

**MULTISYSTEM  
MODULE  
STUDY GUIDE  
3RD YEAR MBBS**

## Contents

<b>Vision and Mission of KGMC</b> .....	
<b>Khyber Medical University: Vision</b> .....	
<b>Khyber Girls Medical College: Vision</b> .....	
<b>Khyber Girls Medical College: Mission</b> .....	
<b>Curriculum Committee KGMC</b> .....	
<b>Module committee</b> .....	
<b>Outcomes of the curriculum:</b> .....	
<b>KNOWLEDGE</b> .....	
<b>PSYCHOMOTOR</b> .....	
<b>AFFECTIVE</b> .....	
Introduction to the CourseModule.....	
General Learning Outcomes of the ModuleCourse .....	
Specific learning objectives of the pharmacology .....	
Teaching and learning strategies: .....	
Learning opportunities.....	
Time tables:.....	
Assessment tools: .....	
Internal Evaluation:.....	
Attendance Requirement: .....	

## Vision and Mission of KGMC

### Khyber Medical University: Vision



Khyber Medical University will be the global leader in health sciences academics and research for efficient and compassionate health care.

### Khyber Girls Medical College: Vision



Khyber Girls Medical College will promote health care leaders that are critical thinker, ethical, research oriented, culturally and professionally competent

### Khyber Girls Medical College: Mission



To develop competent health care leaders by ensuring appropriate policies, procedures which reflect ethical, cultural, community orientated and evidence based practices to achieve best possible health outcomes for society at large.

## Curriculum Committee KGMC

### Chair:

Professor Dr.Zahid Aman , Dean KGMC.

### Co-Chair:

Professor Dr Amin ul HAQ, Associate Dean KGMC.

### Clinical Sciences:

- Dr. Mohammad Noor Wazir ,Department of Medicine KGMCHMC
- Dr. Bushra Rauf Department of Gynae KGMCHMC.
- Dr. Sofia Iqbal, Department of Ophthalmology KGMCHMC.
- Dr. Said Amin Department of Medicine KGMCHMC.
- Dr. Ghareeb Nawaz Department of ENT KGMCHMC.
- Dr. Jamshed Alam Department of Surgery KGMCHMC.
- Dr. Ambreen Ahmad, Department of Pediatrics KGMCHMC.
- Dr. Ain-ul-Hadi Department of Surgery KGMCHMC.
- Dr. Fawad Rahim Department of Medicine KGMCHMC.

### Behavioral Sciences:

- Dr. Ameer Abbas Department of Psychiatry KGMCHMC.

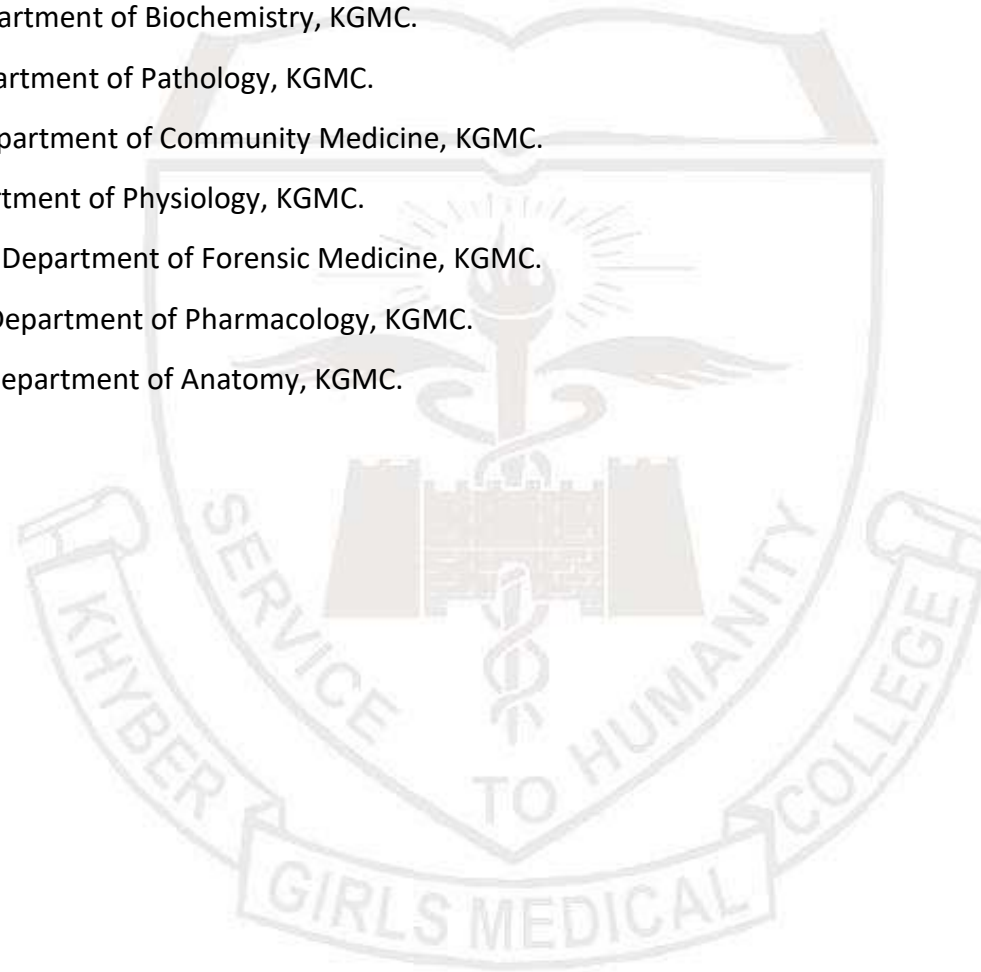
### Medical Education

- Dr. Naheed Mahsood, Department of Medical Education, KGMC.
- Dr. Naveed Afzal Khan, Department of Medical Education, KGMC.

- Dr Onaiza Nasim , Department of Medical Education, KGMC

**Basic Sciences:**

- Dr. Amin-ul-Haq Department of Biochemistry, KGMC.
- Dr. Khalid Javed Department of Pathology, KGMC.
- Dr. Raheela Amin Department of Community Medicine, KGMC.
- Dr. Zubia Shah Department of Physiology, KGMC.
- Dr. Naheed Siddique Department of Forensic Medicine, KGMC.
- Dr. Shams Suleman Department of Pharmacology, KGMC.
- Dr. Shahab-ud-Din, Department of Anatomy, KGMC.



## Blood and Immunology

- Dr. Abdul Hameed Professor Department of Pharmacology.....Member
- Prof. Dr. Sabina Aziz Department of Community Medicine.....Member
- Prof. Dr. Bushra Rauf Department of Gynae.....Member
- Prof. Dr. Samia Tabassum Department of Gynae.....Member
- Dr. Khalid Khan Professor Department of Pathology..... Member
- Dr. Saeed-ur-Rehman Professor Department of Pathology..... Member
- Dr. Alia Qazi Associate Professor Department of Community Medicine.....Member
- Dr. Shams Suleman Associate Professor Department of Pharmacology.....Member
- Dr. Jamshed Alam Associate Professor Department of Surgery B.....Member
- Dr. Yousaf Jan Assistant Professor Department of Surgery B.....Member
- Dr. Naheed Siddiqui Assistant Professor Department of Forensic Medicine.....Member
- Dr. Fawad Rahim Assistant Professor Department of Medicine.....Member
- Dr. Ghazala Zarin Afridi Senior Lecturer Department of Pathology..... Member
- Dr. Jahanzeb Khan Associate Professor Department of Pediatric A.....Member

## Integrated curriculum:

An integrated curriculum is all about making connections, whether to real life or across the disciplines, about skills or about knowledge. An integrated curriculum fuses subject areas, experiences, and real-life knowledge together to make a more fulfilling and tangible learning environment for students. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have better understanding of basic sciences when they repeatedly learn in relation to clinical examples. Case based discussions, computer-based assignments, early exposure to clinics, wards, and skills acquisition in skills lab are characteristics of integrated teaching program.

## Outcomes of the curriculum:

The outcomes of the curriculum of MBBS According to the PMDC are as follows

- Knowledgeable
- Skilful
- Community Health Promoter
- Problem-solver
- Professional
- Researcher
- Leader
- Role model

## **KNOWLEDGE**

By the end of five year MBBS program the KGMC student should be able to;

1. Acquire a high level of clinical proficiency in history taking, physical examination, differential diagnosis, and the effective use of medicine's evolving diagnostic and procedural capabilities including therapeutic and palliative modalities
2. Manage the common prevalent diseases in community
3. Identify the common medical emergencies
4. Develop plan for prevention of common community diseases
5. Formulate a referral plan
6. Compose a prescription plan

## **PSYCHOMOTOR**

By the end of five year MBBS program the KGMC student should be able to;

