



Govt. Of NCT Delhi
Maulana Azad Medical College
Department of Microbiology
Logbook for PG training

Space for photo

BIODATA OF CANDIDATE

Name in full			
Date of birth			
College of MBBS/Year of passing			
Date of joining MAMC			
Permanent address			
Postal Address			
Telephone no.			
EXPERIENCE BEFORE JOINING MAMC			
	From.....	To.....	Institute
Internship			
JR			
Any other			
Other important information			

SIGNATURE OF HOD (WITH SEAL)

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INSTRUCTIONS FOR LOG BOOK FOR POSTGRADUATE IN MD MICROBIOLOGY

1. The log book must be filled on regular basis. It must be signed by faculty in-charge & HOD within one week of last day of posting.
2. The marks to be entered are the average marks based upon collective evaluation of faculty. Marks will be entered and signed by faculty moderator.
3. Faculty to accord marks and sign as per performance. Any specific comments be recorded in remarks column
4. Faculty while signing in seminar/JR section must accord comments related to level of participation and interjection by student.
5. Evaluation of seminar must include the write up submitted by the student.
6. For laboratory postings: Mention only total number of samples processed. Mention interesting findings and their details. Write any interesting patient/case history seen by you.
7. All trainings/CME/Conference attended must be supplemented with certificates.
8. All end posting exam evaluations are to be entered as %.
9. The curriculum for MD microbiology is available at <https://www.nmc.org.in/wp-content/uploads/2019/09/MD-Microbiology.pdf>.
10. It is mandatory for all postgraduate students to attend MBBS & BDS lectures. However, only the teaching session conducted by PG must be entered in log book.
11. All extrinsic postings and intrinsic (Pathology & Biochemistry) postings records must be signed by In-charge/HOD of respective dept/Institute.

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Syllabus for 1st year.

End 1st year theory Exam: April 1st week (June 1st Week for 2020 batch)

GENERAL MICROBIOLOGY	IMMUNOLOGY	MICROBIOLOGY APPLIED TO TROPICAL MEDICINE AND RECENT ADVANCES
<ol style="list-style-type: none"> 1. History and Pioneers in Microbiology 2. Microscopy 3. Nomenclature and classification of microbes 4. Morphology of bacteria and other micro-organisms 5. Growth and Nutrition of bacteria 6. Bacterial metabolism 7. Sterilization and disinfection 8. Culture media and culture methods 9. Identification of bacteria 10. Bacterial toxins 11. Bacterial antagonism: Bacteriocins 12. Bacterial genetics 13. Gene cloning 14. Antibacterial substances used in the treatment of infections and drug resistance in bacteria 15. Bacterial ecology - Normal flora of human body, Hospital environment, Air, Water and Milk 16. Host-parasite relationship 	<ol style="list-style-type: none"> 1. Innate and acquired immunity 2. Antigens 3. Immunoglobulins 4. Antigen and antibody Reactions 5. Complement System 6. The normal immune system: structure and function 7. Immune Response 	<ol style="list-style-type: none"> 1. Normal Microbial flora 2. Epidemiology of infectious diseases 3. Hospital acquired infections & Hospital waste disposal 4. Bacteriology of water milk and air

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Syllabus for 2nd year.
End 2nd year theory Exam: April 1st Week

