THE WEST BENGAL UNIVERSITY OF HEALTH SCIENCES

WBUHS

MICROBIOLOGY LOGBOOK
FOR
2ND PROFESSIONAL MBBS STUDENT

AS PER

COMPETENCY BASED CURRICULUM

PERSONAL DETAILS

Name of the student

Date of Birth

Date of admission to MBBS Course

Date of beginning of the Phase II

Roll no / College ID

Reg. No/ / University ID

Email ID of student

Mobile no of student

Name of Father/Mother

Mobile no. of Father/Mother

Present place of accommodation

Permanent address

LOGBOOK CERTIFICATE

DEPARTMENT OF MICROBIOLOGY

This is to certify that Mr/Ms.....,
Reg. No..... admitted in the year .....
at ..... has satisfactorily completed / has not completed all assignments /requirements mentioned in this logbook in the subject of Microbiology during the period from..... to.....
He / She is / is not eligible to appear for the University assessment as on the date given below.

Signature of Faculty / In Charge
Name and Designation

HOD Microbiology

.....

Principal

.....

Place:
Date:

OVERVIEW OF THE TEACHING SCHEDULE IN MICROBIOLOGY

Phase	Teaching hours (Lectures)	Tutorials/ Seminars/ Integrated Teaching	Self- Directed Learning	Total
II	70 hours	110 hours	10 hours	190 hours

OVERVIEW OF THE INTERNAL ASSESSMENT SCHEDULE IN MICROBIOLOGY

Phase II	Internal Assessment : 3	Theory 100 marks Practical 100 marks

Eligibility for appearing in University Examination

- Attendance requirements are 75% in theory and 80% in practical
- 50% combined in theory and practical (not less than 40% in each) in Internal Assessment is required for appearing in University Examinations.
- Internal assessment marks will reflect as separate head of passing at the University examination mark sheet.

GENERAL INSTRUCTIONS FOR STUDENTS

1) The logbook is a record of the academic / co-curricular activities of the designated student.
2) The student will be responsible for maintaining his/her log book which will include activities like:
   - Overall participation & performance
   - Attendance
   - Participation in sessions
   - Record of completion of pre-determined activities.
   - Acquisition of designated competencies.
   - Compulsory acquisition of all certifiable competencies
3) The student is responsible for getting the entries in the log book verified by the Faculty in charge regularly.
4) Entries in the log book shall be scrutinized by the Head of the Department
5) The log book shall be verified by the college before submission of students' eligibility for the University examination

GLOSSARY OF IMPORTANT TERMINOLOGIES

Log book: is a *verified record* of the progression of the learner documenting the acquisition of the requisite knowledge, skills, attitude and/ or competencies.

Portfolio: A portfolio is an evidence of events documented in the log book. It includes selected assignments, self-assessment, feedback, work-based and in-training formative assessments, reflections and learning from planned activity in the curriculum.

Activity: This term refers to a predefined task performed by learners that contributes to the achievement of stated objectives or competencies.

Attempt at activity by learner: Indicate if:

a) First attempt (F) / only attempt
b) Repeat (R) of a previously done activity
c) Remedial activity (Re) of the previously not adequately / appropriately done activity

Rating of attempted activity by faculty -. Use one of three grades:

a) Below expectations (B);
b) Meets expectations (M)
c) Exceeds expectations (E)

Decision of faculty regarding attempted activity

a) C: activity is completed, therefore closed and can be certified, if needed
b) R: activity needs to be repeated without any further intervention
c) Re: activity needs remedial action (usually done after repetition did not lead to satisfactory completion)

Feedback: Feedback is a formal active interaction performed at the completion of an observed activity (or activities) intended to facilitate positive change, growth and improvement of the learner through guided reflection of activity (ies) performed.