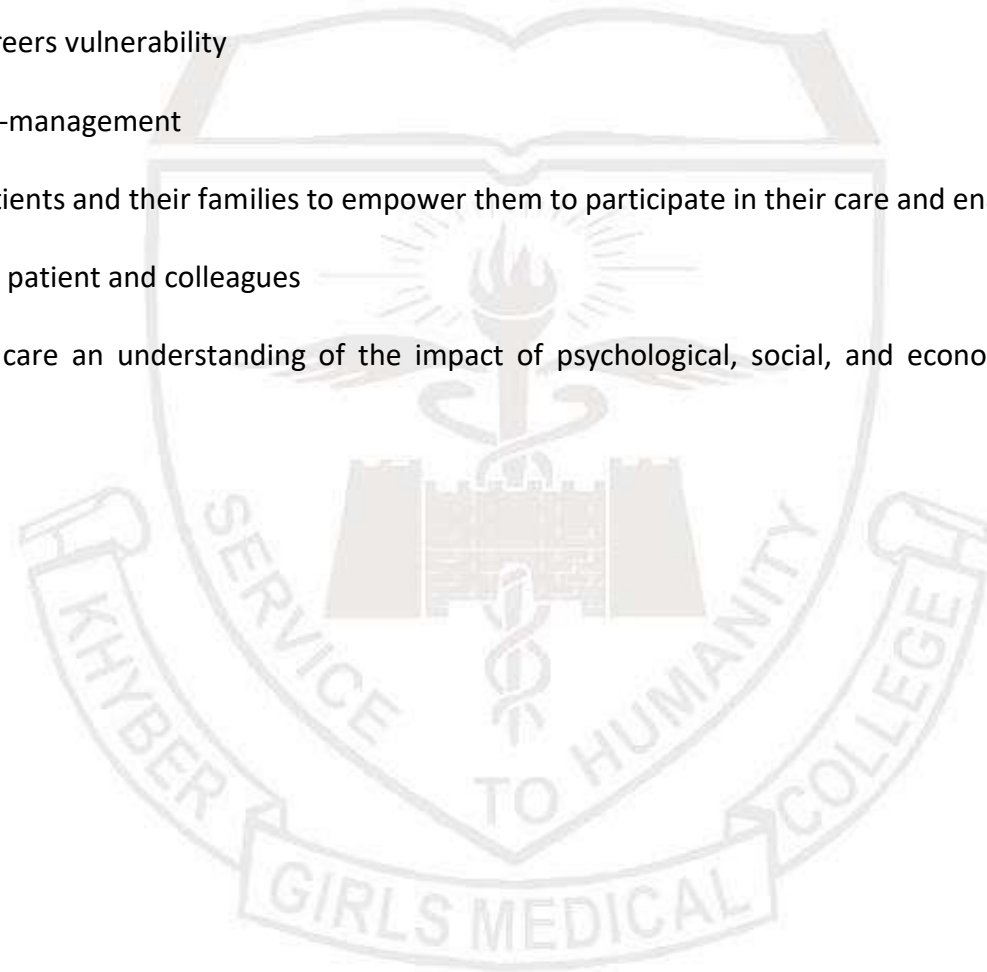
1. Demonstrate the ability to perform the disease specific relevant examination
2. Respond to common medical emergencies
3. Master the skill of first aid
4. Perform BLS
5. Apply the best evidenced practices for local health problems



## **AFFECTIVE**

By the end of five year MBBS program the KGMC student should be able to

1. Relate to patient and caregivers vulnerability
2. Demonstrate ethical self-management
3. Counsel and educate patients and their families to empower them to participate in their care and enable shared decision-making.
4. Display compassion with patient and colleagues
5. Demonstrate in clinical care an understanding of the impact of psychological, social, and economic factors on human health and disease

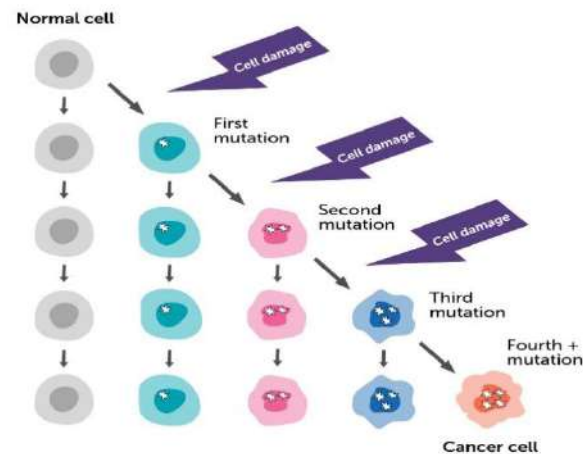


## Introduction to the Multi system Module

**Vomiting and blurred vision: Blurred Vision, Dizziness, Feeling Faint And Nausea Or Vomiting.** Your symptoms can be related to a variety of medical conditions. Examples include labyrinthitis or food poisoning, if accompanied by **nausea** and **vomiting**. Low blood pressure as well as dehydration related to **vomiting** can cause dizziness

**Palpitation, fainting and Death** :For **palpitations** caused by a heart condition, possible complications include: **Fainting**. If your heart beats rapidly, your blood pressure can drop, causing you to **faint**. This might be more likely if you have a heart problem, such as congenital heart disease or certain valve problems.

**Hereditary cancers** Cancer arises from the uncontrolled growth of cells. Cancer is caused by harmful changes (mutations) in the genetic messages (genes) which control the growth and division of cells which prevent them from being able to do their jobs effectively. We receive one complete copy of our genes from our mother and another from our father. It is the accumulation of multiple mutations over many years that disrupts the growth control of the cell and allows a normal cell to grow without control, and eventually become a cancer.



Adapted from "Understanding Gene Testing" - NIH 1995

## General learning outcomes

- 1) Explain the functional organization of Autonomic Nervous system (ANS)
- 2) Describe the basic and clinical pharmacology of drugs acting on the ANS
- 3) Describe anticancer drugs
- 4) Describe the basic and clinical pharmacology of Eicosanoids.
- 5) Describe the basic and clinical pharmacology of drugs used for common skin problems.
- 6) Describe the clinical uses of some popular herbal medications.
- 7) Describe single Gene Disorders, cytogenetic disorders and different mutations
- 8) Describe the molecular Genetics Diagnosis
- 9) Define neoplasia and nomenclature of tumors
- 10) Describe characteristics of benign and malignant tumors
- 11) Describe epidemiology of cancer
- 12) Describe carcinogens, their types and clinical aspects of neoplasia
- 13) Describe diagnosis of cancer, grading and staging of tumors
- 14) Describe pathways for tumor spread and tumor immunity
- 15) Describe the protocols and procedures of autopsy.
- 16) Describe Thanatology and its medicolegal implications.
- 17) Describe general principles of Toxicology and their role in medicolegal sciences.
- 18) Describe the fundamentals of Research Ethics

**Multisystem Module**  
**Year-3**  
**Khyber Medical College Peshawar**

S. No	Themes	Duration
1	Vomiting and blurred vision	1 week
2	Palpitation, fainting and death	1 week
3	Heredity and Cancers	2 Weeks

## Specific learning objectives

<b>Theme-1</b>			
<b>Vomiting and Blurred vision</b>			
<b>Pharmacology</b>			
Topic	Learning objectives	MIT	Assessment
Physiology			
Functional organization of ANS- and overview	Describe the functional organization of ANS and its related neurotransmitters and receptors	LGF/SGD	MCQ
<b>Pharmacology</b>			
Introduction to the pharmacology of Autonomic Nervous System (ANS)	Enlist major autonomic neurotransmitters.	LGF/SGD	MCQ
	Enlist various types of cholinergic, adrenergic and dopaminergic	LGF/SGD	MCQ

	receptors discovered so far.		
	Describe the organ system distribution of autonomic receptors.	LGF/SGD	MCQ
	Describe presynaptic receptors (autoreceptors and heteroreceptors).	LGF/SGD	MCQ
	Describe inotropy, chronotropy and dromotropy.	LGF/SGD	MCQ
Cholinomimetic drugs (Parasympatho-mimetic drugs)	Classify cholinomimetic drugs.	LGF/SGD	MCQ
	Enlist the naturally-occurring cholinomimetic alkaloids.	LGF/SGD	MCQ
	Enlist major organophosphate compounds.	LGF/SGD	MCQ
	Enlist the organophosphates used as "Nerve gases".	LGF/SGD	MCQ

	Describe the pharmacokinetics of cholinomimetics with emphasis on metabolism and duration of action.	LGF/SGD	MCQ
	Describe the mechanism of action of directly-acting and indirectly-acting cholinomimetics.	LGF/SGD	MCQ
	Describe the organ system effects of directly-acting and indirectly-acting cholinomimetics with special reference to their effects on receptors.	LGF/SGD	MCQ
	Describe the clinical uses of cholinomimetics.	LGF/SGD	MCQ
	Describe the cholinomimetics used in glaucoma and Alzheimer's disease.	LGF/SGD	MCQ
	Describe the use of Edrophonium to differentiate between cholinergic crisis and Myasthenic crises.	LGF/SGD	MCQ

	Describe the adverse effects of cholinomimetics.	LGF/SGD	MCQ
	Describe the clinical manifestations of organophosphate poisoning.	LGF/SGD	MCQ
	Describe the clinical manifestations of mushroom poisoning.	LGF/SGD	MCQ
	Explain the pharmacological rationale of prophylactic use of Pyridostigmine in situations where chemical warfare with nerve gases is anticipated.	LGF/SGD	MCQ
	Enlist the contraindications of cholinomimetics.	LGF/SGD	MCQ
Anticholinergic drugs (Parasympatholytics)	Classify anticholinergic drugs (Parasympatholytics/Cholinoceptor-blocking drugs).	LGF/SGD	MCQ
	Describe belladonna alkaloids with reference to their natural sources.	LGF/SGD	MCQ



	Describe the pharmacokinetics of antimuscarinic drugs with emphasis on metabolism and duration of action.	LGF/SGD	MCQ
	Describe the mechanism of action of antimuscarinic drugs.	LGF/SGD	MCQ
	Describe the organ system effects of antimuscarinic drugs with special reference to their effects on receptors.	LGF/SGD	MCQ
	Describe the clinical uses of antimuscarinic drugs.	LGF/SGD	MCQ
	Describe the drug treatment of organophosphate poisoning.	LGF/SGD	MCQ
	Enlist cholinesterase regenerating compounds.	LGF/SGD	MCQ
	Describe “aging” of the phosphorylated enzyme complex	LGF/SGD	MCQ

	and its clinical importance regarding the management of organophosphate poisoning.		
	Describe the drug treatment of mushroom poisoning.	LGF/SGD	MCQ
	Describe the adverse effects of antimuscarinic drugs.	LGF/SGD	MCQ
	Describe atropine fever.	LGF/SGD	MCQ
	Name the antidote for atropine poisoning.	LGF/SGD	MCQ
	Describe the contraindications of antimuscarinic drugs.	LGF/SGD	MCQ
Ganglion-blocking drugs	Enlist major ganglion-blocking drugs.	LGF/SGD	MCQ
	Describe the mechanism of action of ganglion-blocking drugs.		

