Rawalpindi Medical University
Rawalpindi

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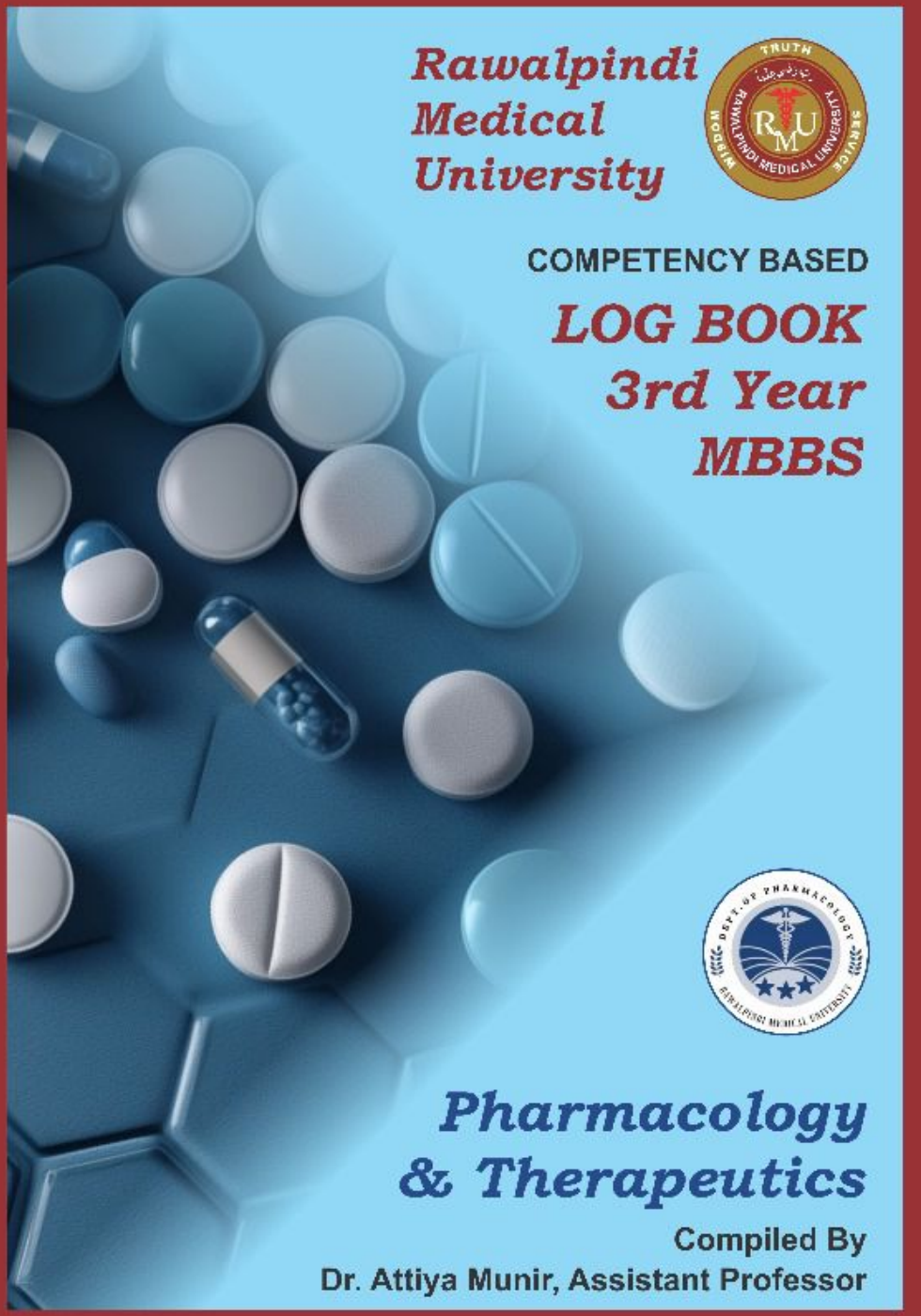
COMPETENCY BASED

