Spiral-II	
MODULE TITLE	**GIT & Hepatobiliary-II**
INTRODUCTION	This module is connected with and builds on the GIT Module-I. It provides in depth knowledge of gastrointestinal tract related disorders, their management and prevention where possible. The students will be introduced to the principles underlying diagnoses and therapy.
TARGET STUDENTS	Third year MBBS, 2022
DURATION	7 weeks
DEPARTMENTS	• Community Medicine • Forensic Medicine • Pathology • Pharmacology
LEARNING OBJECTIVES	By the end of the Module all the students of 3rd year MBBS will be able to :

LECTURES

COMMUNITY MEDICINE

1. Introduction to nutrition

- Define Nutrition
- Classify micro and macronutrients
- List the diseases caused by micronutrient deficiencies
- Explain prevention of micronutrient deficiencies

2. Balanced diet and bioavailability of nutrients

- Describe the composition of macronutrient in balanced diet
- Describe standard nutrient intake and recommendation
- Calculate energy value from macronutrient

3. Food hygiene and food poisoning

- Define food borne illness
- Discuss physical, biological and chemical hazards of food

- Describe the preservation of food
- Define fortification
- Explain food adulteration

4. Assessment of nutritional status- Growth Chart

- Describe nutritional assessment
- Explain Nutritional Care Process (NCP)
- List the tools for nutritional status
- Explain the importance of Growth Charts

5. Malnutrition and prevention

- Define malnutrition
- Classify malnutrition
- Explain the process of assessment of malnutrition
- Discuss control and prevention of malnutrition

6. Hepatitis, its types and prevention

- Classify Hepatitis
- Discuss the clinical features of Hepatitis
- Explain the epidemiological triangle of Hepatitis
- Explain the control and prevention of Hepatitis
- Discuss the Hepatitis control programme in Pakistan

7. Enteric Fever and its prevention

- Describe enteric fever
- Discuss the epidemiology of enteric fever
- Describe the measures of control and prevention of enteric fever

8. Diarrheal diseases and its prevention

- Describe diarrheal disease
- Classify diarrheal disease
- Describe the epidemiology of diarrheal diseases
- Explain the clinical features, assessment and diagnostic criteria of diarrheal diseases

- Discuss measure of control and prevention of diarrheal diseases

9. Cholera and its prevention

- Describe cholera disease
- Describe the epidemiology of cholera.
- List risk factors of cholera
- Discuss the measures of control and prevention of Cholera

10. Worm infestations and their prevention

- Describe worm infestation
- Classify medically important worms
- Describe the epidemiology of worm infestations
- List the risk factors of worm infestation
- Discuss measures of control and prevention of worm infestations

11. Amoebiasis and its prevention

- Describe Amoebiasis
- Describe epidemiology of Amoebiasis
- Discuss risk factors of Amoebiasis
- Discuss measures of control and prevention of Amoebiasis

12. Zoonotic Diseases and its prevention

- Describe Zoonosis
- Classify medically important zoonotic diseases
- Describe epidemiology of zoonotic diseases
- Describe Scabies
- Discuss measures of control and prevention of zoonotic diseases

13. Leishmaniasis and its prevention

- Describe Leishmaniasis
- Discuss epidemiology of Leishmaniasis
- List risk factors of Leishmaniasis
- Discuss measures of control and prevention of Leishmaniasis

14. Water Pollution and Water Related Diseases

- Describe water pollution
- List the sources of water pollution
- Classify water related diseases
- Discuss control and prevention of water related diseases

15. Water Purification

- Describe Water purification
- Enumerate the methods of water purification
- Explain WHO standards for water safety

FORENSIC MEDICINE

1. Regional Injuries-I (Head, injuries to scalp & Fractures of Skull)

- Describe Injuries of the scalp including forensic aspects of anatomy of the scalp and their medico legal aspects
- Enumerate the types of fractures of the skull and their forensic aspects
- Explain the mechanism of production of fractures of the skull and their medico legal significance

2. Regional Injuries-II (Intracranial hemorrhages)

- Describe the types of intracranial haemorrhages along with forensic anatomy of blood vessels commonly involved
- List the signs and symptoms of different types of intracranial haemorrhages and methods to diagnose them
- Explain the medico legal aspects of intracranial hemorrhages