		LGF/SGD	MCQ
	Describe the organ system effects of ganglion-blocking drugs.	LGF/SGD	MCQ
	Enlist the clinical uses of ganglion-blocking drugs.	LGF/SGD	MCQ
	Enlist the adverse effects of ganglion-blocking drugs.	LGF/SGD	MCQ
<b>Forensic Medicine</b>			
Poison & related laws	Define a poison	LGF/SGD	MCQ
	Describe laws related to poisoning or drug use.	LGF/SGD	MCQ
Legal duties of a Registered Medical Practitioner in a case of poisoning	Explain legal, ethical, and moral duties of Registered Medical Practitioner in a case of poisoning.	LGF/SGD	MCQ
Fate of Poison	Enumerate different routes of		

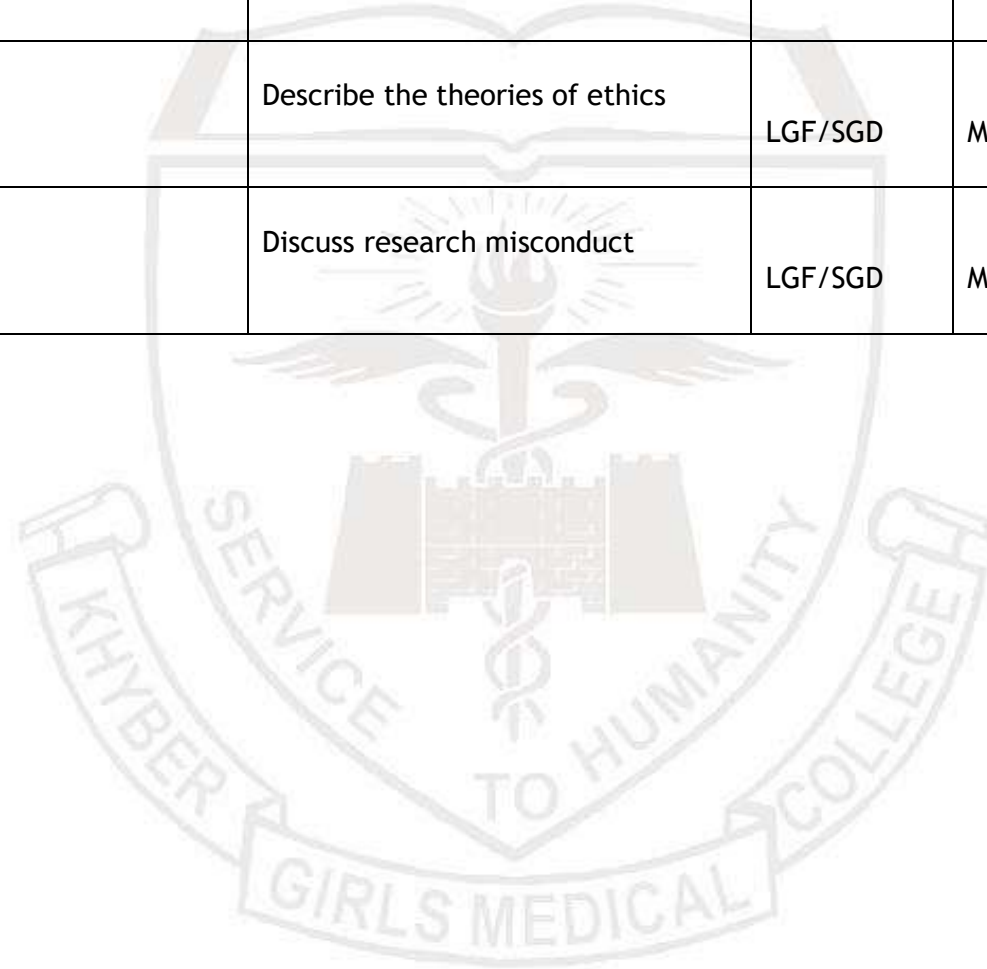
	administration of poisons.	LGF/SGD	MCQ
	Describe Biotransformation.	LGF/SGD	MCQ
	Enlist the route of excretion of poisons	LGF/SGD	MCQ
Diagnosis of poisoning in living and dead	Describe the protocols of diagnosing poisoning in living and dead	LGF/SGD	MCQ
Antidotes	Define and classify antidotes	LGF/SGD	MCQ
	Describe the mechanism of action of different antidotes	LGF/SGD	MCQ
Steps of management in a case of poisoning	Describe general steps of management in a case of poisoning	LGF/SGD	MCQ
Organophosphate group	Describe the mechanism of action of commonly used organophosphate poisons.	LGF/SGD	MCQ

	Describe the characteristics finding for organophosphate group in postmortem examination.	LGF/SGD	MCQ
	describe different signs and symptoms for organophosphate group.	LGF/SGD	MCQ
	Describe the medico-legal importance for organophosphate group.	LGF/SGD	MCQ
	Explain fatal dose, fatal period, and treatment for organophosphate poisons.	LGF/SGD	MCQ
<b>Community Medicine</b>			
Drug abuse	Define drug abuse and related terms	LGF/SGD	MCQ
	Classify drugs used for abuse	LGF/SGD	MCQ
	Describe causes of drug abuse		

		LGF/SGD	MCQ
	Describe the effects of drug addiction on health	LGF/SGD	MCQ
	Describe the prevention and control of drug addiction/abuse in community	LGF/SGD	MCQ
Child Abuse	Define child abuse	LGF/SGD	MCQ
	Describe different forms of child abuse and its effects	LGF/SGD	MCQ
	Describe statistics of child abuse	LGF/SGD	MCQ
	Describe the preventive strategies regarding child abuse	LGF/SGD	MCQ
Smoking	Describe the global distribution and increase of smoking	LGF/SGD	MCQ

	Discuss the causes of smoking	LGF/SGD	MCQ
	Discuss the effects of smoking on health	LGF/SGD	MCQ
	Describe preventive and control measures	LGF/SGD	MCQ
International Health	Describe International health regulations and their importance	LGF/SGD	MCQ
	Describe preventive measures for travelers visiting disease endemic areas	LGF/SGD	MCQ
<b>PRIME</b>			
Research Ethics	Define ethics in research	LGF/SGD	MCQ
	Discuss importance of research ethics	LGF/SGD	MCQ

	Discuss principles of ethics	LGF/SGD	MCQ
	Describe the theories of ethics	LGF/SGD	MCQ
	Discuss research misconduct	LGF/SGD	MCQ





<b>Theme-2:</b>			
<b>Palpitation, fainting and death</b>			
<b>Pharmacology</b>			
<b>Topic</b>	<b>Learning objectives</b>	<b>MIT</b>	<b>Assessment</b>
	<b>At the end of this module, the students of year-3 will be able to:</b>		
Sympathomimetic drugs	Classify sympathomimetic drugs according to the spectrum of adrenoceptors they affect and on the basis of their mode of action (directly-acting and indirectly-acting).	LGF/SGD	MCQ
	Define Catecholamines with examples.	LGF/SGD	MCQ
	Describe the pharmacokinetics of sympathomimetic drugs with emphasis on their metabolism.	LGF/SGD	MCQ
	Describe the mechanism of action		

	of sympathomimetics.	LGF/SGD	MCQ
	Describe the organ system effects of sympathomimetics with special reference to their effects on receptors.	LGF/SGD	MCQ
	Compare the effects of Adrenaline, Noradrenaline, Phenylephrine and Isoprenaline on heart rate and blood pressure.	LGF/SGD	MCQ
	Describe the clinical uses of sympathomimetics.	LGF/SGD	MCQ
	Describe the drug treatment of Anaphylactic shock.	LGF/SGD	MCQ
	Describe the dose-dependent effects of Dopamine and its clinical importance.	LGF/SGD	MCQ
	Describe the sympathomimetic drugs used in the management of glaucoma.	LGF/SGD	MCQ

	Describe the adverse effects of sympathomimetics.	LGF/SGD	MCQ
	Describe hypertensive cheese reaction	LGF/SGD	MCQ
	Enlist the foods with high Tyramine content.	LGF/SGD	MCQ
	Describe the drug interactions of sympathomimetics with Monoamine oxidase inhibiting drugs.	LGF/SGD	MCQ
	Describe the treatment of accidental overdose of adrenaline.	LGF/SGD	MCQ
Sympatholytic drugs (Adrenoceptor antagonists)	Classify sympatholytic drugs (adrenoceptor antagonists) on the basis of spectrum of adrenoceptors they affect.	LGF/SGD	MCQ
	Name the prototype $\alpha$ -blocker.	LGF/SGD	MCQ

	Name the $\alpha$ -blocker having more specificity for prostate muscle.	LGF/SGD	MCQ
	Describe the mechanism of action of $\alpha$ -blockers.	LGF/SGD	MCQ
	Describe the organ system effects of $\alpha$ -blockers with special reference to their effects on receptors.	LGF/SGD	MCQ
	Describe the phenomenon of epinephrine reversal.	LGF/SGD	MCQ
	Describe the clinical uses of $\alpha$ -blockers.	LGF/SGD	MCQ
	Describe the adverse effects of $\alpha$ -blockers.	LGF/SGD	MCQ
	Name the prototype $\beta$ -blocker.	LGF/SGD	MCQ
	Enlist the $\beta$ -blockers with intrinsic		

	sympathomimetic activity (partial agonist activity).	LGF/SGD	MCQ
	Enlist the $\beta$ -blockers with membrane stabilising activity (Na channel-blocking activity).	LGF/SGD	MCQ
	Enlist the $\beta$ -blockers which have proved to be inverse agonists.	LGF/SGD	MCQ
	Enlist the $\beta$ -blockers which are relatively safe in chronic stable heart failure.	LGF/SGD	MCQ
	Enlist the $\beta$ -blockers which are relatively safe in asthmatic patients.	LGF/SGD	MCQ
	Describe the pharmacokinetics of propranolol.	LGF/SGD	MCQ
	Describe the mechanism of action of $\beta$ -blockers.	LGF/SGD	MCQ
	Describe the organ system effects		

	of $\beta$ -blockers with special reference to their effects on receptors.	LGF/SGD	MCQ
	Describe the clinical uses of $\beta$ -blockers.	LGF/SGD	MCQ
	Describe $\beta$ -blockers used in the management of glaucoma.	LGF/SGD	MCQ
	Describe stage fright and name the $\beta$ -blocker used for its management.	LGF/SGD	MCQ
	Describe the adverse effects of $\beta$ -blockers.	LGF/SGD	MCQ
	Name the antidote for $\beta$ -blockers' toxicity.	LGF/SGD	MCQ
	Enlist the contraindications of $\beta$ -blockers.	LGF/SGD	MCQ
	Describe the limitations of beta-blockers in patients with Diabetes		

