

Course outcome and Programme outcome

(PO-CO)

MICROBIOLOGY

1. **Clinician:** Provides preventive, promotive, curative, palliative and holistic care with compassion.
2. **Leader and member of the health care team and system:** Acts as leader and member of the health care team and system with capabilities to collect, analyze and synthesize health data.
3. **Communicator:** Communicates effectively with patients, families, colleagues and community.
4. **Lifelong learner:** Recognize the need and has the ability to engage in life-long learning to update knowledge and professional skills.
5. **Professionals:** Illustrate professional skills by being ethical, responsive and accountable to patients, community and profession.
6. **Critical thinker:** develop problem solving skills in professional practice.
7. **Researcher:** Generates and interprets evidence.

CO-PO matrices

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7

Correlation levels 1, 2 and 3

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

No correlation put "0"

Number	COMPETENCY	Clinician	Leader and member of health care team and system	Communicator	Lifelong learner	Professional	Critical thinker	Researcher
Topic: General Microbiology and Immunity								
MI1.1	Describe the different causative agents of Infectious diseases+A208, the methods used in their detection, and discuss the role of microbes in health and disease	3	1	1	3	3	3	3
MI1.2	Perform and identify the different causative agents of Infectious diseases by Gram Stain, ZN stain and stool routine microscopy	2	1	0	3	3	3	3
MI1.3	Describe the epidemiological basis of common infectious diseases	3	2	2	3	3	3	3
MI1.4	Classify and describe the different methods of sterilization and disinfection. Discuss the application of the different methods in the laboratory, in clinical and surgical practice	3	1	2	3	3	3	3
MI1.5	Choose the most appropriate method of sterilization and disinfection to be used in specific situations in the laboratory, in clinical and surgical practice	3	2	2	3	3	3	3
MI1.6	Describe the mechanisms of drug resistance, and the methods of antimicrobial susceptibility testing and monitoring of antimicrobial therapy	3	1	2	3	3	3	3
MI1.7	Describe the immunological mechanisms in health	2	1	0	2	2	2	3
MI1.8	Describe the mechanisms of immunity and response of the host immune system to infections	2	1	0	2	2	2	3

Number	COMPETENCY	Clinician	Leader and member of health care team and system	Communicator	Lifelong learner	Professional	Critical thinker	Researcher
MI1.9	Discuss the immunological basis of vaccines and describe the Universal Immunisation schedule	3	3	3	3	3	3	3
MI1.10	Describe the immunological mechanisms in immunological disorder (hypersensitivity, autoimmune disorders and immunodeficiency states) and discuss the laboratory methods used in detection.	2	1	0	2	2	2	3
MI1.11	Describe the immunological mechanisms of transplantation and tumor immunity	2	1	0	2	2	2	3

Topic: CVS and Blood

MI2.1	Describe the etiologic agents in rheumatic fever and their diagnosis	3	2	1	3	3	3	3
MI2.2	Describe the classification etio-pathogenesis, clinical features and discuss the diagnostic modalities of Infective endocarditis	3	2	1	3	3	3	3
MI2.3	Identify the microbial agents causing Rheumatic Heart Disease & infective Endocarditis	3	2	1	3	3	3	3
MI2.4	List the common microbial agents causing anemia. Describe the morphology, mode of infection and discuss the pathogenesis, clinical course, diagnosis and prevention and treatment of the common microbial agents causing Anemia	3	2	1	3	3	3	3
MI2.5	Describe the etio-pathogenesis and discuss the clinical evolution and the laboratory diagnosis of kalaazar, malaria, filariasis and other common parasites prevalent in India	3	2	1	3	3	3	3
MI2.6	Identify the causative agent of malaria and filariasis	3	3	3	3	3	3	3

Number	COMPETENCY	Clinician	Leader and member of health care team and system	Communicator	Lifelong learner	Professional	Critical thinker	Researcher
MI2.7	Describe the epidemiology, the etio- pathogenesis, evolution complications, opportunistic infections, diagnosis, prevention and the principles of management of HIV	3	3	3	3	3	3	3