COMPETENCIES INCLUDED IN LOG BOOK

- Skill competencies that have Performance (P)
- Selected skill competencies with Shows How '(SH)' in the psychomotor and communications domains
- Competencies which require documentation of self-directed learning-reflections, narrative and creative writing experiences, participation in group activities such as seminars, symposia etc.
- Competencies that require documentation of collected clinical or laboratory experiences, predetermined patient or community interactions and field visits

INDEX

GENERAL MICROBIOLOGY AND IMMUNOLOGY

MI 1.2	Perform and identify the different causative agents of Infectious diseases by Gram Stain, ZN stain and stool routine microscopy (Certifiable skill – 5 times)						
Name of Activity	DOAP	Date completed: dd/mm/yy	Attempt at activity F/R/Re	Rating B/M/E OR Numerical Score	Decision of faculty C/R/Re	Initial of faculty and date	Feedback Received Initial of learner
MI 1.2.1	• Prepare the smear from the specimen provided • Perform Gram stain of the smear provided following the steps as instructed, correctly • Identify the morphology / staining characteristics of the organisms by Gram stain						

NB : Gram Stain - a) From Gram Positive Cocci
b) From Gram Positive Bacillus with Spore
c) From GNB Gram Negative Bacilli.
d) Clinical Sample–Pus
e) CSF

MI 1.2 PE 34.11	**Perform and identify the different causative agents of Infectious diseases by Gram Stain, ZN stain and stool routine microscopy (Certifiable – 5 times)** **Perform AFB staining (Certifiable - 3 times)**						
Name of Activity	DOAP	**Date completed: dd/mm/yy**	**Attempt at activity F/R/Re**	**Rating B/M/E OR Numerical Score**	**Decision of faculty C/R/Re**	**Initial of faculty and date**	**Feedback Received Initial of learner**
MI 1.2.2 **PE34.11.1**	• Perform ZN stain of the smear provided following the steps as instructed, correctly • Identify the causative agents (morphology, staining characteristics) by ZN stain						

ZN Stain: a) Conventional - Two Classes

b) Modified - One Class - for identification

MI 1.2 MI 3.2 IM 16.9	**Perform and identify the different causative agents of Infectious diseases by Gram Stain, ZN stain and stool routine microscopy(Certifiable skill – 5 times)** **Identify the common etiological agents of diarrhea and dysentery** **Identify the parasitic agents causing diarrhea and dysentery from the provided wet mount stool sample**						
Name of Activity	DOAP	**Date completed : dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 1.2.3 **MI 3.2.1** **IM 16.9.1**	• Record macroscopic findings of the stool sample provided • Prepare a wet (saline and iodine) mount of stool sample provided • Observe the prepared wet mounts under the microscope • Identify the causative agents present.						

a) Routine Stool Examination (Both Macroscopic & Microscopic Examination)
   i) Saline Preparation
   ii) Iodine Preparation
b) Adult Parasite — Identification.

INTEGRATION WITH DERMATOLOGY

DR 15.2	Identify Staphylococcus spp. from culture						
Name of Activity	Case scenario DOAP	Date completed: **dd/mm/yy**	Attempt at activity F/R/Re	Rating B/M/E OR Numerical Score	Decision of faculty C/R/Re	Initial of faculty and date	Feedback Received Initial of learner
DR 15.2.1	• Identify Staphylo-coccus from the provided Gram stained smear.						

a) Gram stain from the colony

b) Catalase test

c) Coagulase test

Consider both Staphylococcus aureus and CONS.

DR 7.2	Identify Candida spp.in fungal scrapings and KOH mount						
Name of Activity	DOAP	Date completed: **dd/mm/yy**	Attempt at activity F/R/Re	Rating B/M/E OR Numerical Score	Decision of faculty C/R/Re	Initial of faculty and date	Feedback Received Initial of learner
DR 7.2.1	Identify Candida spp. in • Fungal scrapings from skin, nails and hairs in KOH mounts						

Identification of candida by a) KOH mount

b) Gram Staining from Culture.