	Mellitus, Hyperlipidemias, Bronchial Asthma and peripheral arterial disease.	LGF/SGD	MCQ
	Enlist mixed adrenoceptor antagonists (Labetalol and Carvedilol).	LGF/SGD	MCQ
	Describe the clinical uses of mixed adrenoceptor antagonists.	LGF/SGD	MCQ
<b>Forensic Medicine</b>			
Introduction to autopsy	Define Autopsy.	LGF/SGD	MCQ
	Describe the modified continental system and compare it with other medicolegal systems in the world.	LGF/SGD	MCQ
	Classify types of Autopsy.	LGF/SGD	MCQ
	Describe the role of Autopsy in Criminal offences.	LGF/SGD	MCQ

	Describe section 174 and 176 of the Criminal Procedure Code (CrPC), 1973	LGF/SGD	MCQ
Modern autopsy suite	Describe the components of modern autopsy suite	LGF/SGD	MCQ
	Describe the precautions taken while working in modern autopsy suites	LGF/SGD	MCQ
	Explain the hazards encountered in modern autopsy suites	LGF/SGD	MCQ
Autopsy Protocol	Describe pre-examination in Autopsy.	LGF/SGD	MCQ
	Describe the protocol of examination of clothes, and external examination in autopsy.	LGF/SGD	MCQ
	Classify and describe different autopsy incisions.	LGF/SGD	MCQ
	Describe internal examination in an		



	autopsy.	LGF/SGD	MCQ
	Describe the procedure to collect different autopsy samples.	LGF/SGD	MCQ
	Describe the chain of custody.	LGF/SGD	MCQ
	Describe the steps of writing an autopsy report	LGF/SGD	MCQ
	Describe autopsy procedure for death due to heat and cold.	LGF/SGD	MCQ
Exhumation	Define exhumation.	LGF/SGD	MCQ
	Describe authorisation of autopsy surgeon for exhumation.	LGF/SGD	MCQ
	Describe protocol of exhumation.	LGF/SGD	MCQ
	Describe time limit for exhumation.		

		LGF/SGD	MCQ
	Describe the precautions for exhumations.	LGF/SGD	MCQ
	Describe the procedure to collect samples.	LGF/SGD	MCQ
	Describe the limitations of exhumations.	LGF/SGD	MCQ
	Describe the scope of exhumation.	LGF/SGD	MCQ
Skeletonized body	Describe the steps of examination of a skeletonized body to assess its race, age, sex and stature	LGF/SGD	MCQ
	Describe the protocol for autopsy of a skeletonized body	LGF/SGD	MCQ
	Describe cause of death in such cases.	LGF/SGD	MCQ

	Describe nature of injury and type of weapon used in such cases.	LGF/SGD	MCQ
	Describe time since death in such cases.	LGF/SGD	MCQ
Negative autopsy	Define negative autopsy.	LGF/SGD	MCQ
	Describe causes of the negative autopsy.	LGF/SGD	MCQ
	Describe concealed trauma.	LGF/SGD	MCQ
Autopsy artifacts and hazards	Describe autopsy artefacts.	LGF/SGD	MCQ
	Describe the importance of forensic artefacts.	LGF/SGD	MCQ
	Describe effect of artefacts on the opinion of post-mortem report.	LGF/SGD	MCQ

Infanticide	Describe infanticide and its related law.	LGF/SGD	MCQ
	Describe the Age of viability and its medico legal significance.	LGF/SGD	MCQ
	Describe the concept of live birth and separate existence.	LGF/SGD	MCQ
	Describe the Hydrostatic test and its importance.	LGF/SGD	MCQ
	Explain Cause of death, i.e. acts of commission and acts of omission	LGF/SGD	MCQ
Autopsy of an infected body	Describe the protocols for autopsy of the infected dead body.	LGF/SGD	MCQ
	Describe the precautions required for autopsy of an infected person.	LGF/SGD	MCQ
	Enlist the diseases transferred from during autopsy infected dead body	LGF/SGD	MCQ

Autopsy of fragmentary remains	Describe autopsy of a fragmentary remains and mutilated body.	LGF/SGD	MCQ
	Discuss the protocols adopted for autopsy of fragmentary remains	LGF/SGD	MCQ
	Describe the samples needed for autopsy of fragmentary remains.	LGF/SGD	MCQ
Embalming	Define Embalming.	LGF/SGD	MCQ
	Enlist the chemical used for Embalming.	LGF/SGD	MCQ
	Describe the procedure for Embalming.	LGF/SGD	MCQ
	Describe the used of Embalming.	LGF/SGD	MCQ
Thanatology/Death	Describe death.	LGF/SGD	MCQ

	Describe phases of death.	LGF/SGD	MCQ
	Define brain death.	LGF/SGD	MCQ
	Describe the criteria of brain death.	LGF/SGD	MCQ
	Describe the role of EEG/ECG in death.	LGF/SGD	MCQ
	Explain apparent death.	LGF/SGD	MCQ
	Describe human tissue act.	LGF/SGD	MCQ
	Describe medicolegal importance of death.	LGF/SGD	MCQ
Postmortem changes	Define Post Mortem changes.	LGF/SGD	MCQ

	Classify Post-mortem changes.	LGF/SGD	MCQ
	Describe immediate, early and late changes of post-mortem.	LGF/SGD	MCQ
	Describe Post-mortem lividity.	LGF/SGD	MCQ
	Describe the steps to report changes due to post-mortem lividity	LGF/SGD	MCQ
Rigor mortis	Define Rigor Mortis.	LGF/SGD	MCQ
	Describe the mechanism of formation of Rigor mortis	LGF/SGD	MCQ
	Describe the special features of Rigor Mortis.	LGF/SGD	MCQ
	Describe time consumed to develop Rigor mortis.		

		LGF/SGD	MCQ
	Describe chemical basis of Rigor Mortis.	LGF/SGD	MCQ
	Describe factors affecting Rigor Mortis.	LGF/SGD	MCQ
	Describe the conditions that simulate Rigor Mortis.	LGF/SGD	MCQ
	Describe procedure of its confirmation.	LGF/SGD	MCQ
	Describe medico legal importance of Rigor Mortis.	LGF/SGD	MCQ
Cooling of dead body (Algor Mortis)	Define Algor Mortis?	LGF/SGD	MCQ
	Describe different methods of recording the temperature of dead body.	LGF/SGD	MCQ

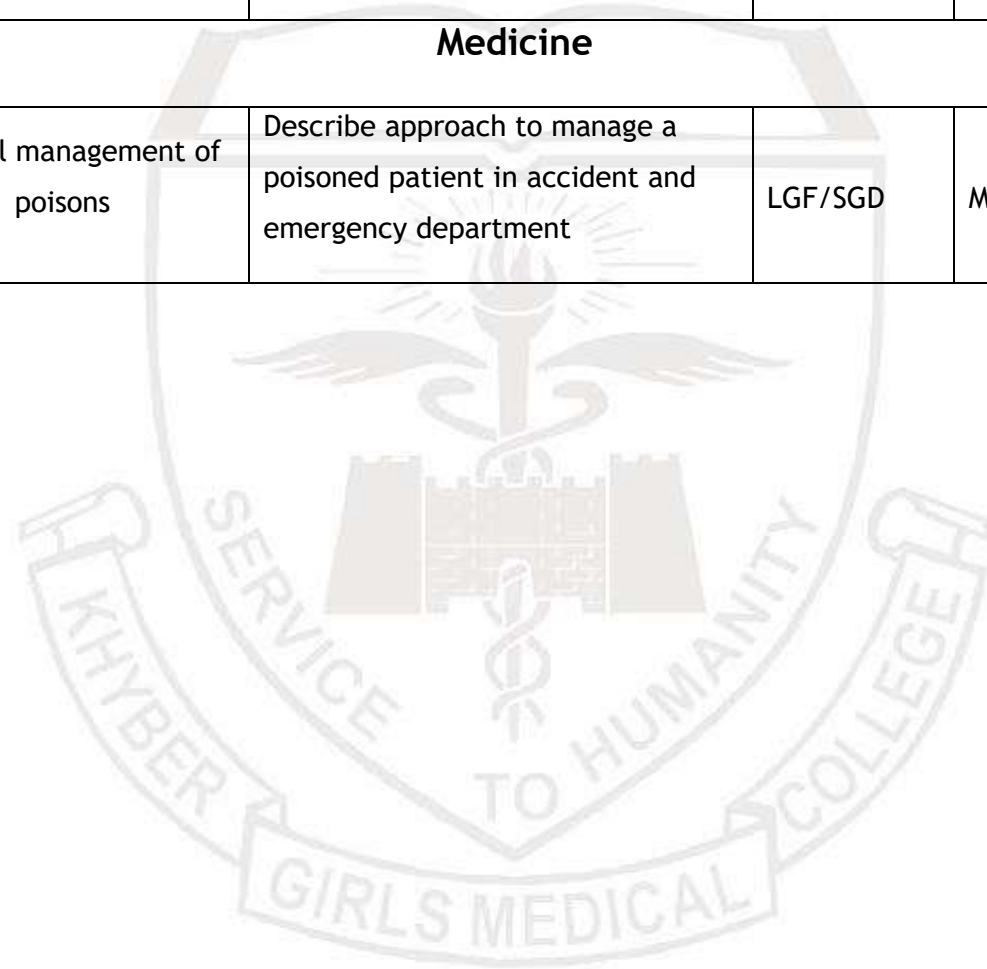


	Describe the PM body cooling curve?	LGF/SGD	MCQ
	Describe the formula/calculation used for time since death.	LGF/SGD	MCQ
Late P.M. changes & putrefaction	Define putrefaction?	LGF/SGD	MCQ
	Describe the process of putrefaction	LGF/SGD	MCQ
	Describe stages of putrefaction.	LGF/SGD	MCQ
	Describe order of progression in putrefaction.	LGF/SGD	MCQ
	Describe factors affecting Putrefaction.	LGF/SGD	MCQ
	Describe casper dictum.	LGF/SGD	MCQ