Topic: Gastrointestinal and hepatobiliary system

MI3.1	Enumerate the microbial agents causing diarrhea and dysentery. Describe the epidemiology, morphology, pathogenesis, clinical features and diagnostic modalities of these agents	3	2	1	3	3	3	3
MI3.2	Identify the common etiologic agents of diarrhea and dysentery	3	2	1	3	3	3	3
MI3.3	Describe the enteric fever pathogens and discuss the evolution of the clinical course and the laboratory diagnosis of the diseases caused by them	3	2	1	3	3	2	3
MI3.4	Identify the different modalities for diagnosis of enteric fever. Choose the appropriate test related to the duration of illness	3	2	0	2	3	2	3
MI3.5	Enumerate the causative agents of food poisoning and discuss the pathogenesis, clinical course and laboratory diagnosis	3	2	1	2	3	2	3
MI3.6	Describe the etio-pathogenesis of Acid peptic disease (APD) and the clinical course. Discuss the diagnosis and management of the causative agent of APD	3	2	1	2	2	1	3
MI3.7	Describe the epidemiology, the etio-pathogenesis and discuss the viral markers in the evolution of Viral hepatitis. Discuss the modalities in the diagnosis and prevention of viral hepatitis	3	2	1	2	2	1	3

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MI3.8	Choose the appropriate laboratory test in the diagnosis of viral hepatitis with emphasis on viral markers	3	1	0	1	2	1	3

Topic: Musculoskeletal system skin and soft tissue infections

MI4.1	Enumerate the microbial agents causing anaerobic infections. Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of anaerobic infections	3	1	1	2	2	1	3
MI4.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of bone & joint infections	3	1	1	2	2	1	3
MI4.3	Describe the etio-pathogenesis of infections of skin and soft tissue and discuss the clinical course and the laboratory diagnosis	3	2	1	2	2	1	3

Topic: Central Nervous System infections

MI5.1	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of meningitis	3	2	1	2	2	1	3
MI5.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of encephalitis	3	2	1	2	2	1	3
MI5.3	Identify the microbial agents causing meningitis	3	2	1	2	2	1	3

Topic: Respiratory tract infections

MI6.1	Describe the etio-pathogenesis, laboratory diagnosis and prevention of Infections of upper and lower respiratory tract	3	2	1	2	2	2	3
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MI6.2	Identify the common etiologic agents of upper respiratory tract infections (Gram Stain)	1	0	0	1	2	2	3
MI6.3	Identify the common etiologic agents of lower respiratory tract infections (Gram Stain & Acid fast stain)	1	0	0	1	2	2	3

Topic: Genitourinary & Sexually transmitted infections

MI7.1	Describe the etio-pathogenesis and discuss the laboratory diagnosis of infections of genitourinary system	3	0	1	1	2	2	3
MI7.2	Describe the etio-pathogenesis and discuss the laboratory diagnosis of sexually transmitted infections. Recommend preventive measures	3	0	3	1	2	2	3
MI7.3	Describe the etio-pathogenesis, clinical features, the appropriate method for specimen collection, and discuss the laboratory diagnosis of Urinary tract infections	2	0	1	1	2	2	3

Topic: Zoonotic diseases and miscellaneous

MI8.1	Enumerate the microbial agents and their vectors causing Zoonotic diseases. Describe the morphology, mode of transmission, pathogenesis and discuss the clinical course, laboratory diagnosis and prevention	1	0	1	2	2	3	3
MI8.2	Describe the etio-pathogenesis of opportunistic infections (OI) and discuss the factors contributing to the occurrence of OI, and the laboratory diagnosis	1	0	1	2	2	3	3
MI8.3	Describe the role of oncogenic viruses in the evolution of virus associated malignancy	1	0	0	1	1	1	3