CVS AND BLOOD

MI 2.3	Identify the microbial agents causing Rheumatic Heart Disease and Infective Endocarditis						
Name of Activity	Case scenario DOAP	Date completed: dd/mm/yy	Attempt at activity F/R/Re	Rating B/M/E OR Numerical Score	Decision of faculty C/R/Re	Initial of faculty and date	Feedback Received Initial of learner
MI 2.3.1	Identify the microbial agents causing • Rheumatic Heart Disease • Infective Endocarditis						
	• Interpret the result of given serology (ASO) in relation of RHD						

a) Blood Culture

b) Subculture in blood agar – Alpha(α) and Beta(β) haemolytic colony

c) Gram Staining

d) Identification

e) ASO test

INTEGRATION WITH MEDICINE

IM 4.26	Counsel the patient on malaria prevention						
Name of Activity	Role Play	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
IM 4.26.1	• Demonstrate counselling a patient on malaria prevention						

MI 2.6	Identify the causative agent of malaria and filariasis						
Name of Activity	Observation under microscope	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 2.6.2	• Identify the causative agents of filariasis from the stained smear provided						

GASTROINTESTINAL AND HEPATOBILIARY SYSTEM

MI 3.2	Identify the common etiological agents of diarrhea/dysentery						
Name of Activity	Case scenario DOAP	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 3.2.2	• Identify the bacterial agents causing diarrhea and dysentery from culture findings						

a) Transport media

b) Culture on selective/enrichment media

c) Gram Staining

d) Hanging drop

e) Biochemical test

f) Further identification

Integration with Pediatrics and Internal Medicine

PE 24.12 IM 16.10	Stool examination to identify Vibrio cholerae						
Name of Activity	DOAP	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
PE 24.12.1:	• Prepare wet mount of stool sample • Interpret the findings						
PE 24.12.2: IM 16.10.1	• Perform hanging drop for motility						

INTEGRATION WITH MEDICINE

IM 5.17	Enumerate the indications, precautions and counsel patients on vaccination for hepatitis						
Name of Activity	SGD Role play	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
IM 5.17.1	• Enumerate the indications for vaccination against viral hepatitis • Indicate the precautions against viral hepatitis • Counsel patients on vaccination for hepatitis						

CENTRAL NERVOUS SYSTEM INFECTIONS

MI 5.3 PA 35.3 PE 30.21	Identify the microbial agents causing meningitis Identify the etiology of meningitis based on given CSF parameters(certifiable – 1 time) Interpret and explain the findings in a CSF analysis						
Name of Activity	BACTERIAL AGENTS Case scenario and laboratory reports indicating bacterial meningitis to be provided DOAP	Date completed: dd/mm/yy	Attempt at activity F/R/Re	Rating B/M/E OR Numerical Score	Decision of faculty C/R/Re	Initial of faculty and date	Feedback Received Initial of learner
MI 5.3.1	Identify the agents causing meningitis from • Wet mount • Gram stain of the CSF sample provided						
MI 5.3.2 PA 35.3.1 PE 30.21.1	• Identify the agents causing bacterial meningitis from • Culture findings • Interpret laboratory findings						

a) Discuss in Chart with Clinical correlation sp.

b) Discuss steps for laboratory diagnosis

MI 5.3 PA 35.3 PE 30.21	Identify the microbial agents causing meningitis Identify the etiology of meningitis based on given CSF parameters(certifiable -1) Interpret and explain the findings in a CSF analysis						
Name of Activity	**FUNGAL AGENTS** Case scenario and laboratory reports indicating fungal meningitis to be provided DOAP	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 5.3.3	Identify the agents causing meningitis from • Wet mount • Gram stain • India Ink preparation of the CSF sample provided						
MI 5.3.4 **PA 35.3.2** **PE 30.21.2**	Identify the agents causing fungal meningitis from • Culture findings • Interpret laboratory report provided						

a) Discuss in Chart with Clinical correlation sp.

b) Discuss steps for laboratory diagnosis

MI 5.3 PA 35.3 PE 30.21	**Identify the microbial agents causing meningitis** **Identify the etiology of meningitis based on given CSF parameters(certifiable – 1 time)** **Interpret and explain the findings in a CSF analysis**						
Name of Activity	**VIRAL AGENTS** Case scenario and laboratory reports indicating viral meningitis to be provided	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 5.3.5 **PA 35.3.3** **PE 30.21.3**	• Enumerate the agents causing viral meningitis • Interpret the laboratory report						