	Describe medicolegal importance of putrefaction.	LGF/SGD	MCQ
Maceration	Define maceration.	LGF/SGD	MCQ
	Describe features of maceration.	LGF/SGD	MCQ
	Discuss differentiation point for maceration	LGF/SGD	MCQ
	Discuss medicolegal importance of maceration.	LGF/SGD	MCQ
Adipocere formation (Saponification)	Define Adipocere formation.	LGF/SGD	MCQ
	Describe features of Adipocere formation.	LGF/SGD	MCQ
	Discuss medicolegal importance of Adipocere formation.	LGF/SGD	MCQ

Mummification	Define Mummification.	LGF/SGD	MCQ
	Describe features of Mummification.	LGF/SGD	MCQ
	Discuss medicolegal importance of Mummification.	LGF/SGD	MCQ
<b>Community Medicine</b>			
Child labor	Define child labor	LGF/SGD	MCQ
	Describe different types of child labor and its effects	LGF/SGD	MCQ
	Describe statistics of child labor	LGF/SGD	MCQ
	Describe governments` actions against child labor	LGF/SGD	MCQ
	Define IPEC 2011 (international		

	program on elimination of child labor	LGF/SGD	MCQ
<b>Medicine</b>			
General management of poisons	Describe approach to manage a poisoned patient in accident and emergency department	LGF/SGD	MCQ



<b>Theme-2:</b>			
<b>Heredity and Cancers</b>			
<b>Pathology</b>			
Topic	Learning objectives	MIT	Assessment
Genetics	At the end of this module, the students of year-3 will be able to: Define the term mutation, hereditary, congenital, genotype, phenotype, codon, Mendelian disorder	LGF/SGD	MCQ
Mutations	Describe various types of mutations	LGF/SGD	MCQ
	Describe trinucleotide-repeat mutations	LGF/SGD	MCQ
	Enlist few examples of trinucleotide-Repeat Disorders	LGF/SGD	MCQ
	Describe mutations in mitochondrial genes	LGF/SGD	MCQ

Transmission pattern of single Gene disorders	Enumerate transmission patterns of single gene disorders	LGF/SGD	MCQ
	Describe biochemical and molecular basis of Autosomal Dominant Disorders	LGF/SGD	MCQ
	Enlist few examples of Autosomal Dominant Disorders	LGF/SGD	MCQ
	Describe biochemical and molecular basis of Autosomal Recessive disorder	LGF/SGD	MCQ
	Enlist few Examples of Autosomal Recessive Disorders	LGF/SGD	MCQ
	Describe mechanism of transmission of X-Linked disorders	LGF/SGD	MCQ
	Enumerate examples of X-Linked Disorders	LGF/SGD	MCQ
Biochemical and molecular basis of single	Discuss enzyme defects and their consequences	LGF/SGD	MCQ

gene disorders			
	Describe defects in receptors and transport system	LGF/SGD	MCQ
	Describe alterations in structure, functions or quantity of non-enzyme proteins	LGF/SGD	MCQ
	Describe genetically determined adverse reactions to drugs	LGF/SGD	MCQ
Complex multigeneic disorders	Describe multigeneic disorders with examples	LGF/SGD	MCQ
Cytogenetic Disorders involving Autosomes	Discuss Trisomy 21 and its molecular basis	LGF/SGD	MCQ
	Describe diagnostic clinical features of Trisomy 21	LGF/SGD	MCQ
Molecular genetic diagnosis	Describe the basic principles of various molecular techniques including PCR, FISH and Southern/Western blotting	LGF/SGD	MCQ

	Enumerate indications of these techniques.	LGF/SGD	MCQ
Introduction to Neoplasia	Define the terms: neoplasia, neoplasm, oncology, tumor, benign tumor, malignant tumor, anaplasia, metaplasia, differentiation and dysplasia.	LGF/SGD	MCQ
Nomenclature of Tumors	Describe the basic principle of nomenclature of tumors with respect to tissue of origin, benign and malignant nature	LGF/SGD	MCQ
Characteristics of Benign and Malignant Tumors	Describe characteristics of benign and malignant tumors	LGF/SGD	MCQ
	Differentiate between benign and malignant tumors	LGF/SGD	MCQ
	Describe characteristics of benign and malignant neoplasms in terms of differentiation, anaplasia, rate of growth, local invasion and metastasis	LGF/SGD	MCQ



Epidemiology of Cancer	Describe the epidemiology of cancer with respect to overall incidence of cancer and various host factors (age and hereditary) that predisposes to cancer	LGF/SGD	MCQ
	Discuss the epidemiology of cancer with respect to geographical and environmental factors that predispose to cancer	LGF/SGD	MCQ
Molecular Basis of Cancer	Describe the molecular/genetic basis of carcinogenesis	LGF/SGD	MCQ
	Describe genetic lesions in cancer	LGF/SGD	MCQ
	Define oncogene, proto-oncogene and Oncoproteins.	LGF/SGD	MCQ
Carcinogenesis	Enumerate carcinogens	LGF/SGD	MCQ
	Describe the process of carcinogenesis	LGF/SGD	MCQ

	Describe the hallmarks of cancer cells and process involved	LGF/SGD	MCQ
	Describe the role of p53	LGF/SGD	MCQ
Types of Carcinogens	Discuss properties of chemical carcinogens	LGF/SGD	MCQ
	Describe direct and indirect chemical carcinogens and their mechanism of action	LGF/SGD	MCQ
	Describe the mechanism of radiation carcinogenesis	LGF/SGD	MCQ
	Enumerate viral and bacterial carcinogens	LGF/SGD	MCQ
	Describe mechanism of carcinogenesis by viral and microbial oncogenes	LGF/SGD	MCQ
Clinical Aspects of neoplasia	Define cachexia		

		LGF/SGD	MCQ
	Describe the clinical features of neoplasia including effects of tumor on host cancer cachexia	LGF/SGD	MCQ
	Describe the clinical significance of paraneoplastic syndromes	LGF/SGD	MCQ
	Describe clinical syndromes with respect to its causal mechanism and major forms of underlying cancer	LGF/SGD	MCQ
Diagnosis of Cancer	Describe morphologic, biochemical and molecular methods employed for diagnosis of cancer	LGF/SGD	MCQ
Pathways for tumor spread	Describe the pathways for spread of tumors like local invasion and metastasis	LGF/SGD	MCQ
Grading and Staging of tumors	Describe grading and staging of tumors	LGF/SGD	MCQ
Tumor immunity	Discuss host defences against tumors	LGF/SGD	MCQ

	Describe tumor antigens and anti-tumor effect mechanisms	LGF/SGD	MCQ
	Describe tumor surveillance and Immune evasion by the tumors	LGF/SGD	MCQ
<b>Pharmacology</b>			
Anticancer drugs	Describe terms like cell cycle-specific drugs and cell cycle-nonspecific drugs.	LGF/SGD	MCQ
	Describe the role of P-glycoprotein in relation to the development of resistance to cytotoxic drugs.	LGF/SGD	MCQ
	Classify anticancer drugs.	LGF/SGD	MCQ
	Describe general adverse effects of anticancer drugs.	LGF/SGD	MCQ
	Describe the mechanism of action of alkylating agents.	LGF/SGD	MCQ

	Describe the clinical uses and adverse effects of Busulfan and Cyclophosphamide.	LGF/SGD	MCQ
	Describe the mechanism of action, clinical uses and adverse effects of Cisplatin.	LGF/SGD	MCQ
	Describe in general the mechanism of action of antimetabolites.	LGF/SGD	MCQ
	Describe the mechanism of action, clinical uses, adverse effects and contraindications of Methotrexate, Azathioprine, 6-Mercaptopurine and 5-Fluorouracil.	LGF/SGD	MCQ
	Describe the drug interaction of Azathioprine and 6-Mercaptopurine with Allopurinol.	LGF/SGD	MCQ
	Describe the natural source of plant alkaloids Vinblastine and Vincristine.	LGF/SGD	MCQ
	Describe the mechanism of action,		

	clinical uses and adverse effects of Vinblastine and Vincristine.	LGF/SGD	MCQ
	Describe the mechanism of action, clinical uses and adverse effects of Doxorubicin, Daunorubicin, Dactinomycin and Bleomycin.	LGF/SGD	MCQ
	Enlist the anticancer mechanism of action and uses of hormonal agents like Tamoxifen, Flutamide, Goserelin and Aminoglutethimide.	LGF/SGD	MCQ
	Enlist the drugs of choice for ALL, AML, CLL, CML, Hodgkin's disease, Non-Hodgkin's lymphoma, Ca breast, Ca lung, Ca prostate and Ca stomach.	LGF/SGD	MCQ
	Describe cancer treatment modalities (primary induction, adjuvant, neo-adjuvant and maintenance chemotherapy)	LGF/SGD	MCQ
	Describe the antidotes of Methotrexate, Cyclophosphamide and Doxorubicin	LGF/SGD	MCQ

	toxicity.		
Eicosanoids- Prostaglandins	Classify eicosanoids.	LGF/SGD	MCQ
	Describe the mechanism of action of Prostaglandins.	LGF/SGD	MCQ
	Describe the organ system effects of Prostaglandins.	LGF/SGD	MCQ
	Describe the clinical uses of Prostaglandins.	LGF/SGD	MCQ
	Describe the prostaglandins used in the management of glaucoma.	LGF/SGD	MCQ
	Describe the pharmacologic effects of Thromboxane's <sup>2</sup> .	LGF/SGD	MCQ
Dermatologic preparations	Describe dermatologic formulations like creams, ointments, gels, lotions, pastes, powders, tinctures and wet dressings.	LGF/SGD	MCQ