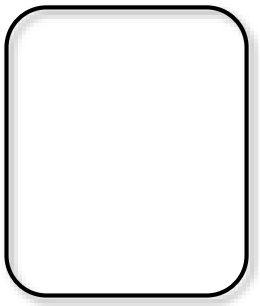
LOG BOOK
3rd Year MBBS



Pharmacology & Therapeutics

Compiled By
Dr. Attiya Munir, Assistant Professor

Personal Information



Name: _____

Class Roll No: _____

University Reg. No: _____

Batch: _____

Father Name: _____

Father Profession: _____

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Phone: _____

E-mail: _____

Parents/Guardian Phone No: _____

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Pharmacology 3rd Year MBBS				
PRACTICALS (PSYCHOMOTOR SKILL)				
BLOCK -VII				
FOUNDATION MODULE - II				
Sr. No	**Date**	**Topic**	**Attended/Non Attended**	**Sig**
1		Biostatistics-I		
2		Biostatistics-II		
3		Pharmacological Calculations-I		
4		Pharmacological Calculations-II		
FOUNDATION MODULE – III				
Sr. No	**Date**	**Topic**	**Attended/Non Attended**	**Sig**
1		Pharmacological Calculations-III		
2		Effect of mydriatics on rabbit's eye		
3		Effect of miotics on rabbit's eye		

FOUNDATION–II			
Topic of Practical	**Objectives**	**Skill**	**Miller's Pyramid Level Reflected**
Biostatistics-I	Explain the concept of central tendency in pharmacology and its relevance in analyzing drug response data. Differentiate between mean, median, and mode, and understand when each measure is most appropriate in pharmacological data analysis	The student will be able to • Practice calculating the mean, median, and mode • Interpret the calculated central tendencies in the context of drug efficacy and safety.	Knows how
Biostatistics-II	Clearly define variance, standard deviation, and standard error of the mean, and understand the distinctions between these measures.	The student will be able to • Practice calculating variance as a measure of the spread of drug concentration data and interpret the results. • Learn to compute standard deviation as a more interpretable measure of the variability in drug response data.	Knows how
Pharmacological Calculations-I	Master fundamental skills in calculating drug dosages based on patient weight, age and other relevant factors.	The student will be able to • Develop proficiency in calculating pediatric drug dosages, considering age-appropriate formulations and dosage forms.	Knows how
Pharmacological Calculations-II	Clearly define and understand the concepts of fractions and percentages in the context of pharmacological solutions	The student will be able to • Calculate fractional concentrations for drug solutions, considering both mass/volume and volume/volume ratios.	Knows how

FOUNDATION–III			
Topic of Practical	**Objectives**	**Skill**	**Miller's Pyramid Level Reflected**
Pharmacological Calculations-III	Clearly define and understand the concepts of fractions and percentages in the context of pharmacological solutions	The student will be able to • Calculate percentage concentrations of drug solutions using different weight/volume and volume/volume formulations.	Knows how
Effect of mydriatics on rabbit's eye	Recall the Pharmacokinectic and pharmacodynamics properties of the mydratic drug groups.	The student will be able to • Perform and interpret the results of the drug instilled in rabbit's eye	Does
Effect of miotics on rabbit's eye	Recall the Pharmacokinectic and pharmacodynamics properties of the miotic drug groups.	The student will be able to • Perform and interpret the results of the drug instilled in rabbit's eye	Does

Checklist for Effect Of Mydriatics On Rabbit's Eye

Place a "✓" in relevant boxes of yes and no Satisfactory: Performs the step or task according to the standard procedure or guidelines Unsatisfactory: Unable to perform the step or task according to the standard procedure