3. Regional Injuries-III (Brain Injuries, Spinal Injuries)

- Enumerate the different types of injuries to the brain and spine
- Explain the mechanisms of brain injuries such as Concussion/Contusion/ Irritation, Coup and contre coup injuries
- Describe the mechanism and sign and symptoms of brain injuries to boxers
- Discuss Spinal injuries with special emphasis on Railway spine
- Describe the medico legal aspects of brain and spinal injuries

4. Regional Injuries-IV (Injuries of Face, Neck, Chest, Abdomen, Pelvis)

- Describe the common injuries of medico legal significance to the face and neck including
  i. Cervical fractures
  ii. Whiplash injuries
  iii. Homicidal and suicidal cut throat
  iv. Chest injuries including traumatic asphyxia, injuries to ribs, lungs, heart with special emphasis on penetrating injuries and Commotio Cordis
- Describe the abdominal injuries with medico legal aspects of rupture of liver, spleen, injuries to abdominal aorta and intestines
- Discuss Pelvic injuries of medico legal significance

5. Special Trauma-Road Traffic Accidents

- Explain the various causes of road traffic accidents
- Briefly discuss the fitness certificate for driving license
- Describe the various types of injuries to pedestrians, driver and passengers
- Discuss the use of air bags and seat belt syndrome
- Explain the injuries to motor cyclists with special stress on tail gating
- List the Complications of run over injuries with their medico legal significance

6. Special trauma (Blast Injuries)

- Define common terms related to blast injuries
- Classify explosives
- Discuss the physics of bomb blast
- Describe the various types of blast injuries
- Discuss the management of blast injuries

7. Causes of death due to trauma

- Describe the immediate and delayed (remote) causes of death due to wounds

8. Forensic Psychiatry-I

- State the salient features of Mental Health Ordinance 2001
- Define insane person as per law

- Differentiate between Legal and Medical Insanity
- Describe subjective disorders as delusions, hallucinations, illusion, obsession, impulse and their medico legal significance

9. Forensic Psychiatry-II

- Define the various terms of medico legal significance such as affect, fugue, confabulation, I.Q, psychopath, twilight state
- Discuss legal tests of insanity i.e. McNaughton's Rule
- List motives of feigned insanity
- Differentiate between true and feigned insanity
- Explain the procedure of admission in a mental hospital
- Discuss the civil and criminal responsibilities of insane

10. Metallic Poisons-Arsenic and Mercury

- Explain the sign and symptoms, diagnosis, treatment, postmortem findings and medico legal importance of acute and chronic poisoning by Arsenic and Mercury

11. Metallic Poisons-Lead and Copper

- Explain the sign and symptoms, diagnosis, treatment, postmortem findings and medico legal importance of acute and chronic poisoning by Lead and Copper

12. Food poisoning

- Enumerate the types of food poisoning
- Differentiate between Toxin type and Infection type of food poisoning
- Explain the sign and symptoms, diagnosis, and postmortem findings of food poisoning
- Discuss role of forensic expert in cases of food poisoning

13. Opium & its derivative poisons

- Enumerate the derivatives of Opium
- Explain the sign and symptoms, diagnosis, treatment, postmortem findings and medico legal importance of Opium poisoning

PATHOLOGY

1. Lesions of oral cavity (Inflammatory/reactive, precancerous and cancerous)

- Discuss apthous ulcers & fibroproliferative lesions of oral cavity
- Discuss the characteristic features of precancerous oral cavity lesions
- List the risk factors for oral cancer especially squamous cell carcinoma
- Discuss the pathogenesis, molecular biology and morphology of squamous cell carcinoma

2. Inflammation & neoplasms of salivary glands

- Discuss sialadenitis and mucocele
- Classify common benign and malignant tumors of salivary glands
- Describe the characteristic features, pathogenesis and morphology of the most common salivary gland tumors

3. Congenital abnormalities of GIT

- Describe the congenital abnormalities of GIT including Atresia, fistulae, duplications, Diaphragmatic Hernia, Omphalocele, Gastroschisis. Ectopia, Meckel diverticulum, Congenital hypertrophic pyloric stenosis, Hirschsprung disease

4. Esophageal obstruction, achalasia, esophagitis & Barrett esophagus

- Explain esophageal obstruction, varices and achalasia
- Classify esophagitis
- Discuss the risk factors, pathogenesis, morphology and clinical features of Barrett esophagus

5. Esophageal tumors

- Classify tumors of esophagus
- Explain the etiology and pathogenesis of esophageal tumors
- Identify the morphology and common clinical features of esophageal tumors