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MI8.4	Describe the etiologic agents of emerging Infectious diseases. Discuss the clinical course and diagnosis	3	2	1	2	2	2	3
MI8.5	Define Healthcare Associated Infections (HAI) and enumerate the types. Discuss the factors that contribute to the development of HAI and the methods for prevention	3	2	3	2	2	2	3
MI8.6	Describe the basics of Infection control	1	1	2	1	1	2	3
MI8.7	Demonstrate Infection control practices and use of Personal Protective Equipments (PPE)	3	3	3	3	3	3	3
MI8.8	Describe the methods used and significance of assessing the microbial contamination of food, water and air	1	1	1	1	0	0	3
MI8.9	Discuss the appropriate method of collection of samples in the performance of laboratory tests in the detection of microbial agents causing infectious diseases	2	2	2	1	1	1	2
MI8.10	Demonstrate the appropriate method of collection of samples in the performance of laboratory tests in the detection of microbial agents causing Infectious diseases	2	2	2	1	1	1	2
MI8.11	Demonstrate respect for patient samples sent to the laboratory for performance of laboratory tests in the detection of microbial agents causing Infectious diseases	1	1	1	0	1	0	2
MI8.12	Discuss confidentiality pertaining to patient identity in laboratory results	3	1	3	1	2	2	2
MI8.13	Choose the appropriate laboratory test in the diagnosis of the infectious disease	3	1	1	2	2	2	3

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MI8.14	Demonstrate confidentiality pertaining to patient identity in laboratory results	3	1	2	3	3	3	3
MI8.15	Choose and Interpret the results of the laboratory tests used in diagnosis of the infectious disease	3	2	2	3	3	3	3
MI8.16	Describe the National Health Programs in the prevention of common infectious disease (for information purpose only as taught in CM)	2	3	2	2	3	3	3
BI10.5	Describe antigens and concepts involved in vaccine development.	0	0	1	2	2	2	3
PA7.5	Describe the immunology and the immune response to cancer	1	0	0	1	2	3	3
PA9.1	Describe the principles and mechanisms involved in immunity	1	0	0	1	2	3	3
PA9.2	Describe the mechanism of hypersensitivity reactions	1	0	0	1	2	3	3

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PA9.3	Describe the HLA system and the immune principles involved in transplant and mechanism of transplant rejection	1	0	0	1	2	3	3
PA9.6	Define and describe the pathogenesis and pathology of HIV and AIDS	3	2	2	2	3	3	3
PA10.1	Define and describe the pathogenesis and pathology of malaria	3	2	2	2	3	3	3
PA10.2	Define and describe the pathogenesis and pathology of cysticercosis	3	2	2	2	3	3	3
PA10.3	Define and describe the pathogenesis and pathology of leprosy	3	2	2	2	3	3	3
PA10.4	Define and describe the pathogenesis and pathology of common bacterial, viral, protozoal and helminthic diseases	3	2	2	2	3	3	3
PA22.5	Enumerate and describe infections transmitted by blood transfusion	3	2	2	2	3	3	3
PA26.1	Define and describe the etiology, types, pathogenesis, stages, morphology and complications of pneumonia	3	2	2	2	3	3	3
PA26.2	Describe the etiology, gross and microscopic appearance and complications of lung abscess	3	2	2	2	3	3	3
PA26.3	Define and describe the etiology, types, pathogenesis, stages, morphology and complications and evaluation of Obstructive Airway Disease (OAD) and bronchiectasis	3	2	2	2	3	3	3
PA26.4	Define and describe the etiology, types, pathogenesis, stages, morphology, microscopic appearance and complications of tuberculosis	3	2	2	2	3	3	3