Step/ Task	**Yes**	**No**
Pre-Experiment Checklist		
1. Rabbit preparation: Obtain a rabbit and ensure it is healthy and suitable for the experiment.		
2. Equipment preparation: Gather necessary equipment including Mydriatic solutions (e.g., atropine, tropicamide), Normal saline solution, Pipettes or droppers, Stopwatch		
Experimental Procedure Checklist		
3. Baseline measurement: Measure and record the pupil diameter of the rabbit's eye before administering any solutions.		
4. Administer normal saline: Administer a few drops of normal saline solution to the rabbit's eye and measure the pupil diameter after 5-10 minutes.		
5. Administer mydriatic solution: Administer a few drops of the mydriatic solution (atropine) to the rabbit's eye and measure the pupil diameter at regular intervals (5, 10, 15 minutes).		
6. Repeat with different mydriatic solutions: Repeat steps 2-3 with different mydriatic solutions (e.g., tropicamide).		
7. Record observations: Record observations on the effect of each mydriatic solution on the rabbit's pupil diameter.		
Post-Experiment Checklist		
8. Record and analyze data: Record and analyze data on the effect of mydriatic solutions on the rabbit's pupil diameter.		
9. Draw conclusions: Draw conclusions on the effectiveness of each mydriatic solution in causing mydriasis (pupil dilation)		
Skill activity performed satisfactorily		
Facilitator's signature		
Date		

Checklist for Effect Of Miotics On Rabbit's Eye

Place a "✓" in relevant boxes of yes and no

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure

Step/ Task	**Yes**	**No**
Pre-Experiment Checklist		
1. Rabbit preparation: Obtain a rabbit and ensure it is healthy and suitable for the experiment.		
2. Equipment preparation: Gather necessary equipment including Miotic solutions (e.g. Pilocarpine), Normal saline solution, Pipettes or droppers, Stopwatch		
Experimental Procedure Checklist		
3. Baseline measurement: Measure and record the pupil diameter of the rabbit's eye before administering any solutions.		
4. Administer normal saline: Administer a few drops of normal saline solution to the rabbit's eye and measure the pupil diameter after 5-10 minutes.		
5. Administermiotic solution: Administer a few drops of the Pilocarpine to the rabbit's eye and measure the pupil diameter at regular intervals (5, 10, 15 minutes).		
6.Repeat with different miotic solutions: Repeat steps 2-3 with different miotic solutions		
7. Record observations: Record observations on the effect of each miotic solution on the rabbit's pupil diameter.		
Post-Experiment Checklist		
8. Record and analyze data: Record and analyze data on the effect of miotic solutions on the rabbit's pupil diameter.		
9.Draw conclusions: Draw conclusions on the effectiveness of each miotic solution in causing miosis (pupil constriction)		
Skill activity performed satisfactorily		
Facilitator's signature		
Date		

Pharmacology 3rd Year MBBS				
PRACTICALS (PSYCHOMOTOR SKILL)				
BLOCK -VIII				
GIT, HEPATOBILIARY& PARASITOLOGY II MODULE				
Sr. No	**Date**	**Topic**	**Attended/Non Attended**	**Sig**
1		P drug and prescription writing of hyperemesis gravidarum		
2		P drug and prescription writing of peptic ulcer		
3		P drug and prescription writing of Ascariasis &Enterobious Vermicularis.		
4		Affective communication skills		
5		Demonstration of dose-response relationship using rabbit ileum		
6		Demonstration of drug antagonism using rabbit ileum		
MICROBES AND ANTI MICROBES MODULE				
Sr. No	**Date**	**Topic**	**Attended/Non Attended**	**Sig**
1		P drug and prescription writing of pneumonia		
2		P drug and prescription writing of gonorrhea		
3		P drug and prescription writing of pseudomembranous colitis		
4		P drug and prescription writing of enteric fever		
5		P drug and prescription writing of oral candidiasis		
6		P drug and prescription writing of HSV encephalitis		
7		Pharmacy visit		
8		Pharmacovigilence		