MI 5.3 PA 35.3 PE 30.21	Identify the microbial agents causing meningitis Identify the etiology of meningitis based on given CSF parameters(certifiable–1time) Interpret and explain the findings in a CSF analysis						
Name of Activity	**MYCOBACTERIAL AGENTS** Case scenario and laboratory reports indicating tubercular meningitis to be provided DOAP	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 5.3.6 PA 35.3.4 PE 30.21.4	• Identify the agents causing meningitis from the Acid fast stain of the CSF sample provided • Interpret the laboratory report						

Respiratory Tract Infections

MI 6.2	Identify the common etiological agents of upper respiratory tract infections (Certifiable -3 times)						
Name of Activity	Case scenario DOAP Gram Stain Albert Stain	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 6.2.1	• Perform Gram stain • Identify the etiologic agents of URTI						
MI 6.2.2	• Perform Albert Stain • Identify the etiologic agent of URTI						

MI 6.3 IM 3.14 IM 4.13 CT 1.10	Identify the common etiological agents of lower respiratory tract infections (Gram Stain & Ziehl Neelsen stain) (Certifiable -3 times) Perform and interpret sputum in Gram stained smear Perform and interpret AFB stain (Certifiable – 1 time)						
Name of Activity	Case Scenario DOAP	Date completed: dd/mm/yy	Attempt at activity F/R/Re	Rating B/M/E OR Numerical Score	Decision of faculty C/R/Re	Initial of faculty and date	Feedback Received Initial of learner
MI 6.3.1 IM 3.14.1 IM 4.13.1	• Perform Gram stain of the specimen provided • Identify and interpret the etiologic agents of LRTI based on the smear prepared						

MI 6.3 IM 3.14 IM 4.14 CT 1.10	**Identify the common etiologic agents of lower respiratory tract infections (Gram Stain & Ziehl Neelsen stain)** **(Certifiable -3 times)** **Perform and interpret sputum in ZN stained smear** **Perform and interpret an AFB stain(Certifiable – 1 time)**						
Name of Activity	Case Scenario DOAP ZN Stain	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 6.3.2 **IM 3.14.2** **IM 4.14.1** **CT 1.10.1**	• Perform Z N stain of the specimen provided • Interpret ZN stain for Acid fast bacilli						

a) Sputum — Z-N Stain

b) Culture in L J media

c) Discuss identification by Conventional and Newer Techniques

IM 4.20 PE 34.7 CT 1.7	Interpret a Mantoux test Interpret a Mantoux test(Certifiable – 3 times) Perform and interpret the PPD test and describe and discuss the indications and pitfalls of the test						
Name of Activity	SGD Flash Cards	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
CT 1.7.1 IM 4.20.1 PE 34.7,1 CT 1.7.2	• Perform Mantoux test • Interpret the Mantoux test						
CT 1,7.3	• Discuss the indications and pitfalls of the test						

INTEGRATION WITH PEDIATRICS

PE 34.9	Interpret blood tests in the context of laboratory evidence for tuberculosis						
Name of Activity	SGD	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
PE 34.9.1	• Interpret Blood test reports as laboratory evidence for tuberculosis						

PE 34.6	Identify a BCG scar(Certifiable – 1 times)						
Name of Activity	SGD	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
PE 34.6.1	• Identify the BCG scar						

Zoonotic Diseases and Miscellaneous

MI 8.7	Demonstrate Infection control practices and use of Personal Protective Equipments (PPE) (Certifiable – 3 times in Hand Hygiene & 3 times in PPE)						
Name of Activity	DOAP	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 8.7.1	• Demonstrate hand washing and hand hygiene practices						

MI 8.7	Demonstrate Infection control practices and use of Personal Protective Equipments (PPE) (Certifiable – 3 times in Hand Hygiene & 3 times in PPE)						
Name of Activity	DOAP SGD	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 8.7.2	• Demonstrate donning and doffing of PPE						

MI 8.7	Demonstrate Infection control practices and use of Personal Protective Equipments (PPE)						
Name of Activity	DOAP	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 8.7.3	• Demonstrate proper segregation of biomedical waste						