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PA27.4	Describe the etiology, pathophysiology, pathology, gross and microscopic features, criteria and complications of rheumatic fever	1	1	2	2	3	3	3
PA27.6	Describe the etiology, pathophysiology, pathology, gross and microscopic, features diagnosis and complications of infective endocarditis	1	1	2	2	3	3	3
PA27.10	Describe the etiology, pathophysiology, pathology features and complications of syphilis on the cardiovascular system	1	1	2	2	3	3	3
PA33.1	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis	2	1	2	2	3	3	3
PA35.1	Describe the etiology, types and pathogenesis, differentiating factors, CSF findings in meningitis	2	1	2	2	3	3	3
PA35.3	Identify the etiology of meningitis based on given CSF parameters	3	2	2	2	3	3	3
PH1.43	Describe and discuss the rational use of antimicrobials including antibiotic stewardship program	3	2	2	2	3	3	3
PH1.45	Describe the drugs used in MDR and XDR Tuberculosis	3	2	2	2	3	3	3
PH1.46	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of antileprotic drugs	3	2	2	2	3	3	3
PH1.47	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in malaria, KALA AZAR, amebiasis and intestinal helminthiasis	3	2	2	2	3	3	3

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PH1.48	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in UTI/ STD and viral diseases including HIV	3	2	2	2	3	3	3
CM3.3	Describe the aetiology and basis of water borne diseases/ jaundice/hepatitis/ diarrheal diseases	3	2	2	2	3	3	3
CM3.6	Describe the role of vectors in the causation of diseases. Also discuss National Vector Borne disease Control Program	2	2	2	2	3	3	3
CM3.7	Identify and describe the identifying features and life cycles of vectors of Public Health importance and their control measures	3	2	2	2	3	3	3
CM5.7	Describe food hygiene	3	3	3	2	3	3	3
CM7.7	Describe and demonstrate the steps in the Investigation of an epidemic of communicable disease and describe the principles of control measures	1	2	2	2	2	3	3
CM8.1	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases	1	2	2	2	2	3	3
CM14.1	Define and classify hospital waste	1	2	2	2	2	3	3
CM14.2	Describe various methods of treatment of hospital waste	3	1	1	2	2	3	3

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CM14.3	Describe laws related to hospital waste management	2	1	1	2	3	3	3
DR6.1	Describe the etiology pathogenesis and diagnostic features of pediculosis	3	2	2	2	3	3	3
DR7.1	Describe the etiology microbiology pathogenesis and clinical presentations and diagnostic features of dermatophytes	3	1	1	2	3	3	3
DR7.2	Identify candida species in fungal scrapings and KOH mount	1	0	0	2	3	3	3
DR7.3	Describe the pharmacology and action of antifungal (systemic and topical) agents. Enumerate side effects of antifungal therapy	3	1	2	3	3	3	3
DR8.1	Describe the etiology microbiology pathogenesis and clinical presentations and diagnostic features of common viral infections of the skin	3	1	2	3	3	3	3
DR9.1	Classify, describe the epidemiology, etiology, microbiology, pathogenesis and clinical presentations and diagnostic features of Leprosy	3	1	2	3	3	3	3
DR10.1	Identify and classify syphilis based on the presentation and clinical manifestations	3	1	2	3	3	3	3
DR10.2	Identify spirochete in a dark ground microscopy	3	1	0	1	2	3	3
DR10.3	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for syphilis	3	1	2	3	3	3	3

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DR10.6	Describe the etiology, diagnostic and clinical features of non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	3	1	2	3	3	3	3
DR10.7	Identify and differentiate based on the clinical features non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	3	1	2	3	3	3	3
DR10.8	Enumerate the indications and describe the pharmacology, indications and adverse reactions of drugs used in the non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	3	1	2	3	3	3	3
DR11.1	Describe the etiology, pathogenesis and clinical features of the dermatologic manifestations of HIV and its complications including opportunistic infections	3	1	2	3	3	3	3
DR11.2	Identify and distinguish the dermatologic manifestations of HIV its complications, opportunistic infections and adverse reactions	3	1	2	3	3	3	3
DR11.3	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for dermatologic lesions in HIV	3	1	2	3	3	3	3
DR12.7	Identify and distinguish fixed drug eruptions and Steven Johnson syndrome from other skin lesions	3	1	2	3	3	3	3
DR14.1	Describe the etiology, pathogenesis and clinical precipitating features and classification of Urticaria and angioedema	3	1	2	3	3	3	3
DR15.2	Identify staphylococcus on a gram stain	1	0	0	3	3	3	3
DR15.3	Enumerate the indications and describe the pharmacology, indications and adverse reactions of topical and systemic drugs used in treatment of pyoderma	3	1	2	3	3	3	3