GIT, HEPATOBILIARY & PARASITOLOGY II MODULE			
Topic of Practical	**Objectives**	**Skill**	**Miller's Pyramid Level Reflected**
P drug and prescription writing in hyperemesis gravidarum, peptic ulcer, Ascariasis & Enterobious Vermicularis.	Recall the drug groups used in different clinical scenarios	The student will be able to • Reproduce an unambigious, legible, complete and legal prescription of the disease • Select an appropriate P drug following 5 step methods	Knows how
Affective communication skills	Improve patient outcomes, enhance patient satisfaction and promote positive relationships between healthcare providers and patients	The student will be able to • Develop effective communication skills to counsel patients and care givers about medication use, including dosage, administration, potential side effects and adherence.	Show
Demonstration of dose response relationship using rabbit ileum	Gain a deeper understanding of the dose-response relationship and its importance in pharmacology, as well as develop practical skills in experimental design, data analysis, and mathematical modeling.	The student will be able to • Identification of all the parts of kymograph • Demonstrate the effects of gradually increasing doses of acetylcholine on dose response curve.	Does
Demonstration of drug antagonism using rabbit ileum	Gain a deeper understanding of the dose-response relationship and its importance in pharmacology, as well as develop practical skills in experimental design, data analysis, and mathematical modeling.	The student will be able to • Demonstrate the effects on dose response curve of different doses of acetylcholine in the presence of atropine • Demonstrate the surmountable antagonism between acetylcholine and atropine	Does

MICROBES AND ANTIMICROBES MODULE			
Topic of Practical	**Objectives**	**Skill**	**Miller's Pyramid Level Reflected**
P drug and prescription writing of pneumonia, gonorrhea and pseudomembranous colitis	Recall the drug groups used in different clinical scenarios	The student will be able to • Reproduce an unambigious, legible, complete and legal prescription of the disease • Select an appropriate P drug following 5 step methods	Knows how
P drug and prescription writing of enteric fever, oral candidiasis and HSV encephalitis	Recall the drug groups used in different clinical scenarios	The student will be able to • Reproduce an unambigious, legible, complete and legal prescription of the disease • Select an appropriate P drug following 5 step methods	Knows how
Pharmacy visit	Improve patient outcomes, enhance patient satisfaction and promote positive relationships between healthcare providers and patients	The student will be able to • Review medication, educate patients, enhance patient safety and satisfaction	Does
Pharmacovigilence	Ensure the safe and effective use of medicinal products, protect public health and promote transparency and accountability in the pharmaceutical industry.	The student will be able to • Report Adverse drug reactions • Promote rational use of medicinal products • Communication and collaborte among stakeholders, including regulatory authorities, pharmaceutical companies, healthcare professionals and patients.	Does

Checklist for Prescription Writing

Place a "✓" in relevant boxes of yes and no Satisfactory: Performs the step or task according to the standard procedure or guidelines Unsatisfactory: Unable to perform the step or task according to the standard procedure

Check List	**Yes**	**No**
Step/ Task		
1. Date: Write the date of the prescription.		
2. Patient's Name: Write the patient's full name		
3. Address: Write the patient's address.		
4. Age and Sex: Write the patient's age and sex.		
5. Prescriber's Name and Signature: Sign your name and provide your contact information.		
6. Drug Name: Write the generic or brand name of the medication.		
7. Dosage Form: Specify the dosage form (e.g., tablets, capsules, liquid).		
8. Strength: Specify the strength of the medication (e.g., 500 mg, 1 mg/mL).		
9. Directions for Use: Provide clear instructions for taking the medication		
Skill activity performed satisfactorily		
Facilitator's signature		
Date		

Check List	**Yes**	**No**
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Checklist for Prescription Writing

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Check List	**Yes**	**No**
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1. Date: Write the date of the prescription.		
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9. Directions for Use: Provide clear instructions for taking the medication		
Skill activity performed satisfactorily		
Facilitator's signature		
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Checklist for P Drug

Place a "✓" in relevant boxes of yes and no Satisfactory: Performs the step or task according to the standard procedure or guidelines Unsatisfactory: Unable to perform the step or task according to the standard procedure

Check List	**Yes**	**No**
Step/ Task		
1. Formulation of diagnosis and therapeutic objectives		
2. Tabulation of effective groups		
3. Comparison of effective groups		
4. Selection of most effective drug group		
5. Selection of P-drug from group of choice		
6. Provide clear instructions for taking the medication		
Skill activity performed satisfactorily		
Facilitator's signature		
Date		