	Describe the choice of dermatologic formulation with reference to the nature of the lesion.	LGF/SGD	MCQ
Drug treatment of scabies	Enlist the drugs used for the treatment of Scabies	LGF/SGD	MCQ
	Describe the method of application of Permethrin, Crothamiton and Benzyl benzoate for treating scabies.	LGF/SGD	MCQ
Drug treatment of Acne vulgaris	Enlist the drugs used for treating Acne (including antibiotics and hormonal agents).	LGF/SGD	MCQ
	Describe the mechanism of action and adverse effects of Benzoyl peroxide, Tretinoin and Isotretinoin.	LGF/SGD	MCQ
	Describe the teratogenicity of Isotretinoin.	LGF/SGD	MCQ
Drug treatment of Psoriasis	Enlist the drugs used for treating Psoriasis.	LGF/SGD	MCQ



??? more Los for this topic for a student of year-3	Describe the teratogenicity of Acitretin.	LGF/SGD	MCQ
Herbal medications	Describe the terms like herbal medications, botanicals and nutritional supplements with special reference to drug regulatory factors.	LGF/SGD	MCQ
	Describe the pharmacologic effects and intended uses of Garlic ( <i>Allium sativum</i> ).	LGF/SGD	MCQ
	Describe the drug interactions of Garlic with Warfarin and Aspirin.	LGF/SGD	MCQ
	Describe the possible medicinal use of Kalonji ( <i>Nigella sativa</i> ).	LGF/SGD	MCQ
	Describe the pharmacologic effects and intended uses of Ginseng.	LGF/SGD	MCQ
	Describe the drug interactions of Ginseng with antipsychotic and hypoglycaemic medications.	LGF/SGD	MCQ

	Describe the intended clinical uses of Coenzyme Q10.	LGF/SGD	MCQ
	Describe the drug interactions of Coenzyme Q10 with Warfarin.	LGF/SGD	MCQ
<b>Community Medicine</b>			
Cancers	Enlist the common cancers prevalent in Pakistan	LGF/SGD	MCQ
	Describe the burden and epidemiology of common cancers prevalent globally and in Pakistan	LGF/SGD	MCQ
	Describe the prevention and control of cancers	LGF/SGD	MCQ
	Describe various governmental programs and strategies for the prevention of cancers	LGF/SGD	MCQ

<b>Practical work</b>			
<b>Pathology</b>			
Lipoma	Identify the morphological changes occurring in lipoma	DEMO	MCQ
Squamous cell carcinoma	Identify morphological changes of squamous cell carcinoma	DEMO	MCQ
Fibro adenoma	Enlist points of identification of gross and microscopic features of fibro adenoma of breast	DEMO	MCQ
Karyotyping	Demonstrate preparation of Karyogram	DEMO	MCQ
	Identify gender on the basis of Karyogram	DEMO	MCQ
	Identify common numerical chromosomal abnormalities on Karyogram	DEMO	MCQ
<b>Pharmacology</b>			
Introduction to experimental Pharmacology	Differentiate between Qualitative and Quantitative experiments.	DEMO	MCQ

(experiments on isolated piece of rabbit's ileum)			
	Recognize various parts of Tissue Organ Bath and describe their functions.	DEMO	MCQ
	Describe the ingredients and their quantities required for preparing the Tyrode's Solution.	DEMO	MCQ
	Describe the technique of slaughtering of rabbit and removal of a piece of ileum.	DEMO	MCQ
	Describe the fixation of piece of ileum in the inner organ bath.	DEMO	MCQ
	Enumerate the causes of tissue death.	DEMO	MCQ
Ceiling effect for Parasympathomimetic drug (Acetylcholine)	Demonstrate ceiling effect for Acetylcholine on the isolated piece of rabbit's ileum by adding proper doses of the drug into the inner organ bath.	DEMO	MCQ
	Interpret the recording of acetylcholine-induced ileal activity on the revolving drum.	DEMO	MCQ

	Demonstrate washing of the inner organ bath for the subsequent doses of Acetylcholine.	DEMO	MCQ
	Construct tables and graphs for inference of the results.	DEMO	MCQ
Antagonism between acetylcholine and atropine	Demonstrate surmountable antagonism between acetylcholine and atropine on piece of rabbit's ileum by adding proper doses of the drugs into the inner organ bath.	DEMO	MCQ
	Interpret the recording of acetylcholine- and Atropine-induced ileal activity on the revolving drum.	DEMO	MCQ
	Construct tables and graphs for inference of the results.	DEMO	MCQ
Ceiling effect for Histamine	Demonstrate ceiling effect for Histamine on the isolated piece of rabbit's ileum by adding proper doses of the drug into the inner organ bath.	DEMO	MCQ
	Interpret the recording of Histamine -	DEMO	MCQ

	induced ileal activity on the revolving drum.		
	Demonstrate washing of the inner organ bath for the subsequent doses of Histamine.	DEMO	MCQ
	Construct tables and graphs for inference of the results.	DEMO	MCQ
Antagonism between Histamine and antihistamine	Demonstrate surmountable antagonism between Histamine and antihistamine on piece of rabbit's ileum by adding proper doses of the drugs into the inner organ bath.	DEMO	MCQ
	Interpret the recording of Histamine- and antihistamine-induced ileal activity on the revolving drum.	DEMO	MCQ
	Construct tables and graphs for inference of the results.	DEMO	MCQ
To identify an unknown drug on rabbit's ileum with the help of two	Demonstrate ceiling effect for the known agonist drug (Acetylcholine or Histamine) on the isolated piece of rabbit's ileum by	DEMO	MCQ

known antagonists	adding proper doses of the drug into the inner organ bath.		
	Demonstrate surmountable antagonism between the agonist drug and the unknown antagonists (Atropine and antihistamine) on piece of rabbit's ileum by adding proper doses of the drugs into the inner organ bath.	DEMO	MCQ
	Interpret the recording of drug-induced ileal activity on the revolving drum.	DEMO	MCQ
	Construct tables and graphs for inference of the results.	DEMO	MCQ
Introduction to experimental Pharmacology (effects of drugs on rabbit's Eye)	Demonstrate measuring the pupil size.	DEMO	MCQ
	Demonstrate corneal reflex.	DEMO	MCQ
	Demonstrate light reflex.	DEMO	MCQ
Effects of Parasympathomimetic	Demonstrate the effect of Pilocarpine on the size of the pupil in the test eye in	DEMO	MCQ

drug (e.g., Pilocarpine) on rabbit's eye	comparison with the control eye.		
	Demonstrate the effect of Pilocarpine on the colour of the conjunctiva in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of Pilocarpine on the corneal reflex in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of Pilocarpine on the light reflex in the test eye in comparison with the control eye.	DEMO	MCQ
Effects of Sympathomimetic drug (e.g., Ephedrine) on rabbit's eye	Demonstrate the effect of Ephedrine on the size of the pupil in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of Ephedrine on the colour of the conjunctiva in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of Ephedrine on the corneal reflex in the test eye in	DEMO	MCQ

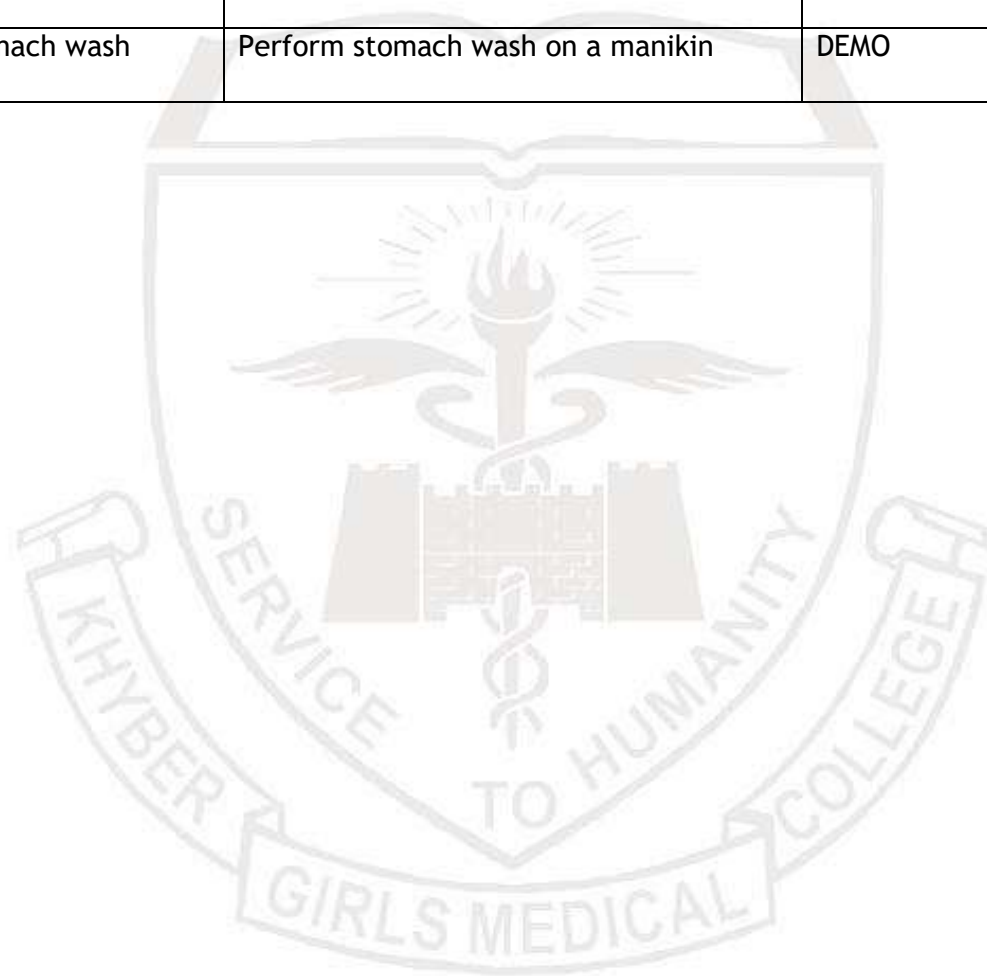


	comparison with the control eye.		
	Demonstrate the effect of Ephedrine on the light reflex in the test eye in comparison with the control eye.	DEMO	MCQ
Effects of Parasympatholytic drug (e.g., Tropicamide) on rabbit's eye	Demonstrate the effect of Tropicamide on the size of the pupil in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of Tropicamide on the colour of the conjunctiva in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of Tropicamide on the corneal reflex in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of Tropicamide on the light reflex in the test eye in comparison with the control eye.	DEMO	MCQ
Effects of Local anaesthetic (e.g.,	Describe the mechanism of action of Proparacaine regarding its effects on the	DEMO	MCQ

