Microbiology Department

Hamdard Institute of Medical Sciences & Research & HAHC Hospital

Name of the block	HIMSR & HAHC Hospital
Name of elective	Serological tests in the Era of Rapid Diagnosis of Infections
Location of Hospital lab or Research facility	SEROLOGY LABORATORY, HIMSR
Name of Internal Preceptor(s)	Dr (Prof) Rachna Tewari Dr Iram Rafique Abidin
Name of External preceptor if applicable	-
Number of students that can be accommodated in this elective	2
Learning objectives of the elective	A. Basics of Immune responses: 1. Humoral Immune Response 2. Cellular Immune Response 3. Paths of cellular and humoral immune response B. Structure of Antigens, Antibodies and Complement system C. Laboratory methods used for detection of Immunological responses 1. Precipitation test 2. Agglutination test 3. ELISA and its modifications (ELFA) 4. CLIA 5. Immunochromatography (ICT) assay/Lateral flow assay
List of activities of student participation	1. Work daily with a supervisor in observing, assisting and performing all tests 2. Participate in departmental education activities 3. Present at least one seminar- as a work up
Learning resources	SOP of Lab
Portfolio entries required	1. Documentation of worked up cases/tests 2. Documentation of tests put/assisted
Log Book entry required	Completion of posting signed by supervisor
Assessment	Formative: Attendance, day to day participation in departmental activities, performance of assigned tasks and presentation of worked up case/tests in departments
Other comments	NA

Name of the block	Block 1 (Microbiology 1A)
Name of elective	Basics and advances in Mycobacteriology Laboratory
Location of Hospital lab or Research facility	Microbiology Laboratory, Room no 47-51, Basement, Old building, HAHC Hospital DMC (Designated Microscopy centre) Room no 10, Ground floor, Old building, HAHC Hospital. Molecular Laboratory, Room no 223, college Building, 2nd floor, HIMSR.
Name of Internal Preceptor(s)	Dr Jayanthi G Dr Shyamasree Nandy
Name of External preceptor if applicable	-
Number of students that can be accommodated in this elective	4
Components **Learning objectives of the elective**	1. Sample collection for diagnosis of Tuberculosis 2. Sample processing for Staining and culture 3. Ziehl Neelsen staining 4. Fluorescent staining 5. Digestion and Decontamination of sample for culture 6. Conventional culture 7. Automated culture 8. Anti-tubercular drug susceptibility testing 9. CBNAAT 10. Line Probe assay 11. NTEP 12. NIKSHAY ID creation and Reporting To provide directions and information in relation to 1. Facilities, equipment, and procedures necessary for the diagnosis and treatment of Tuberculosis patients. 2. To know about NTEP and about SDGs
List of activities of student participation	1. Work daily with laboratory technician in observing, assisting and performing all test in the laboratory 2. Involved in creating Nikshay ID 3. Present at least one seminar- as a work up
Learning resources	Mycobacteriology SOP
Portfolio entries required	1. Daily Documentation of activities, training records in form of a log book
Log Book entry required	Completion of posting signed by preceptor signed by meets expectation (M) grade
Assessment	Formative: Attendance, day to day participation in departmental activities, performance of assigned tasks and presentation of worked up activity
Other comments	NA