Check List	**Yes**	**No**
Step/ Task		
1. Formulation of diagnosis and therapeutic objectives		
2. Tabulation of effective groups		
3. Comparison of effective groups		
4. Selection of most effective drug group		
5. Selection of P-drug from group of choice		
6. Provide clear instructions for taking the medication		
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Facilitator's signature		
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Check List	**Yes**	**No**
Step/ Task		
1. Formulation of diagnosis and therapeutic objectives		
2. Tabulation of effective groups		
3. Comparison of effective groups		
4. Selection of most effective drug group		
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Checklist for P Drug

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Step/ Task		
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Checklist for P Drug

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Check List	**Yes**	**No**
Step/ Task		
1. Formulation of diagnosis and therapeutic objectives		
2. Tabulation of effective groups		
3. Comparison of effective groups		
4. Selection of most effective drug group		
5. Selection of P-drug from group of choice		
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Check List	**Yes**	**No**
Step/ Task		
1. Formulation of diagnosis and therapeutic objectives		
2. Tabulation of effective groups		
3. Comparison of effective groups		
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Check List	**Yes**	**No**
Step/ Task		
1. Formulation of diagnosis and therapeutic objectives		
2. Tabulation of effective groups		
3. Comparison of effective groups		
4. Selection of most effective drug group		
5. Selection of P-drug from group of choice		
6. Provide clear instructions for taking the medication		
Skill activity performed satisfactorily		
Facilitator's signature		
Date		

Checklist for Affective Communication Skills

Place a "✓" in relevant boxes of yes and no

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure

Check List	**Yes**	**No**
Step/ Task		
1. Effectively communicate with proper introduction		
2. Listen actively: Pay attention to the patient's concerns and questions.		
3. Explain clearly: Use simple language to explain the diagnosis, treatment, and follow-up.		
4. Show empathy and respect: Treat the patient with kindness, respect, and understanding.		
5. Provide education: Educate the patient on the condition, treatment, and self-care.		
6. Involve the patient in decision-making: Encourage the patient to participate in decision-making about their care.		
7. Summarize and confirm: Summarize the discussion and confirm understanding of the diagnosis, treatment, and follow-up.		
8. Ask for clarification: Clarify any doubts or concerns before leaving the consultation.		
Skill activity performed satisfactorily		
Facilitator's signature		
Date		

Checklist For Demonstration Of Dose-Response Relationship Using Rabbit Ileum

Place a "✓" in relevant boxes of yes and no

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure

Check List	**Yes**	**No**
Pre-Experiment Checklist		
1. Obtain rabbit ileum: Obtain a fresh rabbit ileum and ensure it is suitable for the experiment.		
2. Prepare equipment: Gather necessary equipment, including Organ bath, Thermometer, Agonist and antagonist solutions, Pipettes and burettes		
3. Get solutions of agonist (e.g., acetylcholine) and antagonist (e.g., atropine)		
4. Set up organ bath: Set up the organ bath with the aerating tube and thermometer.		
Experimental Procedure Checklist		
5. Mount rabbit ileum: Mount the rabbit ileum in the organ bath and ensure it is securely attached.		
6. Add agonist solution: Add a known concentration of agonist solution to the organ bath and record the response (e.g., contraction).		
7. Determine dose-response curve: Repeat step 2 with increasing concentrations of agonist solution to determine the dose-response curve.		
8. Add antagonist solution: Add a known concentration of antagonist solution to the organ bath and record the response (e.g., relaxation).		
9. Determine shift in dose-response curve: Repeat steps 2-3 in the presence of the antagonist solution to determine the shift in the dose-response curve.		
Post-Experiment Checklist		
10. Clean and dispose of equipment: Clean and dispose of equipment according to laboratory protocols.		
11. Record and analyze data: Record and analyze data on the dose-response relationship and the effect of the antagonist.		
12. Draw conclusions: Draw conclusions on the demonstration of the dose-response relationship using rabbit ileum		
Skill activity performed satisfactorily		
Facilitator's signature		
Date		