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DE1.2	Discuss the role of causative microorganisms in the aetio-pathogenesis of dental caries	3	1	2	3	3	3	3
DE1.4	Discuss the role of dental caries as a focus of sepsis	3	1	2	3	3	3	3
IM1.3	Describe and discuss the aetiology, microbiology, pathogenies and clinical evolution of rheumatic fever, criteria, degree of rheumatic activity and rheumatic valvular heart disease and its complications including infective endocarditis	3	1	2	3	3	3	3
IM1.9	Describe and discuss the clinical presentation and features, diagnosis, recognition and management of acute rheumatic fever	3	1	2	3	3	3	3
IM1.22	Assist and demonstrate the proper technique in collecting specimen for blood culture	3	1	2	3	3	3	3
IM1.27	Describe and discuss the role of penicillin prophylaxis in the prevention of rheumatic heart disease	3	1	2	3	3	3	3
IM3.1	Define, discuss, describe and distinguish community acquired pneumonia, nosocomial pneumonia and aspiration pneumonia	3	1	2	3	3	3	3
IM3.2	Discuss and describe the aetiology of various kinds of pneumonia and their microbiology depending on the setting and immune status of the host	3	1	2	3	3	3	3
IM3.3	Discuss and describe the pathogenesis, presentation, natural history and complications of pneumonia	3	1	2	3	3	3	3

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IM3.7	Order and interpret diagnostic tests based on the clinical presentation including: CBC, Chest X ray PA view, Mantoux, sputum gram stain, sputum culture and sensitivity, pleural fluid examination and culture, HIV testing and ABG	3	1	2	3	3	3	3
IM3.10	Demonstrate the correct technique in a mannequin and interpret results of a blood culture	2	0	0	3	3	3	3
IM3.11	Describe and enumerate the indications for further testing including HRCT, Viral cultures, PCR and specialised testing	1	0	1	3	3	3	3
IM3.12	Select, describe and prescribe based on the most likely aetiology, an appropriate empirical antimicrobial based on the pharmacology and antimicrobial spectrum	3	1	2	3	3	3	3
IM3.13	Select, describe and prescribe based on culture and sensitivity appropriate empirical antimicrobial based on the pharmacology and antimicrobial spectrum.	3	1	2	3	3	3	3
IM3.14	Perform and interpret a sputum gram stain and AFB	1	0	0	2	3	3	3
IM3.19	Discuss, describe and enumerate the indications and communicate to patients on pneumococcal and influenza vaccines	3	1	2	3	3	3	3
IM4.1	Describe and discuss the febrile response and the influence of host immune status, risk factors and co-morbidities on the febrile response	3	1	2	3	3	3	3
IM4.2	Describe and discuss the influence of special populations on the febrile response including: the elderly, immune suppression, malignancy and neutropenia, HIV and travel	3	1	2	3	3	3	3