6. Gastritis, Stress related mucosal disease, Chronic Gastritis

- Define Gastritis
- Describe its pathogenesis, morphology & clinical features
- Define stress related mucosal disease
- Discuss its pathogenesis, morphology & clinical features

- Explain the pathogenesis, morphology & clinical features of chronic gastritis (with special emphasis on H. Pylori gastritis and autoimmune eosinophilic, lymphocytic & granulomatous gastritis)

7. Complications of chronic gastritis

- Discuss risk factors, pathogenesis, morphology, clinical features & complications of peptic ulcer disease
- Define mucosal atrophy, intestinal metaplasia, dysplasia & gastritis cystica in relation to gastritis
- Discuss hypertrophic gastropathies

8. Infections of the upper Gastrointestinal tract

- List the microorganisms which causes infections of oral cavity & upper GI tract
- Discuss the important properties of Helicobacter pylori and Candida
- Describe the pathogenesis, epidemiology clinical findings and laboratory diagnosis of H. Pylori & Candida

9. Gastric polys & tumors of stomach

- Discuss the types, sites, risk factors & morphology of gastric polyps.
- Classify gastric tumors based on macroscopic and microscopic grounds
- Discuss epidemiology, risk factors, pathogenesis, molecular biology, morphology and clinical features of gastric adenoma & adenocarcinoma
- Explain gastric lymphoma, carcinoid tumor and gastrointestinal stromal tumors

10. Intestinal obstruction/ Ischemic bowel diseases/ Angiodysplasia

- Describe types of intestinal obstructions
- Discuss the risk factors and morphology of intestinal obstructions
- Describe the pathogenesis, morphology, clinical features of Ischemic bowel disease
- Define Angiodysplasia
- Discuss the pathogenesis and morphology of Angiodysplasia

11. Malabsorption & Diarrhea

- Define malabsorption & diarrhea
- Classify diarrhea

- Enumerate different malabsorption diseases including Cystic fibrosis, Celiac disease, environmental enteropathy, Autoimmune enteropathy, Lactase deficiency & Abetalipoproteinemia
- Discuss the pathogenesis, risk factors, morphology and clinical features of Celiac disease
- Discuss etiopathogenesis of Whipple disease

12. Food Poisoning

- Define food poisoning
- List the causative microorganisms of food poisoning
- Briefly discuss food poisoning due to Staphylococcus Aureus & Listeria
- Discuss the important properties, pathogenesis, epidemiology, clinical findings, laboratory diagnosis, treatment and prevention of Bacillus and Clostridia
- Discuss antibiotic associated pseudomembranous colitis due to Clostridium Difficile

13. Infectious enterocolitis due to Escherichia coli and Mycobacterium tuberculosis

- Define the term diarrhea
- List the infectious causative agents of diarrhea
- Discuss the characteristics of inflammatory and non-inflammatory diarrhea.
- Discuss important properties, pathogenesis and clinical findings, laboratory diagnosis, treatment and prevention of diarrhea caused by Escherichia coli
- Briefly discuss the role of Mycobacterium tuberculosis in causing diarrhea

14. Infectious enterocolitis due to Salmonella species and Shigella

- Describe the important properties of Salmonella and Shigella
- List the different species of Salmonella
- Discuss diarrhea caused by Salmonella and Shigella
- Discuss the pathogenesis, clinical findings, laboratory diagnosis, treatment and prevention of typhoid fever and Shigella

15. Infectious enterocolitis due to Vibrio cholera, Campylobacter jejuni, Yersenia enterocolitica

- Discuss the important properties, pathogenesis, clinical findings, laboratory diagnosis, treatment and prevention of vibrio cholera, Campylobacter jejuni and Yersinia

enterocolitica

16. Role of viruses in infecting gastrointestinal tract

- List the important viruses that cause gastrointestinal tract infections
- Discuss the important properties, replicative cycle, transmission, epidemiology, pathogenesis, clinical findings, laboratory diagnosis, treatment and prevention of Polio and Rota viruses

17. Intestinal protozoa

- Classify major protozoan pathogens
- Discuss the diseases, important properties, pathogenesis, epidemiology, clinical findings, laboratory diagnosis, treatment and prevention of Entamoeba histolytica and Giardia lambdia
- Briefly discuss the minor intestinal protozoa