SYSTEMATIC BACTERIOLOGY	IMMUNOLOGY: Clinical	VIROLOGY
1. Streptococcus and Lactobacillus 2. Staphylococcus and Micrococcus 3. Pseudomonas 4. The Enterobacteriaceae 5. Mycobacteria 6. Corynebacterium and other Coryneform bacteria 7. Vibrios, Aeromonas, Plesiomonas, Campylobacter & Spirillum 8. Neisseria, Branhamella & Moraxella 9. Haemophilus and Bordetella 10. Bacillus: the aerobic spore-bearing anaerobic bacilli 11. Clostridium: the spore-bearing anaerobic bacilli 12. Non-sporing anaerobe 13. The Spirochaetes	1. Hypersensitivity 2. Immunodeficiency 3. Auto-immunity 4. Immune tolerance 5. Transplantation immunity 6. Tumour immunity 7. Immunoprophylaxis and immunotherapy 8. Measurement of immunity	1. The nature of viruses 2. Classification of viruses 3. Morphology: virus structure 4. Virus replication 5. The genetics of viruses 6. The pathogenicity & lab diagnosis of viruses 7. Epidemiology of viral infections 8. Anti-viral drugs 9. Bacteriophages 10. Herpes viruses 11. Paramyxoviruses 12. Influenza virus 13. Hepatitis viruses 14. Rabies virus 15. Human immunodeficiency viruses
	PARASITOLOGY 1. General Parasitology 2. Protozoan parasites of medical importance: Entamoeba, Giardia, Trichomonas, Leishmania, Trypanosoma, Plasmodium	
	MYCOLOGY 1. The morphology and reproduction in fungi 2. Classification of fungi 3. Dermatophytes 4. Candida 5. Aspergillus	

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Syllabus for 3rd year PG

Sent up Examination: Theory-1st week March Practical 3rd week March

SYSTEMATIC BACTERIOLOGY (2nd year) : plus	VIROLOGY (2nd year): plus	PARASITOLOGY (2nd year): plus	MYCOLOGY (2nd year): plus
1. Actinomycetes, Nocardia and Actinobacillus 2. Erysipelothrix and Listeria 3. The Bacteroidaceae: Bacteroides, Fusobacterium and Leptotrichia 4. Chromobacterium, flavobacterium, Acinetobacter and Alkaligenes 5. Pasteurella, Francisella 6. Brucella 7. Chlamydia 8. Rickettsiae 9. Mycoplasmatales: Mycoplasma, Ureaplasma and Acholeplasma 10. Miscellaneous bacteria	1. Vaccines 2. Pox viruses 3. Vesicular viruses 4. Toga viruses 5. Bunya viruses 6. Arena viruses 7. Marburg and Ebola viruses 8. Rubella virus 9. Orbi viruses 10. Respiratory diseases : Rhinoviruses, adenoviruses and corona viruses 11. Enteroviruses; Polio, Echo, and Coxsackie viruses 12. Other enteric viruses 13. Slow viruses 14. Oncogenic viruses 15. Teratogenic viruses	1. Protozoan parasites of medical importance: Toxoplasma, Sarcocystis, Cryptosporidium, Babesia, Balantidium etc. 2. Helminthology: All those medically important helminthes belonging to Cestoda, Trematoda and Nematoda. 3. Cestodes: Diphyllbothrium, Taenia, Echinococcus, Hymenolepis, Dipyllidium, Multiceps etc. 4. Trematodes: Schistosomes, Fasciola, Gastrodiscoides, Paragonimus, Clonorchis, Opisthorchis etc. 5. Nematodes: Trichuris, Trichinella, Strongyloides, Ancylostoma, Necator, Ascaris, Toxocara, Enterobius, Filarial worms, Dracunculus, etc. 6. Ecto-parasites: Common arthropods and other vectors viz., Mosquito, Sand fly, Ticks, Mite, Cyclops	1. Contaminant and opportunistic fungi 2. Fungi causing superficial mycoses 3. Fungi causing subcutaneous mycoses 4. Fungi causing systemic infections 5. Anti-mycotic agents

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<p>GENERAL MICROBIOLOGY & IMMUNOLOGY: ALL+ MICROBIOLOGY APPLIED TO TROPICAL MEDICINE AND RECENT ADVANCES</p> <ol style="list-style-type: none">1. Infections of various organs and systems of human body2. Molecular genetics as applicable to microbiology3. Vaccinology: principle, methods of preparation, administration of vaccines.4. Bio-terrorism	<p>ALLIED BASIC SCIENCES</p> <p>(a) Biochemistry: Basic understanding of biochemistry as applied to immunological/ molecular methods for study of microbial diseases and pathogenesis of infections.</p> <ol style="list-style-type: none">1. Protein purification and estimation2. Protein estimation3. Nucleic acid purification and characterization4. Agarose and polyacrylamide gel electrophoresis - principles5. Ultracentrifugation – principles6. Column chromatography – principles <p>(b) Molecular biology: Basic knowledge as applicable to molecular diagnostics and molecular epidemiology.</p> <ol style="list-style-type: none">1. Recombinant DNA technology2. Southern, northern and western blotting3. DNA amplification techniques4. Diagnostic PCR, different methods of PCR product detection (liquid hybridization, ELISA).5. Genotyping of microbes and viruses <p>(c) Pathology: (as applied to Microbiology) Basic knowledge of</p> <ol style="list-style-type: none">1. Inflammation and repair2. Intercellular substances and reaction3. Pathological changes in the body in bacterial, viral, mycotic and parasitic infections4. Demonstration of pathogen in tissue section
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SUMMARY