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IM4.3	Discuss and describe the common causes, pathophysiology and manifestations of fever in various regions in India including bacterial, parasitic and viral causes (e.g. Dengue, Chikungunya, Typhus)	3	1	2	3	3	3	3
IM4.4	Describe and discuss the pathophysiology and manifestations of inflammatory causes of fever	3	1	2	3	3	3	3
IM4.5	Describe and discuss the pathophysiology and manifestations of malignant causes of fever including hematologic and lymph node malignancies	3	1	2	3	3	3	3
IM4.6	Discuss and describe the pathophysiology and manifestations of malaria	3	1	2	3	3	3	3
IM4.8	Discuss and describe the pathophysiology, aetiology and clinical manifestations of fever of unknown origin (FUO) including in a normal host, neutropenic host, nosocomial host and a host with HIV disease	3	1	2	3	3	3	3
IM4.9	Elicit document and present a medical history that helps delineate the aetiology of fever that includes the evolution and pattern of fever, associated symptoms, immune status, comorbidities, risk factors, exposure through occupation, travel and environment and medication use	3	1	2	3	3	3	3
IM4.12	Order and interpret diagnostic tests based on the differential diagnosis including: CBC with differential, peripheral smear, urinary analysis with sediment, Chest X ray, blood and urine cultures, sputum gram stain and cultures, sputum AFB and cultures, CSF analysis, pleural and body fluid analysis, stool routine and culture and QBC	3	1	2	3	3	3	3
IM4.13	Perform and interpret a sputum gram stain	1	0	0	2	3	3	3
IM4.14	Perform and interpret a sputum AFB	3	0	0	2	3	3	3

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IM4.15	Perform and interpret a malarial smear	1	0	0	3	3	3	3
IM4.19	Assist in the collection of blood and wound cultures	3	1	2	3	3	3	3
IM4.20	Interpret a PPD (Mantoux)	3	1	2	3	3	3	3
IM4.23	Prescribe drugs for malaria based on the species identified, prevalence of drug resistance and national programs	3	1	2	3	3	3	3
IM4.26	Counsel the patient on malarial prevention	3	1	2	3	3	3	3
IM5.4	Describe and discuss the epidemiology, microbiology, immunology and clinical evolution of infective (viral) hepatitis	3	1	2	3	3	3	3
IM5.14	Outline a diagnostic approach to liver disease based on hyperbilirubinemia, liver function changes and hepatitis serology	3	1	2	3	3	3	3
IM5.17	Enumerate the indications precautions and counsel patients on vaccination for hepatitis	3	1	2	3	3	3	3
IM6.1	Describe and discuss the symptoms and signs of acute HIV seroconversion	3	1	2	3	3	3	3
IM6.2	Define and classify HIV AIDS based on the CDC criteria	3	1	2	3	3	3	3
IM6.3	Describe and discuss the relationship between CDC count and the risk of opportunistic infections	3	1	2	3	3	3	3
IM6.4	Describe and discuss the pathogenesis, evolution and clinical features of common HIV related opportunistic infections	3	1	2	3	3	3	3

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IM6.10	Choose and interpret appropriate diagnostic tests to diagnose and classify the severity of HIV-AIDS including specific tests of HIV, CDC	3	1	2	3	3	3	3
IM6.13	Describe and enumerate the indications and side effects of drugs for bacterial, viral and other types of diarrhea	3	1	2	3	3	3	3
IM6.14	Perform and interpret a gram stain of the sputum	3	1	2	3	3	3	3
IM6.17	Describe and discuss the principles of HAART, the classes of antiretroviral used, adverse reactions and interactions	3	2	2	3	3	3	3
IM6.18	Describe and discuss the principles and regimens used in post exposure prophylaxis	3	2	2	3	3	3	3
IM6.19	Enumerate the indications of and discuss about prophylactic drugs used to prevent HIV related opportunistic infections	3	2	2	3	3	3	3
IM13.3	Describe the relationship between infection and cancers	3	1	1	3	3	3	3
IM15.15	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of acid peptic disease including Helicobacter pylori	3	1	2	3	3	3	3
IM16.1	Describe and discuss the aetiology of acute and chronic diarrhea including infectious and non-infectious causes	3	1	2	3	3	3	3
IM6.13	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for bacterial, viral and other types of diarrhea	3	1	2	3	3	3	3
IM16.8	Choose and interpret diagnostic tests based on the clinical diagnosis including complete blood count, and stool examination	3	1	2	3	3	3	3
IM16.9	Identify common parasitic causes of diarrhea under the microscope in a stool specimen	2	1	1	3	3	3	3