Checklist For Drug Antagonism Using Rabbit Ileum

Place a "✓" in relevant boxes of yes and no

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure

Check List	**Yes**	**No**
Pre-Experiment Checklist		
1. Obtain rabbit ileum: Obtain a fresh rabbit ileum and ensure it is suitable for the experiment.		
2. Prepare equipment: Gather necessary equipment, including Organ bath, Thermometer, Agonist and antagonist solutions, Pipettes and burettes		
3. Get solutions of agonist (e.g., acetylcholine) and antagonist (e.g., atropine)		
4. Set up organ bath: Set up the organ bath with the aerating tube and thermometer.		
Experimental Procedure Checklist		
5. Mount rabbit ileum: Mount the rabbit ileum in the organ bath and ensure it is securely attached.		
6. Add agonist solution: Add a known concentration of agonist solution to the organ bath and record the response (e.g., contraction).		
7. Determine dose-response curve: Repeat step 2 with increasing concentrations of agonist solution to determine the dose-response curve.		
8. Add antagonist solution: Add a known concentration of antagonist solution to the organ bath and record the response (e.g., relaxation).		
9. Determine shift in dose-response curve: Repeat steps 2-3 in the presence of the antagonist solution to determine the shift in the dose-response curve.		
Post-Experiment Checklist		
10. Clean and dispose of equipment: Clean and dispose of equipment according to laboratory protocols.		
11. Record and analyze data: Record and analyze data on the dose-response relationship and the effect of the antagonist.		
12. Draw conclusions: Draw conclusions on the demonstration of the dose-response relationship using rabbit ileum		
Skill activity performed satisfactorily		
Facilitator's signature		
Date		

Checklist For Pharmacy Visit

Place a "✓" in relevant boxes of yes and no

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure

Check List	**Yes**	**No**
Step/ Task		
1. Observe pharmacy operations: Observe the pharmacist's workflow, including Dispensing medications, Counseling patients, Managing inventory and Handling prescriptions		
2. Interact with pharmacists and patients: Interact with pharmacists and patients to learn about Medication management, Patient education, Adverse event reporting and Medication therapy management		
3. Observe the most commonly prescribed medications in this pharmacy		
4. Learn different types of medication packaging and labeling		
5. Reflect on the pharmacy visit, including what was learned and what was observed.		
6. Complete a report on the pharmacy visit, including Description of the pharmacy and its operations, Observations of pharmacist-patient interactions and Discussion of medication management and safety		
Skill activity performed satisfactorily		
Facilitator's signature		
Date		

Checklist For Pharmacovigilence

Place a "✓" in relevant boxes of yes and no

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure

Check List	Yes	No
Activity 1: Identifying and Reporting Adverse Drug Reactions (ADRs)		
1. Case study: Review a case study of a patient experiencing an ADR.		
2. Identify the ADR: Identify the ADR and its symptoms.		
3. Determine the causality: Determine the likelihood of the ADR being caused by the medication.		
4. Report the ADR: Complete a report of the ADR, including Patient demographics, Medication details and ADR symptoms and severity		
Activity 2: Signal Detection and Risk Management		
5. Review methods for detecting signals including Spontaneous reporting, Active surveillance and Data mining		
6. Analyze a case study of a signal detection and risk management scenario		
7. Develop a plan to manage the risk including Risk assessment, Risk mitigation strategies and Monitoring and evaluation		
Activity 3: Pharmacovigilance Systems and Regulations		
8. Review National and International pharmacovigilance systems including National pharmacovigilance centers and WHO Monitoring Centre		
9. Familiarize with regulations and guidelines including Good Pharmacovigilance Practice (GVP) And FDA regulations		
10. Reflect on the pharmacovigilance activities and what was learned.		
11. Complete a form assessing the pharmacovigilance activities including Evaluation of ADR identification and reporting,Assessment of signal detection and risk management and Feedback on pharmacovigilance systems and regulations		
Skill activity performed satisfactorily		
Facilitator's signature		
Date		

Pharmacology 3rd Year MBBS				
PRACTICALS (PSYCHOMOTOR SKILL)				
BLOCK -IX				
HEMATOLOGY AND IMMUNOLOGY II MODULE				
Sr. No	**Date**	**Topic**	**Attended/Non Attended**	**Sig**
1		P drug and prescription writing of Fe deficiency anemia		
2		P drug and prescription writing of IHD		
3		P drug and prescription writing of DVT		
4		P drug and prescription writing of dyslipidemia		
5		P drug and prescription writing of malaria		
CVS AND RESPIRATION II MODULE				
Sr. No	**Date**	**Topic**	**Attended/Non Attended**	**Sig**
1		P drug and prescription of HTN		
2		P drug and prescription of angina		
3		P drug and prescription of CCF		
4		P drug and prescription of asthma		
5		P drug and prescription of TB		
6		Effect of drugs on frog's heart		