MI 8.11	Demonstrate respect for patient samples sent to the laboratory for performance of laboratory tests in the detection of microbial agents causing infectious diseases.						
Name of Activity	SGD Role Play	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 8.11.1	• Demonstrate proper method of transportation of patients' samples to the laboratory • Demonstrate the proper method of storage of patients' samples						

COLLECTION, STORAGE AND TRANSPORT OF CLINICAL SPECIMEN

MI 8.10 **IM 1.22** **IM 4.19** **IM 25.9**	**Demonstrate the appropriate method of collection of samples in the performance of laboratory tests in the detection of microbial agents causing Infectious diseases** **Assist and demonstrate the proper technique in collecting specimen for blood culture** **Assist in the collection of blood and wound culture** **Assist in the collection of blood and other specimen cultures**

Name of Activity	Case scenario Role play DOAP	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 8.10.1 **IM 25.9.1**	Demonstrate the method of collection of samples in the laboratory						
IM 1.22.1	A. Blood for culture						
IM 4.19.1	B. Blood for serology						
IM 25.9.1	C. Swab sample – Throat – Nasopharyngeal – Aural – Rectal – Vaginal						
MI 4.19.2	**– Wound swab**						
	D. Pus aspirate E. CSF F. Sputum G. BAL H. Endotrahceal tube I. Urine for culture, R/E						

MI 8.15	Choose and Interpret the results of the laboratory tests used in diagnosis of the infectious disease						
Name of Activity	Laboratory Report Case Scenarios	**Date completed: dd/mm/yy**	**Attempt at activity** F/R/Re	**Rating** B/M/E OR Numerical Score	**Decision of faculty** C/R/Re	**Initial of faculty and date**	**Feedback Received** Initial of learner
MI 8.15.1	• Interpret the results from different serological tests A. Latex agglutination B. ELISA C. ICT D. Widal E. RPR						

Topics for SGD/SDL

Sl. no	Competency addressed	Datecompleted dd/mm/yy	Initial of faculty and date	Feedback Received Initial of learner
1.	**MI 1.4** Classify and describe the different methods of sterilization and disinfection. Discuss the application of the different methods in the laboratory in clinical and surgical practices.			
2.	**MI 8.4** Describe the etiologic agents of emerging infectious diseases, Discuss the clinical course and diagnosis			
3	**MI8.6** Describe the basics of infection control			
4.	**MI 8.8** Describe the methods used and significance of assessing the microbial contamination of food,water and air.			
5	**MI8.9** Discuss the appropriate methods of collection of samples in the performance of laboratory test in detection of microbial agents causing infectious disease			
6	**MI 8.13** Choose the appropriate laboratory test in the diagnosis of infectious disease			
7	**MI 8.15** Choose and interpret the results of the laboratory test used in diagnosis of infections discase **(to be followed by SGD)**			
8	**MI 8.12** Discuss confidentiality pertaining to patient to identity in laboratory results			
9	**MI 7.2** Describe the etiopathogenesis and discuss the laboratory diagnosis of STI. Recommend preventive measures			
10.	**MI 8.16** Describe the National Health program in Prevention of Common infectious disease. (For information purpose)			

ATTENDANCE RECORD

Phase	Theory Class Total	Theory Class Attended	Percentage Theory Class Attended	Practical Total	Practical Attended	Percentage Practical Class Attended
Professional Year II (Term I)						
Professional Year II (Term II)						
Professional Year II(Term III)						
Professional Year II(Total)						

Signature of the Student

Signature of Faculty in Charge

Signature of Head
Department of Microbiology

RECORDS OF INTERNAL ASSESSMENT EXAMINATIONS

Assessment	Date	Theory	Date	Practical including Viva	Signature of student	Signature of teacher
SECOND PROF						
1st Internal Assessment						
2nd Internal Assessment						
3rd Internal Assessment						
Aggregate of IA 2nd Professional						
Grand Aggregate of Internal Assessment Marks						
Remedial examination if any						
Marks from FA Log book						
Final Internal Assessment Marks (to be submitted to University)						

Signature of Principal

Signature HOD, Microbiology

Printed at Saraswaty Press Ltd.