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IM16.10	Identify Vibrio cholera in a hanging drop specimen	1	0	0	3	3	3	3
IM16.11	Enumerate the indications for stool cultures and blood cultures in patients with acute diarrhea	3	1	2	3	3	3	3
IM16.13	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for parasitic causes of diarrhea	3	1	2	3	3	3	3
IM17.7	Enumerate the indications and describe the findings in the CSF in patients with meningitis	3	1	2	3	3	3	3
IM17.8	Demonstrate in a mannequin or equivalent the correct technique for performing a lumbar puncture	3	0	0	3	3	3	3
IM17.9	Interpret the CSF findings when presented with various parameters of CSF fluid analysis	3	0	0	3	3	3	3
IM25.1	Describe and discuss the response and the influence of host immune status, risk factors and comorbidities on zoonotic disease (eg. Leptospirosis, Rabies) and non febrile infectious disease (eg. Tetanus)	3	1	2	3	3	3	3
IM25.2	Describe and discuss the common causes pathophysiology and manifestations of these diseases	3	1	2	3	3	3	3
IM25.3	Describe and discuss the pathophysiology and manifestations of these diseases	3	1	2	3	3	3	3
IM25.9	Assist in the collection of blood and other specimen cultures	3	1	2	3	3	3	3
IM25.11	Develop an appropriate empiric treatment plan based on the patient's clinical and immune status pending definitive diagnosis	3	1	2	3	3	3	3

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PE19.1	Explain the components of the Universal immunization Program and the sub National Immunization Programs	3	3	3	3	3	3	3
PE19.2	Explain the epidemiology of Vaccine preventable diseases	3	3	3	3	3	3	3
PE19.3	Vaccine description with regard to classification of vaccines, strain used, dose, route, schedule, risks, benefits and side effects, indications and contraindications	3	2	2	3	3	3	3
PE19.4	Define cold chain and discuss the methods of safe storage and handling of vaccines	3	2	2	3	3	3	3
PE19.5	Discuss immunization in special situations – HIV positive children, immunodeficiency, preterm, organ transplants, those who received blood and blood products, splenectomised children, adolescents, travellers	3	1	1	3	3	3	3
PE21.1	Enumerate the etio-pathogenesis clinical features, complications and management of Urinary Tract infection in children	3	1	2	3	3	3	3
PE23.6	Discuss the etio-pathogenesis and clinical features and management of Infective endocarditis in children	3	1	2	3	3	3	3
PE24.1	Discuss the etio-pathogenesis, classification, clinical presentation and management of diarrheal diseases in children	3	1	2	3	3	3	3
PE24.2	Discuss the classification and clinical presentation of various types of diarrheal dehydration	3	1	2	3	3	3	3
PE24.5	Discuss the role of antibiotics, antispasmodics, anti-secretory drugs, probiotics, anti-emetics in acute diarrheal diseases	3	1	2	3	3	3	3

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PE24.6	Discuss the causes, clinical presentation and management of persistent diarrhoea in children	3	1	2	3	3	3	3
PE24.8	Discuss the causes, clinical presentation and management of dysentery in children	3	1	2	3	3	3	3
PE24.12	Perform and interpret stool examination including Hanging Drop	3	1	2	3	3	3	3
PE26.1	Discuss the etio-pathogenesis, clinical features and management of acute hepatitis in children	3	1	2	3	3	3	3
PE26.2	Discuss the etio-pathogenesis, clinical features and management of Fulminant Hepatic Failure in children	3	1	2	3	3	3	3
PE26.3	Discuss the etio-pathogenesis, clinical features and management of chronic liver diseases in children	3	1	2	3	3	3	3
PE26.12	Discuss the prevention of Hep B infection – Universal precautions and Immunisation	3	1	2	3	3	3	3
PE30.1	Discuss the etio-pathogenesis, clinical features, complications, management and prevention of meningitis in children	3	1	2	3	3	3	3
PE30.2	Distinguish bacterial, viral and tuberculous meningitis	3	1	2	3	3	3	3
PE30.13	Discuss the etio-pathogenesis, clinical features, management and prevention of Poliomyelitis in children	3	1	2	3	3	3	3
PE30.21	Interpret and explain the findings in a CSF analysis	3	1	2	3	3	3	3
PE34.1	Discuss the epidemiology, clinical features, clinical types, complications of Tuberculosis in Children and Adolescents	3	1	2	3	3	3	3