HEMATOLOGY & PARASIOLOGY II MODULE			
Topic of Practical	**Objectives**	**Skill**	**Miller's Pyramid Level Reflected**
P drug and prescription writing of Fe deficiency anemia, IHD, DVT, Dyslipidemia and Malaria	Recall the drug groups used in different clinical scenarios	The student will be able to • Reproduce an unambigious, legible, complete and legal prescription of the disease • Select an appropriate P drug following 6 step methods	Knows how

CVS AND RESPIRATION II MODULE			
Topic of Practical	**Objectives**	**Skill**	**Miller's Pyramid Level Reflected**
P drug and prescription of angina & HTN, CCF	Recall the drug groups used in different clinical scenarios	The student will be able to • Reproduce an unambigious, legible, complete and legal prescription of the disease • Select an appropriate P drug following 6 step methods	Knows how
P drug and prescription of asthma and TB	Recall the drug groups used in different clinical scenarios	The student will be able to • Reproduce an unambigious, legible, complete and legal prescription of the disease • Select an appropriate P drug following 6 step methods	Knows how
Effect of drugs on frog's heart	Recall the Pharmacokinectic and pharmacodynamics properties of different drug groups.	The student will be able to • Perform and interpret the results of the drug instilled in frog's heart	Does

Checklist for Prescription Writing

Place a "✓" in relevant boxes of yes and no Satisfactory: Performs the step or task according to the standard procedure or guidelines Unsatisfactory: Unable to perform the step or task according to the standard procedure

Check List	**Yes**	**No**
Step/ Task		
1. Date: Write the date of the prescription.		
2. Patient's Name: Write the patient's full name		
3. Address: Write the patient's address.		
4. Age and Sex: Write the patient's age and sex.		
5. Prescriber's Name and Signature: Sign your name and provide your contact information.		
6. Drug Name: Write the generic or brand name of the medication.		
7. Dosage Form: Specify the dosage form (e.g., tablets, capsules, liquid).		
8. Strength: Specify the strength of the medication (e.g., 500 mg, 1 mg/mL).		
9. Directions for Use: Provide clear instructions for taking the medication		
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Check List	**Yes**	**No**
Step/ Task		
1. Formulation of diagnosis and therapeutic objectives		
2. Tabulation of effective groups		
3. Comparison of effective groups		
4. Selection of most effective drug group		
5. Selection of P-drug from group of choice		
6. Provide clear instructions for taking the medication		
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Checklist For Effect Of Drugs On Frog's Heart

Place a "✓" in relevant boxes of yes and no

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure

Check List	**Yes**	**No**
Pre-Experiment Checklist		
1. Frog's preparation: Obtain a frog and ensure it is healthy and suitable for the experiment.		
2. Equipment preparation: Gather necessary equipment including drugs, Surgical kit, frog board, stand with mounted spring lever, kymograph and revolving drum.		
Experimental Procedure Checklist		
3. Stun and pith the frog and fix it on the frog board with the help of pins. Fix the hook of the lever in the apex of the heart.		
4. Expose the heart by cutting the sternum (saving the ventral vein).		
5. Lever moves with normal cardiac contractions which are recorded on the revolving drum of the kymograph.		
6. Take the normal tracing per minute		
7. Pour a few drops of the given drug on the exposed heart and record the effect produced.		
8. Similarly, record the effect of other drugs with the preceding normal tracings each time and write the inference.		
Post-Experiment Checklist		
9. Record and analyze data: Record and analyze data on the effect of Atropine, Acetylcholine, Adrenaline and propranolol on heart rate and force of contraction		
10. Draw conclusions: Draw conclusions on the effectiveness of each drug.		
Skill activity performed satisfactorily		
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