Name	
Duration of PG with dates	
No. of Seminars presented	
No. of Journal Review presented	
Papers published	
Conferences attended	
No. of papers presented at conferences	Oral
	Poster
MBBS/BDS Batch Incharge	
Additional work done/commendations/awards	
Internal assessment	
Year and month of passing	
Address for future communication	

Postgraduate Students Appraisal Form in Microbiology

Name of the PG Student : _____

Period of Training : From.....To.....

S. no.	Particulars	Not Satisfactory			Satisfactory			More Than Satisfactory			Remarks
		1	2	3	4	5	6	7	8	9	
1.	Journal based / recent advances learning										
2.	Patient based /Laboratory or Skill based learning										
3.	Self-directed learning and teaching										
4.	Departmental and interdepartmental learning activity										
5.	External and Outreach Activities / CMEs										
6.	Thesis / Research work										
7.	Log Book Maintenance										

S. no 4 & 5 applicable only for annual evaluation.

Publications: _____

Remarks*: _____

***REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.**

SIGNATURE OF ASSESSEE

SIGNATURE OF HOD

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THESIS WORK

Title of thesis	
Supervisor	
Co-Supervisor (s)	
Date of submission of plan	
Date of submission of thesis	
Date of acceptance (if received)	
Remarks (if any) received for thesis	
Details of any publication/poster/oral presentation arising from thesis	
Any difficulties arising during research work	
How these difficulties were overcome by student and supervisor?	
Conclusion of thesis (in 5 lines only)	

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TRAINING PROGRAM/CME/CONFERENCE ATTENDED

Training in research methodology*	
Date & duration of program attended	Details of training Program
Any other training program attended	
Any conference/CME attended with details of any paper/poster presentation	
*Attach copy(s) of certificate	

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SEMINAR/JOURNAL REVIEW PRESENTED

Date	Title	Signature of moderator

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MEDIA ROOM

YEAR: _____ **DATES:** _____

PREPARATION	METHOD USED	QUALITY TESTING
Media		
Reagents/Stains		
Any other		

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MEDIA ROOM													
RESIDENT SKILL SET		1st year				2nd year				3rd year			
Sr. no.	Procedure	O	A	P	SIGN	O	A	P	SIGN	O	A	P	SIGN
1.	Preparation of reagents	10	10	10				15				15	
2.	Preparation, plugging, pouring & Quality Control (QC) of culture media	20	20	30				50				50	
3.	Washing, sterilization and packing of glassware	10						5				5	
4.	Operation & maintenance of autoclave	10	10	20				20				20	