Name of the block	Block 1 (Microbiology 1A)
Name of elective	Basics in Hospital infection Control
Location of Hospital lab or Research facility	Microbiology Laboratory, Room no 47-51, Basement, Old building, HAHC Hospital
Name of Internal Preceptor(s)	Dr Neetu Shree Dr. Smriti Parihar
Name of External preceptor if applicable	-
Number of students that can be accommodated in this elective	4
Components **Learning objectives of the elective**	Basics of HIC 13. Components of HIC program 14. Basic measure for infection control – Standard and additional precaution 15. Hand hygiene 16. Biomedical waste management 17. Needle stick injury & management 18. Spill management 19. PPEs 20. Healthcare associated infections 21. Aseptic techniques 22. Antimicrobial stewardship 23. Surveillance 24. Outbreak investigation/surveillance monitoring To provide directions and information in relation to 3. Facilities, equipment, and procedures necessary to implement standard and additional (transmission-based) precautions for control of infections 4. Cleaning, disinfection & sterilization techniques 5. Waste management 6. Protection of health care workers from transmissible infections 7. Prevention of HAI in patients 8. Infection control practices in special situations
List of activities of student participation	1. Work daily with a supervisor in observing, assisting and performing all HIC activities 2. Participate in HIC trainings 3. Present at least one seminar- as a work up
Learning resources	HIC SOP
Portfolio entries required	1. Daily Documentation of activities, training/audit records in form of a log book
Log Book entry required	Completion of posting signed by preceptor signed by meets expectation (M) grade
Assessment	Formative: Attendance, day to day participation in departmental activities, performance of assigned tasks and presentation of worked up activity
Other comments	NA

Name of the block	HIMSR
Name of elective	Basics in Molecular Diagnosis of infections
Location of Hospital lab or Research facility	BSL2 Laboratory, HIMSR
Name of Internal Preceptor(s)	Dr Ayan Kumar Das Dr Ruvaida Reyaz
Name of External preceptor if applicable	-
Number of students that can be accommodated in this elective	4
Learning objectives of the elective	C. Basics of Molecular Biology: 4. Structure of DNA and RNA 5. Transcription and translation 6. Prokaryotic, eukaryotic and Viral genome D. Methods of DNA/ RNA extraction 1. Manual methods 2. Kit based methods E. Gene amplification 1. PCR 2. Real time PCR F. Post amplification analysis 6. Gel electrophoresis 7. Fluorescence signal amplification 8. Reverse hybridization
List of activities of student participation	1. Work daily with a supervisor in observing, assisting and performing all tests 2. Participate in departmental education activities 3. Present at least one seminar- as a work up
Learning resources	SOP of Lab
Portfolio entries required	1. Documentation of worked up cases/tests 2. Documentation of tests put/assisted
Log Book entry required	Completion of posting signed by preceptor signed by meets expectation (M) grade
Assessment	Formative: Attendance, day to day participation in departmental activities, performance of assigned tasks and presentation of worked up case/tests in departments
Other comments	NA

Name of the block	HAHC Hospital A block (Bacteriology lab)
Name of elective	Diagnosis of infectious diseases : From basic microscopy, to culture & sensitivity
Location of Hospital lab or Research facility	Basement, old hospital block A, room no 47
Name of Internal Preceptor(s)	Dr Sulmaz Reshi Dr Mounica Pedapalli
Name of External preceptor if applicable	-
Number of students that	5

can be accommodated in this elective	
Learning objectives of the elective	G. **Microscopy**: 7. Gram's staining 8. Motility 9. Wet Mount 10. Albert staining H. **Microbial cultures and Culture Medias** 3. Aerobic & 4. anaerobic methods 5. Different culture medias I. **Bacterial identification** 3. Biochemical tests 4. Automated methods (VITEK 2) **J. Antimicrobial sensitivity** 9. Conventional methods 10. Automated methods
Topics / Components	1)Lab diagnosis of Blood stream infection 2) Lab diagnosis of Urinary tract infections and agents causing UTIs 3)Lab diagnosis of CNS infections and agents causing Pyogenic meningitis 4) Lab diagnosis of GIT infections and agents causing GIT infections 5) Lab diagnosis of skin and soft tissue infections and agents causing SSTIs 6) Lab diagnosis of respiratory tract infections and agents causing RTIs 7)Methods of performing antimicrobial sensitivity and Interpretation of antibiotic sensitivity report 8)Antimicrobial stewardship
List of activities of student participation	1. Work daily with a supervisor in observing, assisting and performing all tests 2. Participate in departmental education activities 3. Present at least one seminar- as a work up
Learning resources	SOP of Lab
Portfolio entries required	1. Documentation of worked up cases/tests 2. Documentation of tests put/assisted
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Assessment	Formative: Attendance, day to day participation in departmental activities, performance of assigned tasks and presentation of worked up case/tests in departments
Other comments	NA