Proparacaine) on rabbit's eye	eye.		
	Demonstrate the effect of Proparacaine on the size of the pupil in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of Proparacaine on the colour of the conjunctiva in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of Proparacaine on the corneal reflex in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of Proparacaine on the light reflex in the test eye in comparison with the control eye.	DEMO	MCQ
To identify an unknown drug on rabbit's eye	Demonstrate the effect of the unknown drug on the size of the pupil in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of the unknown drug on the colour of the conjunctiva in	DEMO	MCQ

	the test eye in comparison with the control eye.		
	Demonstrate the effect of the unknown drug on the corneal reflex in the test eye in comparison with the control eye.	DEMO	MCQ
	Demonstrate the effect of the unknown drug on the light reflex in the test eye in comparison with the control eye.	DEMO	MCQ
	Interpret the results.	DEMO	MCQ
	Identify the unknown drug.	DEMO	MCQ
Forensic Medicine			
Autopsy report	Construct a full autopsy report including all components after thorough examination.	DEMO	MCQ
Toxicology Sample collection	Explain the procedures, organ needed, and preservation used in sample collection.	DEMO	MCQ
Toxicology Report Analysis	interpret the toxicology report received and then incorporate it in final opinion.	DEMO	MCQ

Thanatology	Identify and describe various models of post-mortem changes	DEMO	MCQ
Stomach wash	Perform stomach wash on a manikin	DEMO	MCQ



## Teaching and learning strategies:

The following teaching learning methods are used to promote better understanding:

- Interactive Lectures
- Hospital Clinic visits
- Small Group Discussion
- Skills session
- Self-Directed Study



### Interactive lectures:

An interactive lecture is an easy way for instructors to intellectually engage and involve students as active participants in a lecture-based class of any size. Interactive lectures are classes in which the instructor breaks the lecture at least once per class to have students participate in an activity that lets them work directly with the material.

- The instructor might begin the interactive segment with an engagement trigger that captures and maintains student attention.
- Then the instructor incorporates an activity that allows students to apply what they have learned or give them a context for upcoming lecture material.

- As the instructor feels more comfortable using interactive techniques he or she might begin to call upon a blend of various interactive techniques all in one class period.

#### **Hospital Clinic visits:**

In small groups, students observe patients with signs and symptoms in hospital or clinical settings. This helps students to relate knowledge of basic and clinical sciences of the relevant module.

#### **Small group discussion (SGD):**

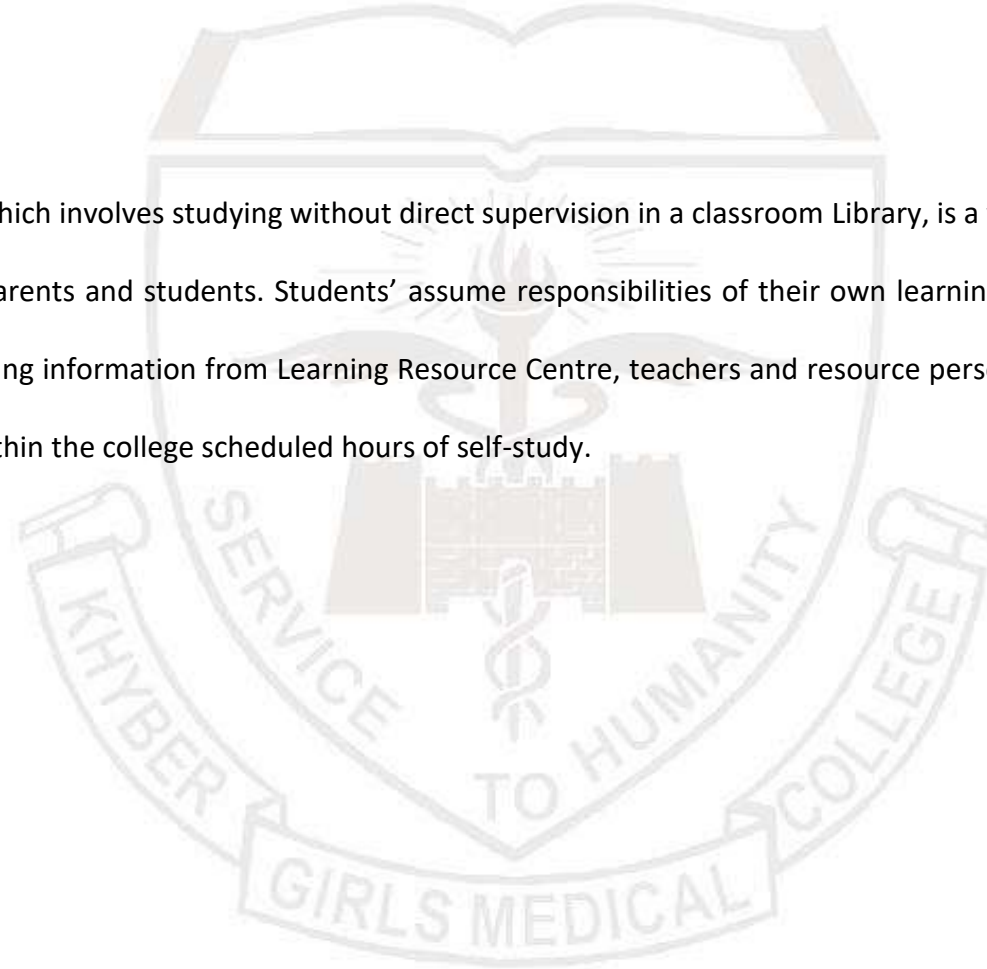
The shy and less articulate are more able to contribute. Students learn from each other. Everyone gets more practice at expressing their ideas. A two way discussion is almost always more creative than individual thoughts. Social skills are practiced in a 'safe' environment e.g. tolerance, cooperation. This format helps students to clarify concepts acquire skills or attitudes. Students exchange opinions and apply knowledge gained from lectures, tutorials and self-study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts.

**Skills Practical session:**

Skills relevant to respective module are observed and practiced where applicable in skills laboratory or Laboratories of various departments.

**Self-Directed learning (SDL):**

Self-directed learning, which involves studying without direct supervision in a classroom Library, is a valuable way to learn and is quickly growing in popularity among parents and students. Students' assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Centre, teachers and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.



## **Time table:**

The timetables for the module will be shared via Edmodo and the notice boards in advance.

## **Assessment tools:**

Theoretical knowledge is tested by a written examination system constituted by multiple choice questions (MCQs). The assessment of practical knowledge involves oral, spot, or objective structured practical examinations (OSPE).

### **Multiple Choice Questions (MCQs):**

- Multiple choice questions (MCQs) are a form of assessment for which students are asked to select the best choice from a list of answers.
- MCQ consists of a stem and a set of options. The stem is usually the first part of the assessment that presents the question as a problem to be solved; the question can be an incomplete statement which requires to be completed and can include a graph, a picture or any other relevant information. The options are the possible answers that the student can choose from, with the correct answer called the key and the incorrect answers called distractors.
- Correct answer carries one mark, and incorrect 'zero mark'. There is NO negative marking.
- Students mark their responses on specified computer-based sheet designed for the college.
- The block exam will comprise of 120 MCQs and will be compiled according to the shared blueprint.



### Objective Structured Practical Examination (OSPE)

- The content may assess application of knowledge, or practical skills.
- Student will complete task in define time at one given station.
- All the students are assessed on the same content by the same examiner in the same allocated time.
- A structured examination will have observed, unobserved, interactive and rest stations.
- Observed and interactive stations will be assessed by internal or external examiners.
- Unobserved will be static stations in which students will have to answer the questions related to the given pictures, models or specimens the provided response sheet.
- Rest station is a station where there is no task given, and in this time student can organize their thoughts.
- The Block OSPE will be comprise of 20 examined station and 5 rest stations. The stations will be assigned according to the shred blueprint. There will be 8 stations for viva of core subjects like Pathology, Pharmacology, Forensic Medicine and Community Medicine (2 station for viva of each core subject) and 2 clinical station and rest of 10 out of 20 stations will be assigned according to shared blue prints.

