1. Highlights & Achievements –

Patient Care
In 2017, the department successfully cleared the desk top assessment for continued NABL accreditation as perISO 15189:2012 for all the tests carried out in its divisions of bacteriology, mycobacteriology, mycology, parasitology, serology and virology and immunology valid for a period of one year. The department has performed consistently well in the EQAS administered by Indian Association of Medical Microbiologists, PGIMER Chandigarh, RNTCP, NACO, NARI as applicable. TB culture and drug susceptibility testing laboratory has been installed. Department of Microbiology has been identified as one of the medical college laboratories under the Virus Research and Diagnostic Laboratory (VRDL) Network under DHR/ICMR. Hepatitis B vaccination drive for Class IV employees was successfully carried out with 1159 recipients by K.E.M.H.I.C.

Education – Nil

Research
The departmental faculty successfully conducted research projects funded by MRU (GSMC), Research Society or other agencies.

2. Patient Care –

Clinical microbiology services are provided by different divisions of the Microbiology Department. Emergency laboratory services are available after routine hours.

New service : Fluorescent microscopy for detection of mycobacteria has been introduced due to its superior sensitivity and as recommended by RNTCP using LED fluorescent microscopy. Genexpert based HIV viral load testing is currently provided for patients referred from ART centre.

The annual workload for the different service divisions of the department was as follows:

<table>
<thead>
<tr>
<th>Section</th>
<th>Workload</th>
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<tbody>
<tr>
<td>Bacteriology including Emergency laboratory</td>
<td></td>
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<tr>
<td>Samples processed</td>
<td>61000</td>
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<tr>
<td>AMST</td>
<td>44000</td>
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<tr>
<td></td>
<td>1000</td>
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</table>
### Microbiology Annual Report 2017

- **Vitek rapid ID and ABS**
  - Total: 106000

### Virology
- **Serological tests (HIV, HBV, HCV serology)**
  - Total: 103630
- **RPR**
  - Total: 3116
- **CD4 count**
  - Total: 12338
- **Viral Load**
  - Total: 3277
  - Total: 122361

### Serology including Emergency laboratory
- **Leptospirosis**
  - Total: 33510
- **Dengue**
  - Total: 60185
- **Widal**
  - Total: 2470
- **Others**
  - Total: 5934
  - Total: 102099

### Mycobacteriology
- **Microscopy – LED fluorescence (pulmonary)**
  - Total: 18700
- **Microscopy – LED fluorescence (extra-pulmonary)**
  - Total: 3495
- **GeneXpert**
  - Total: 5400
  - Total: 27795

### Mycology
- **Total**: 3700

### Parasitology
- **Stool examination (routine)**
  - Total: 7800
- **Stool for opportunistic parasites**
  - Total: 885
- **Malaria Antigen Test (including emergency lab)**
  - Total: 17953
  - Total: 26638

### 3. Community care –

The department provided Integrated Counseling and Testing services for direct walk-in clients.
4. Education –

- The department carried out undergraduate training for MBBS, B.Sc.(OT), B.Sc. (PT), BPMT, and B.Sc.(nursing) students. Post graduate training was provided to MD (Microbiology), M.Sc. (Microbiology) by research, PGDMLT and Ph.D. students.
- Six students have registered for MD Microbiology this year.
- The pass percentage for M.D in 2016 was 100%.
- Library (Departmental Library) Books – 110
  Journals – IJMM, JPGM
- Internet facility is available for all staff and students
- Conducted hands on training on HIV testing for lab technicians from facility integrated counseling and testing centers in collaboration with MDACS and PATH
- Conducted hands on training for all DOTS centre technicians from Mumbai on LED fluorescent microscopy