18. Intestinal Cestodes

- Discuss the diseases, important properties, pathogenesis, epidemiology, clinical findings, laboratory diagnosis, treatment and prevention of:
  i. Taenia solium
  ii. Taenia saginata
  iii. Diphyllobothrium latum
  iv. Hymenolepis nana
  v. Dipylidium caninum

19. Trematodes

- Discuss the diseases, important properties, pathogenesis, epidemiology, clinical findings, laboratory diagnosis, treatment and prevention of:
  i. Schistosoma
  ii. Clornorchis
  iii. Paragonimus
  iv. Faschiola Fasciolopsis
  v. Heterophyes

20. Intestinal Nematodes-I

- Discuss the diseases, important properties, pathogenesis, epidemiology, clinical findings, laboratory diagnosis, treatment and prevention of:
  i. Enterobius vermicularis
  ii. Ascaris lumbricoides
  iii. Strongyloides

21. Intestinal Nematodes-II

- Discuss the diseases, important properties, pathogenesis, epidemiology, clinical findings, laboratory diagnosis, treatment and prevention of:
  i. Ancylostoma and Necator
  ii. Trichuris trichura
  iii. Trichinella

22. Irritable bowel syndrome (IBS), Inflammatory bowel disease (IBD), Indeterminate colitis & Colitis associated neoplasia

- Define irritable bowel syndrome and inflammatory bowel disease
- Explain its pathogenesis & clinical features
- Describe its types (Crohn & ulcerative colitis) and their pathogenesis
- Explain the morphology and clinical features of both types of IBD
- Differentiate between Crohn & ulcerative colitis
- Define intermediate colitis
- Describe long term complications of ulcerative colitis & Crohn disease
- Define diversion colitis, microscopic colitis, sigmoid diverticulosis & graft versus host disease

23. Polyps of small & large intestine (Familial adenomatous polyposis FAP)

- Classify non-neoplastic & neoplastic polyps of intestine
- Describe its morphology & clinical features
- Briefly discuss gastrointestinal polyposis syndromes

24. Tumors of small & large intestines, Hemorrhoids, appendicitis, Peritonitis, tumors of anal canal & peritoneum

- Classify tumors of intestines

- Discuss the risk factors and pathogenesis of adenoma-adenocarcinoma sequence
- Describe the gross and microscopic features of intestinal tumors
- Discuss the clinical features, grading and staging of intestinal tumors
- Briefly discuss tumors of anal canal, hemorrhoids, acute appendicitis, tumors of appendix, peritonitis & peritoneal mesothelioma

25. Anaerobic infections of the Gastrointestinal tract (peritonitis and appendicitis)

- List the microorganisms causing peritonitis and appendicitis
- Briefly discuss acute appendicitis and peritonitis
- Discuss in detail the important properties, pathogenesis, epidemiology, clinical findings, laboratory diagnosis, treatment and prevention of Bacteriodes and Prevotella

26. General features of liver diseases

- Describe the mechanism of injury & repair
- Elaborate the laboratory diagnosis of hepatic diseases
- Describe acute & chronic liver failure
- Explain morphology & clinical features of liver failure
- Define acute-on-chronic liver failure

27. Hepatotropic Viruses-I

- Discuss the important properties, summary of replicative cycle, transmission, epidemiology pathogenesis, clinical finding, laboratory diagnosis, treatment and prevention of Hepatitis B, C and D

28. Hepatotropic viruses -II

- Discuss the important properties, summary of replicative cycle, transmission, epidemiology pathogenesis, clinical finding, laboratory diagnosis, treatment and prevention of Hepatitis A, E and G

29. Bacterial and Parasitic infections relating to the liver

- List the important protozoa, Cestodes and trematodes infecting the liver
- Discuss in detail the important properties, pathogenesis, epidemiology, clinical finding, laboratory diagnosis, treatment and prevention of Leptospira, Echinococcosis granulosus, Echinococcosis multilocularis

30. Hepatitis; Viral, Autoimmune & Drug Induced

- Discuss the morphological features of viral hepatitis
- Define autoimmune & drug induced hepatitis
- Describe clinicopathlogic features, morphology & diagnostic criteria of autoimmune hepatitis
- Describe patterns of drug & toxin induced hepatic injury
- Define clinicopathologic syndromes of viral hepatitis, chronic hepatitis & carrier state