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PE34.2	Discuss the various diagnostic tools for childhood tuberculosis	3	2	2	3	3	3	3
PE34.3	Discuss the various regimens for management of Tuberculosis as per National Guidelines	3	3	3	3	3	3	3
PE34.4	Discuss the preventive strategies adopted and the objectives and outcome of the National Tuberculosis Control Program	3	1	2	3	3	3	3
PE34.6	Identify a BCG scar	3	2	2	3	3	3	3
PE34.7	Interpret a Mantoux test	3	1	2	3	3	3	3
PE34.9	Interpret blood tests in the context of laboratory evidence for tuberculosis	3	1	2	3	3	3	3
PE34.10	Discuss the various samples for demonstrating the organism eg Gastric Aspirate, Sputum, CSF, FNAC	3	1	2	3	3	3	3
PE34.11	Perform AFB staining	1	1	2	3	3	3	3
PE34.12	Enumerate the indications and Discuss the limitation of methods of culturing M.Tuberculi	3	1	2	3	3	3	3
SU6.1	Define and describe the aetiology and pathogenesis of surgical infections	3	1	2	3	3	3	3

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SU9.1	Choose appropriate biochemical, microbiological, pathological, imaging investigations and interpret the investigative data in a surgical patient	3	1	2	3	3	3	3
SU13.1	Describe the immunological basis of organ transplantation	2	0	1	3	3	3	3
SU13.2	Discuss the Principles of immunosuppressive therapy.Enumerate Indications, describe surgical principles, management of organ transplantation	2	1	1	3	3	3	3
SU14.1	Describe aseptic techniques, sterilization and disinfection	3	1	2	3	3	3	3
SU15.1	Describe Classification of hospital waste and appropriate methods of disposal	3	1	2	3	3	3	3
SU29.3	Describe the Clinical features, Investigations and principles of management of urinary tract infections	3	1	2	3	3	3	3
OR3.1	Describe and discuss the aetiopathogenesis, clinical features, Investigations and principles of management of Bone and Joint infections a) AcuteOsteomyelitis b) Subacuteosteomyelitis c) Acute Suppurativearthritis d) Septic arthritis & HIVinfection e) Spirochaetalinfection f) SkeletalTuberculosis	3	1	2	3	3	3	3

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CT1.2	Describe and discuss the microbiology of tubercle bacillus, mode of transmission, pathogenesis, clinical evolution and natural history of pulmonary and extra pulmonary forms (including lymph node, bone and CNS).	3	1	2	3	3	3	3
CT1.3	Discuss and describe the impact of confection with HIV and other co morbid conditions like diabetes on the natural history of tuberculosis	3	1	2	3	3	3	3
CT1.4	Describe the epidemiology, the predisposing factors and microbial and therapeutic factors that determine resistance to drugs	3	1	2	3	3	3	3
CT1.7	Perform and interpret a PPD (Mantoux) and describe and discuss the indications and pitfalls of the test	3	1	1	3	3	3	3
CT1.10	Perform and interpret an AFB stain	1	1	1	2	3	3	3
CT1.12	Enumerate the indications for tests including: serology, special cultures and polymerase chain reaction and sensitivity testing	3	1	1	3	3	3	3
CT1.13	Describe and discuss the origins, indications, technique of administration, efficacy and complications of the BCG vaccine	3	1	2	3	3	3	3