01-Sep-23
VI	Anatomy	Written test(MCQ and SEQ)	18th -Sep-2023	Monday	
	Physiology	Written test(MCQ and SEQ)	25th -Sep-2023	Monday	
	Biochemistry	Written test(MCQ and SEQ)	02nd-Oct-2023	Monday	
VII	Anatomy	Written test(MCQ and SEQ)	10th -Oct-2023	Monday	
	Physiology	Written test(MCQ and SEQ)	16th -Oct-2023	Monday	
	Biochemistry	Written test(MCQ and SEQ)	23rd -Oct-2023	Monday	
III-EOB	Applied Anatomy, Physiology, Biochemistry, CHS, BS, Pathology, Pharmacology **Written test (MCQ and SEQ**)			Monday	13th-Nov-2023
	EOB-3-Group-B (OSPE/OSCE/Viva (Internal/External)			Wednesday	15th-Nov-2023
	EOB-3-Group-A (OSPE/OSCE/Viva (Internal/External			Thursday	16th-Nov-2023
	EOB-3-Group-C (OSPE/OSCE/Viva (Internal/External			Friday	17th-Nov-2023

10. BOOKS & READING RESOURCES

Anatomy

- Snell. R.S. Clinical Anatomy for MedicalStudents. Philadelphia USA Lippincott Williams and Wilkins: Latest Ed.
- Sinnatamby C. S. Lasts Anatomy Regional and Applied London, ChurchillLiving Stone: Latest Ed.
- Williams, P.L. Bannister, L.H. Berry, M.B,Collins, P., Dyson M. Ferguson, M.WJ. Gray's Anatomy London. Churchill living stone: Latest Ed.
- Moore K.L. Clinically Oriented Anatomy.Baltimore, U.S.A. Williams and Wilkins: Latest Ed.

Physiology

- Fox, S.I. Human Physiology, McGraw-Hill, Boston.
- Ganong WF. Review of Medical Physiology. Lange Medical Publications,McGraw-Hill, Boston.
- Guyton AC and Hall JE. Textbook of Medical Physiology. W. B. Sunders &Co., Philadelphia.
- Mushtaq Physiology-Board Reviewseries physiology

Biochemistry

- Champe, P.C. & Harvey, E.A. Biochemistry (Lippincott's Illustrated Reviews). J.B Lippincott Co
- Marks, D.B., Marks, A.D. &Smith, C.M.Basic Medical Biochemistry: A Clinical Approach. Williams and Wilkins Co. Baltimore.
- Robert K. Murray, Daryl K. Granner, Peter A. Mayes, Victor W. Rodwell. Harper's Biochemistry. McGraw-Hill
- Biochemistry by Stryer

Pathology

- Vinary Kumar, Abul K. Abbas and NelsonFausto Robbins and Cotran, Pathologic basis of disease. WB Saunders.
- Richard Mitchall, Vinary Kumar, Abul K.Abbas and Nelson Fausto Robbins and Cotran, Pocket Companion to Pathologic basis of diseases. Saunder Harcourt.
- Walter and Israel. General Pathology.Churchill Livingstone.

Pharmacology

- Basic and Clinical Pharmacology byKatzung, McGraw-Hill.
- Pharmacology by Champe and Harvey,Lippincott Williams & Wilkins

Behavioral Sciences

- Handbook of Behavioral Sciences byProf. Mowadat H.Rana, 3rd Edition
- Integrating Behavioral Sciences inHealthcare by Asma Humayun & Michael Herbert, 1st Edition

Community Medicine

- Parks Textbook of Preventive and SocialMedicine. K. Park (editor)
- Public Health and Community MedicineIlyas, Ansari (Editors)