31. Alcoholic & Non-Alcoholic Liver Disease (NAFLD)

- Explain the pathogenesis, morphology & clinical features of Alcoholic Liver Disease
- Define non-alcoholic liver disease & World Health Organization criteria for the metabolic syndrome
- Discuss the pathogenesis, morphology & clinical features of NAFLD

32. Storage and metabolic disorders of liver

- List the types of storage & metabolic disorders of liver
- Discuss the genetic alterations, pathogenesis, morphology & clinical presentation of Hemochromatosis, Wilson disease and α1 anti-trypsin deficiency

33. Cholestatic Diseases, Autoimmune Cholangiopathies. & structural anomalies of the biliary tree

- Explain bilirubin & bile formation
- Describe pathophysiology & causes of jaundice
- Discuss pathogenesis & morphology of cholestasis, large bile duct obstruction, cholestasis of sepsis, primary hepatolithiasis, neonatal cholelithiasis & biliary atresia
- Describe the pathogenesis, morphology & clinical features of primary biliary cirrhosis, primary sclerosing cholangitis
- Define choledochal cyst & fibropolycystic disease

34. Circulatory Disorders, Hepatic complications of organ or Hematopoietic stem cell transplantation, Hepatic diseases associated with pregnancy

- Describe the clinical manifestation & morphology of various circulatory disorders of liver

- Describe morphology of graft-versus host disease & liver graft rejection, preeclampsia & eclampsia, acute fatty liver of pregnancy & intrahepatic cholestasis of pregnancy

35. Tumors of liver

- Classify liver tumors
- Discuss the molecular profile, pathogenesis and morphology of benign liver tumors
- Discuss the risk factors, pathogenesis, morphology, clinical features and diagnosis of malignant tumors of liver

36. Pathological diseases, and tumors of gall bladder

- Discuss the etiology, pathogenesis, gross morphological & histological features of different types of cholecystitis, cholelithiasis
- Discuss risk factors, pathogenesis, morphology and diagnosis of carcinoma of gall bladder

37. Non neoplastic diseases of pancreas

- Describe non-tumorous conditions of Pancreas including congenital anomalies, acute and chronic pancreatitis

38. Neoplastic cysts, Neoplasms of Pancreas

- Discuss Congenital cysts & Pseudocysts
- Discuss cystic neoplasm of Pancreas
- Describe precursors to pancreatic cancers, and the pathogenesis, morphology & clinical features of pancreatic carcinoma
- Define Acinar cell carcinoma & Pancreatoblastoma

PHARMACOLOGY

1. Prokinetics and Anti-Emetics

- Classify prokinetic and anti-emetic agents
- Discuss the basic & clinical pharmacology of those agents

2. Serotonin Agonists & Antagonists (as potent anti-emetics)

- Explain the mechanism(s) of action, therapeutic uses, adverse effects, and

contraindications of serotonin agonists and antagonists

- Explain the role of serotonin, its agonists and antagonists in different clinical conditions

3. Drugs used in Acid Peptic Disorder including H. Pylori-I & II

- Classify drugs used in the treatment of acid peptic disorder including H. Pylori
- Discuss the basic & clinical pharmacology of drugs used in acid peptic disease

4. Drug Management of Viral Hepatitis (Anti-Viral Drugs-II)

- Explain different treatment strategies for viral hepatitis
- Discuss the basic & clinical pharmacology of drug groups used in viral hepatitis including role of Interferons

5. Laxatives (drugs used in constipation)

- Classify laxatives/purgatives
- Explain the pharmacokinetics and dynamics and adverse effects of laxatives/ purgatives

6. Treatment of Amebiasis (Anti-Protozoal Drugs-II)

- Classify drugs used in the treatment of Amebiasis
- Explain the basic & clinical Pharmacology of drugs used in the treatment of Amebiasis

7. Anti-Diarrheal Drugs & Treatment of Irritable Bowel Syndrome (IBS)

- Classify anti-diarrheal drugs
- Discuss drug treatment of infectious diarrhea
- Explain the basic & clinical pharmacology of anti-diarrheal drugs
- Discuss the drug treatment of IBS

8. Anti-Helminthic Drugs

- Classify drugs used in the treatment of helminthic infections
- Describe basic and clinical pharmacology of anti-helminthic drugs

TUTORIALS

FORENSIC MEDICINE

1. **Corrosives poisoning**
   - Discuss the sign and symptoms, treatment and medico legal significance of corrosive poisons; including HCL, H2SO4, Nitric acid, Vitriolage