5. Research –

Themes of ongoing projects
PG Dissertations
- Evaluation of PREVI FLUO TB method using LED microscopy for diagnosis of pulmonary TB
- Prevalence of intestinal parasites in pregnant women attending antenatal clinic.
- Prevalence of intestinal parasites in patients with chronic idiopathic urticaria.
- Prevalence of *Malassezia furfur* associated seborrheic dermatitis in HIV positive and negative patients.
- Risk factors and clinical outcome of patients harbouring carbapenem resistant Enterobacteriaceae in a tertiary care teaching hospital.
- Performance of LED fluorescent microscopy and Xpert MTB/RIF assay in extra-pulmonary tuberculosis.
- Incidence, bacteriological spectrum and risk factors associated with surgical site infection in total hip replacement or total knee replacement surgeries
- Prevalence of Hepatitis C virus genotypes in patients with Hepatitis C infection in a tertiary care hospital
- Rifampicin resistant TB in paediatric patients: risk factors and prevalence
Level of environmental contamination with nosomical pathogens with special reference to Acinetobacter in a medical intensive care unit of a tertiary care hospital

Sensitivity & specificity of loop mediated isothermal amplification assay Nu LAMP for diagnosis of extrapulmonary TB. Biofilm forming uropathogenic E. coli and their antimicrobial susceptibility patterns

Prevalence of symptomatic and asymptomatic bacteriuria in pregnant women attending antenatal clinic in tertiary care centre.

Projects

Prospective Study for the diagnosis and prevalence of Pediatric Autoimmune Neuropsychiatric Disorder Associated with Streptococci (PANDAS) in Mumbai Population

Determination of MIC distribution of fosfomycin, biapenem and other antibiotics against gram negative clinical isolates: A prospective study.

Study of secondary bacterial infections in scabies cases of Mumbai with special reference to Microbiome study.

Effect of Amruthballatak and Panchvalkal on biofilm production and expression of adhesion related genes of Staphylococcus spp. and Candida albicans

Determination of Disease specific epitopes to monitor disease activity in Acute Rheumatic Fever (ARF)/ Rheumatic Heart Disease (RHD)

Pattern of anti-microbial resistance among the isolates of H. pylori in Mumbai.

Where do we stand? Operation Theatre Protocols with respect to Sterilization and disinfection – a questionnaire based survey

Challenges and solutions for implementation 2016 biomedical waste management rules issued by MoEFCC – a survey of hospitals in Maharashtra

Changing trends in bacterial etiology and drug resistance pattern in a tertiary care hospital.

Hepatitis B vaccination status amongst dentists and their approach towards Hepatitis B infected patients- A survey from Maharashtra

Collaborations

Projects are being undertaken in collaboration with ICMR / NIRRH / NACO / MDACS / NARI, Pune / inter-departmental , KEMH
6. Publications –


7. In the Limelight –
   Nil
8. **Awards & Honors** –
   - Dr. Gita Nataraj – Member, Committee on State Antibiotic Policy
   - Dr. Nayana Ingole – Member, committee to formulate National Guidelines on Viral Load Testing (NACO).
   - Dr. Nayana Ingole was invited by Central TB division to conduct initial assessment and gap analysis for TB Culture and DST laboratories.
   - Dr. Nayana Ingole - Resource person, Training on QMS in CD4 testing by NACO.
   - Dr. Swapna Kanade received Dr A.N Supe best published paper award for 2016 for paper titled “Fluorescein diacetate vital staining for detecting viability of acid-fast bacilli in patients on antituberculosis treatment”.
   - Travel Grant awarded to Ms. Devi Bavishi (MBBS student) for presenting paper entitled ‘Are we neglecting *Streptococcus agalactiae* vaginal colonization in India?’ co-authored by Dr M.G Karmarkar and Dr Preeti Mehta at 1st International Symposium on *Streptococcus agalactiae* Disease (ISSAD), Cape Town, South Africa, 20th-23rd February 2018
   - Dr J.P Panda, PG student, received the first prize in quiz during the “Teaching Pathologists and Microbiologists Meet” held in April 2017.
   - Dr. Richa Thakkar PG student, received the second prize in quiz during the “Teaching Pathologists and Microbiologists Meet” held in March 2017.
   - Dr Pinaki Patil, PG student, received the first prize in the oral paper presentation competition for residents, held by staff society, Seth GSMC & KEMH.