## Internal Evaluation:

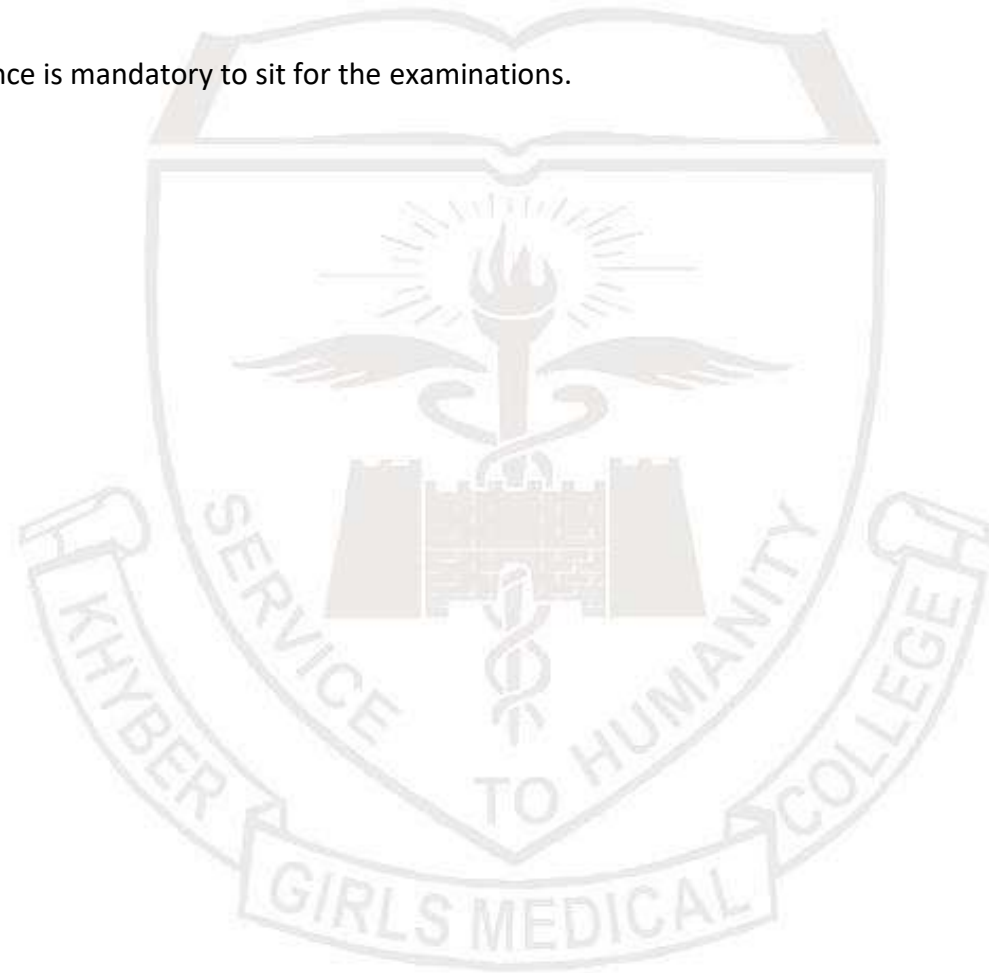
Internal evaluation is a process of quality review undertaken within an institution for its own ends. 10% marks of internal evaluation will be added to final marks. This 10% will be based on

<b>Marks obtained</b>	<b>14 out of total 40 marks of internal assessment in block H Paper</b>

<b>Marks obtained</b>	<b>14 out of total 40 marks of internal assessment in block H OSPE</b>

## Attendance Requirement:

More than 75% attendance is mandatory to sit for the examinations.



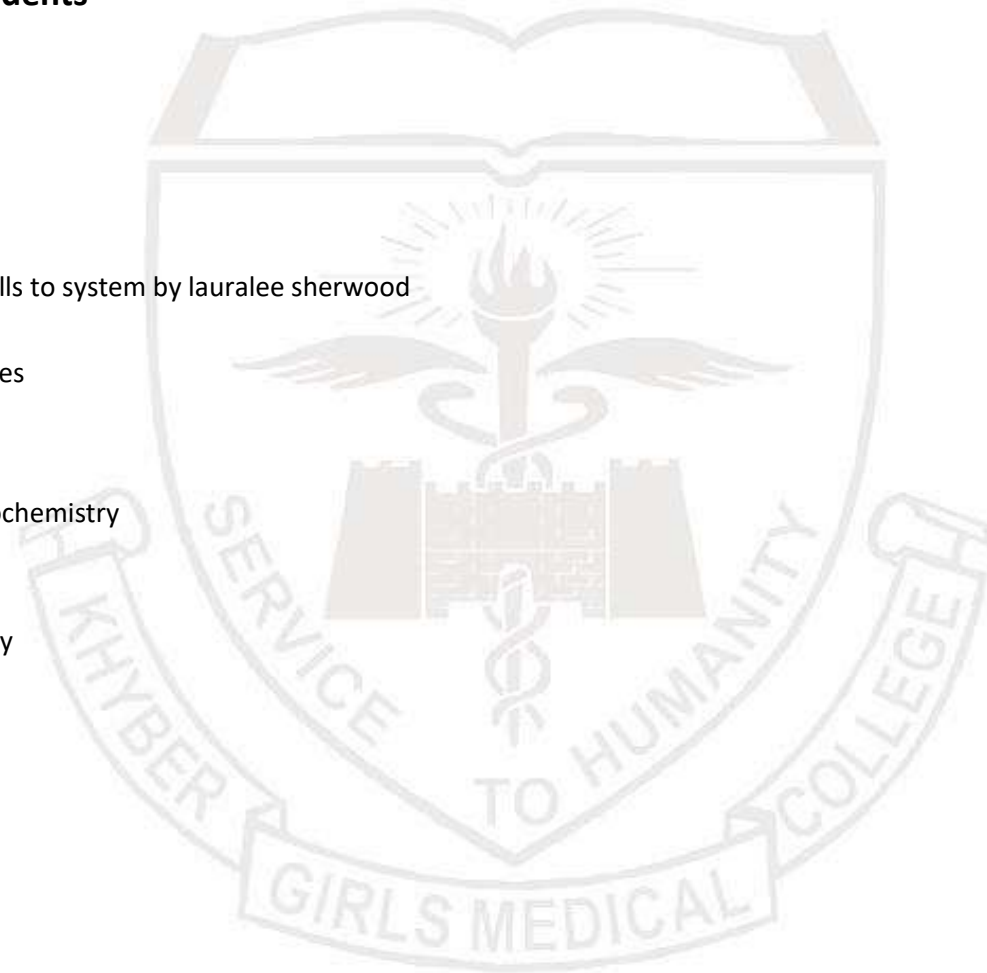
## Learning Resources For Students

### Physiology

- Guyton and Hall physiology
- Ganong physiology
- Human Physiology from cells to system by lauree sherwood
- BRS Physiology
- Neuroscience by Dale Purves

### Biochemistry

- Chatterjee text book of Biochemistry
- Harpers Biochemistry
- Lippincotts Biochemistry
- Satya Narayan biochemistry

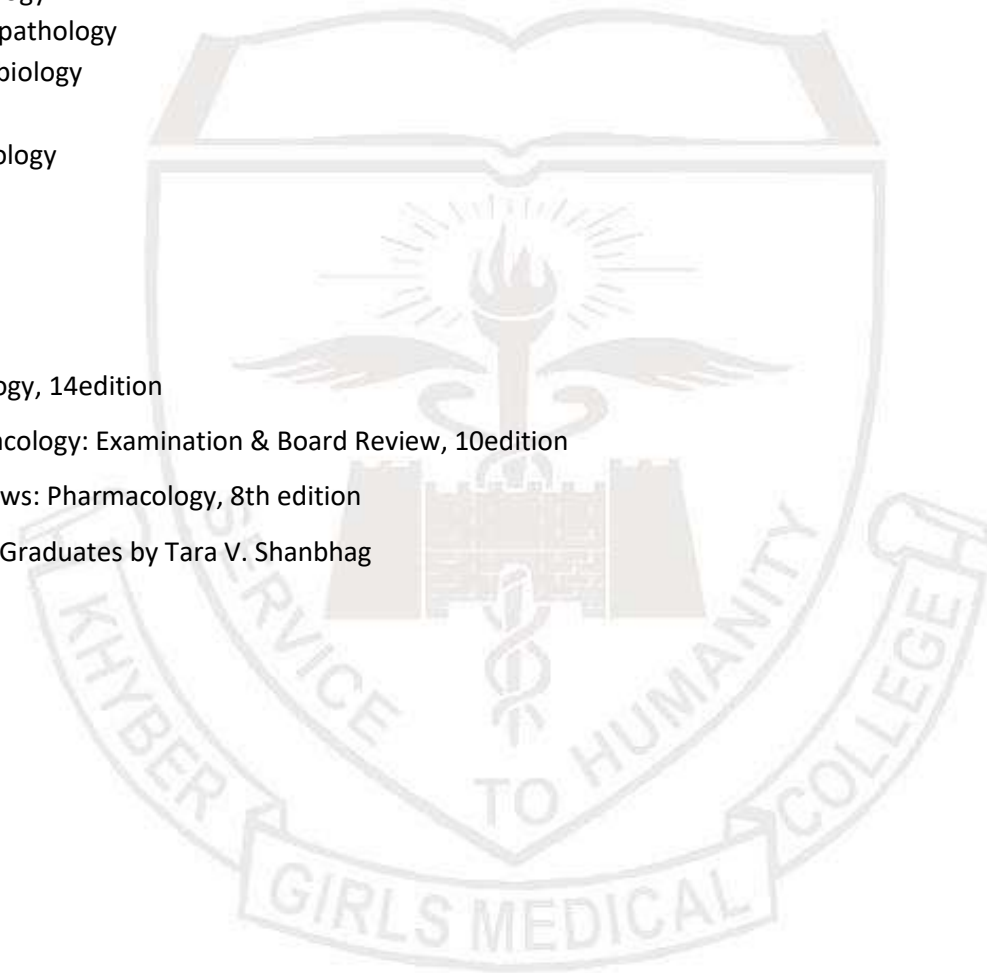


## **PATHOLOGY**

- Robbins textbook of pathology
- Harsh mohan text book of pathology
- Levison text book of microbiology
- Paniker parasitology
- Chatterjee book of parasitology

## **PHARMACOLOGY**

- Basic & Clinical Pharmacology, 14edition
- Katzung & Trevor's Pharmacology: Examination & Board Review, 10edition
- Lippincott Illustrated Reviews: Pharmacology, 8th edition
- Pharmacology for Medical Graduates by Tara V. Shanbhag



## FORENSIC MEDICINE

- Parikh's textbook of Medical Jurisprudence and Toxicology.
- Principles and Practice of Forensic Medicine by Nasir R Awan
- Forensic medicine and toxicology principals and practice by Krishan Vij
- Knights forensic pathology by Bernard knight, Pekka sauikko
- Forensic medicine and toxicology Nagesh Kumar G rao

Apart from these resources learning, students can consult books available in library or recommended by the specialty experts.