2. **Organic Acids and Alkalies**
   - Discuss the sign and symptoms, treatment and medico legal significance of:
     i. Oxalic acid
     ii. Carbolic acid
     iii. Salicylic acid
     iv. Hydrocyanic acid & cyanides,
     v. Alkalies; Caustic Soda and Caustic Potash

3. **Non Metallic Poison- Phosphorus**
   - Discuss the sign and symptoms, treatment and medico legal significance of Phosphorus

4. **Therapeutic poisons-II (Barbiturates, Diazepam and Tranquilizer) and common household poisons**
   - Describe the mode of action, signs and symptoms depending upon concentration in blood, treatment and postmortem findings of therapeutic poisons Barbiturates, Diazepam and Tranquilizer
   - Enumerate common household poisons
   - Discuss the sign and symptoms, treatment and medico legal significance of common household poisons

5. **Drug addiction and dependence**
   - Define drug addiction and dependence
   - List the drugs that cause addiction and dependence
   - Discuss their sign and symptoms, treatment and medico legal significance

PATHOLOGY

1. **Laboratory diagnosis of Typhoid and liver disease**
   - Discuss the important tests in diagnosing Typhoid
   - Discuss the liver function tests

PHARMACOLOGY

1. **Serotonin Agonists & Antagonists**
   - Discuss the basic and clinical pharmacology of serotonin agonists and antagonists

2. **Drugs used in Acid Peptic Disorder**
   - Discuss drug regimens used in the treatment of acid peptic diseases including treatment of H. Pylori associated ulcers
   - Discuss the clinical uses, adverse effects, pharmacokinetics and pharmacodynamics of notable drugs

3. **Drug treatment of Viral Hepatitis**
   - Discuss the basic and clinical pharmacology of various drug regimens used in viral hepatitis

4. **Treatment of Amebiasis, Diarrhea & Irritable Bowel Syndrome (IBS)**
   - Discuss various drug regimens used in the treatment of amebiasis, diarrhea and IBS

5. **Treatment of Typhoid Infection**
   - Discuss the drug regimens used in typhoid infection along with their basic and clinical pharmacology

PRACTICALS

PATHOLOGY

1. Histopathology of oral cavity, salivary glands, pre-malignant & malignant lesions of esophagus

- Describe the morphology of:
  i. Leucoplakia & eythroplakia

ii. Most common salivary gland tumors
iii. Barrett esophagus
iv. Squamous cell carcinoma & adenocarcinoma of esophagus

2. Histopathology of gastric diseases and gastric tumors

- Describe the morphological features of gastritis, and peptic ulcer disease
- Discuss morphological features of gastric polyps, adenoma & adenocarcinoma

3. Histopathology of polyps & intestinal tumors

- Classify intestinal polyps
- Discuss intestinal polyps
- Discuss the morphological features of intestinal tumors

4. Stool Detailed Report

- List the clinical indications of stool detailed report
- Describe the methods of doing stool DR
- Discuss the physical, chemical and microscopic features of stool DR with regards to infectious and non-infectious causes
- Identify the eggs of important worms

5. Biochemical tests to identify microorganisms especially of the GIT

- Identify lactose and non-lactose fermenting colonies on MacConkeys agar
- Discuss the importance of:
  i. Triple sugar iron agar test
  ii. Sulphur Indole Motility agar test
  iii. Citrate utilization test
  iv. Urease test

PHARMACOLOGY

1. Preparation of Tyrode solution

- Demonstrate the preparation of Tyrode solution for practical setup
- State its contents and their quantities for solution preparation
- List its experimental uses

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- Explain the method of calculation for preparation of various strength of solution used experimentally

2. **Evaluate the effects of given drug on the intestine of Rabbit**

- Demonstrate the effect of different drugs on the isolated piece of Rabbit's intestine by using Power Lab System

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<tr><td>INTERNAL ASSESSMENT</td><td>

- Internal assessment will be according to JSMU policy. The details of internal assessment will be determined by the respective institutions.
- Internal assessment carries 20% weightage in the final, end-of-year examination.

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<tr><td>FINAL EXAMINATION</td><td>MCQs and OSPE</td></tr>
<tr><td>COURSE EVALUATION</td><td>Course will be evaluated through a feedback form which will be posted on the JSMU website</td></tr>
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