9. **Donations & Grants** –

<table>
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<tr>
<th>S. No</th>
<th>Name of donor</th>
<th>Amount (Rs.)</th>
<th>Activity</th>
<th>Type</th>
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<tbody>
<tr>
<td>1</td>
<td>MDACS</td>
<td>75000/-</td>
<td>ICTC-M, EQAS and ART activities</td>
<td>Patient care</td>
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<td>9</td>
<td>GSMC &amp; KEMH Research Society</td>
<td>50,000</td>
<td>For study - LAMP for extrapulmonary TB</td>
<td>Research</td>
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<td>TOTAL</td>
<td></td>
<td>125000/</td>
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10. **Looking Ahead**
   - Accreditation of TB culture and DST laboratory
Establishing Viral Research and Diagnostic Laboratory

11. Committees –

I. Dr. Preeti Mehta

Local

- Member, Steering Committee, Development of Healthcare Management Information System by MCGM
- Treasurer, Dept. Development Fund
- Member, Executive Committee, Medical Education Unit
- Member, Hospital Infection Control Committee
- Member, Academic Committee
- Member, AIDS Core Committee
- Member, RNTCP Core Committee
- Member, Editorial Board, JPGM

State

- Member, UG Board of Studies in paraclinical subjects, Faculty of Medicine, MUHS
- Member, PG Board of Studies in paraclinical subjects, Faculty of Medicine, MUHS

National

- Nodal Officer, Regional Resource Centre, Seth G S Medical College & KEM Hospital, National Medical College Network, MoHFW, Govt. of India
- Member, Regional STI Centre National Mentoring Committee, NACO, Ministry of Health and Family Welfare, Govt. of India
- Member, Governing Council, AIDS Society of India
- Member, Editorial Board, Indian Journal of Medical Microbiology
- Internal auditor, NABL ISO 15189:2012
- Technical assessor, NABL ISO 15189:2012

International

Member, Editorial Board, Austin Journal of HIV/AIDS Research

II. Dr. Gita Nataraj

Local

- General Secretary, Hospital Infection Society, Mumbai Forum
Microbiology Annual Report 2017

- Convenor, Hospital Infection Control Committee
- Secretary, Gosumec Alumni Association
- Member, RNTCP Core Committee
- Member – TPMU , RRC-KEMH
- Member – Library Committee, GSMC & KEMH
- Member – CFHC, GSMC & KEMH
- Member, GTB Hospital, Infection Control Committee

State – Member, State Antibiotic Policy Committee

National
- Associate Editor, Journal of Patient Safety and Infection Control
- Internal Auditor, NABL ISO 15189: 2012

III. Dr. M. G. Karmarkar
- Treasurer, Research Society
- Chairman, Ethics Committee, National Inst. of Immunohaematology
- Member, Ethics Committee, Enterovirus Research Centre

IV. Dr. Nayana Ingole
- Secretary, GSMC – UNESCO Bioethics Unit
- Member, PIMM, Project Implementation
- Member – TPMU , RRC-KEMH

V. Dr. Priyanka Prasad
- Member, Executive Committee, Staff Society

12. Photographs-
TB culture and drug susceptibility testing laboratory, 5th floor, MSB

13. Contact Information

<table>
<thead>
<tr>
<th>Sr.no.</th>
<th>Name</th>
<th>Designation</th>
<th>Cell no.</th>
<th>E-mail ID</th>
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<tbody>
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<td><a href="mailto:prm.kem@gmail.com">prm.kem@gmail.com</a>&lt;br&gt;<a href="mailto:preetimehta@kem.edu">preetimehta@kem.edu</a></td>
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<td>2</td>
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<td>No.</td>
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