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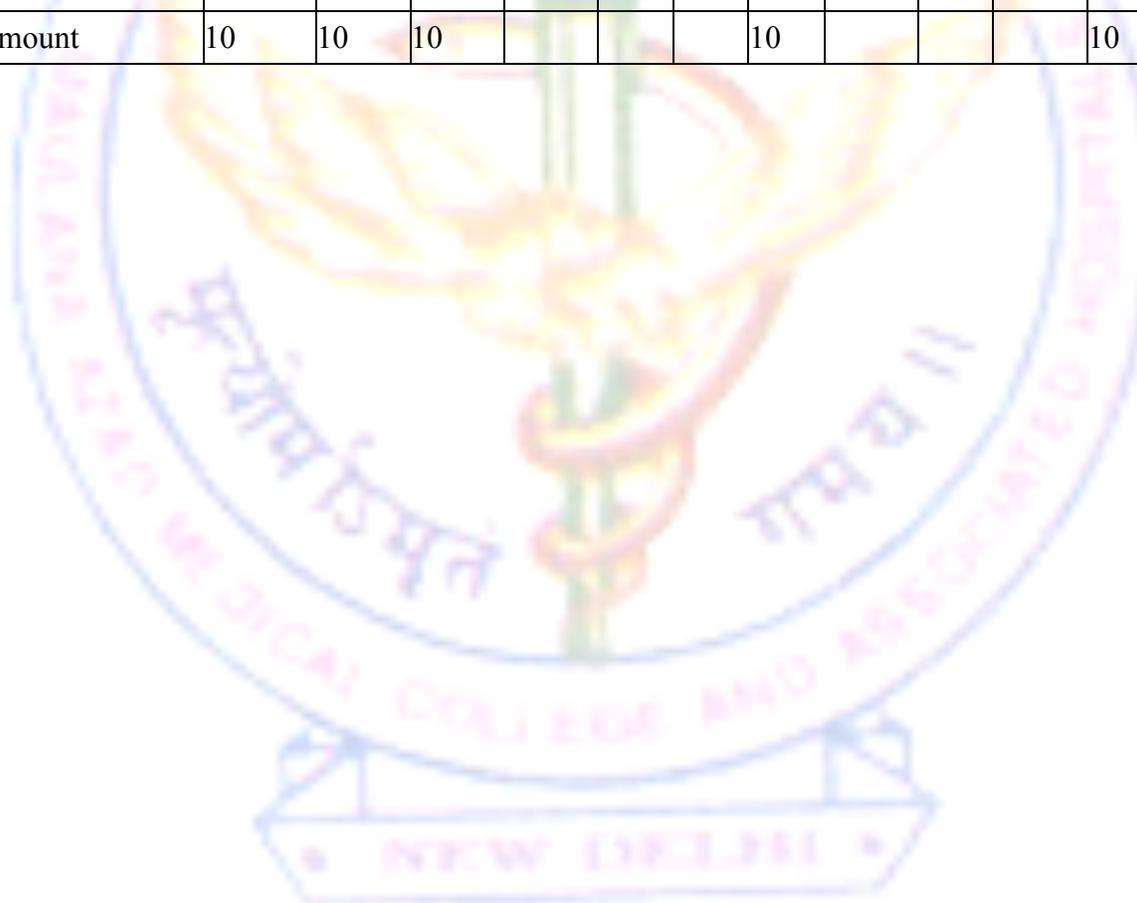
MYCOLOGY

YEAR: _____ **DATES:** _____

PROCEDURE	METHOD & REPORT	SKILL LEARNT
COLLECTION		
MICROSCOPY		
CULTURE AND IDENTIFICATION		
Any other		
TOTAL		
END POSTING EXAMINATION		

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MYCOLOGY													
RESIDENT SKILL SET		1st year				2nd year				3rd year			
Sr. no.	Procedure	O	A	P	SIGN	O	A	P	SIGN	O	A	P	SIGN
1	KOH Wet mount	5	10	20				20				20	
2	Germ tube test	5	10	20				20				20	
3	Slide culture	5	10	20				20				20	
4	Negative staining for fungus	5	5	5				20				5	
5	LPCB mount	10	10	10				10				10	



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SEROLOGY/IMMUNOLOGY

YEAR: _____ DATES: _____

PROCEDURE	METHOD & REPORT	SKILL LEARNT
VDRL		
WIDAL		
ASLO		
RA		
CRP		
OTHER		
TOTAL		
END POSTING EXAMINATION		

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SEROLOGY/IMMUNOLOGY													
RESIDENT SKILL SET		1styear				2nd year				3rd year			
Sr. no.	Procedure	O	A	P	SIGN	O	A	P	SIGN	O	A	P	SIGN
1.	Phlebotomy & separation of serum	10	10	5				5				5	
2.	Operation & maintenance of mini-VIDAS	5	10	20				20				20	
3.	Operation & maintenance of ELISA reader & washer	5	10	--				20				20	
4.	Performance of serological tests												
5.	Latex agglutination test(RA, ASO)	10	20	30				30				30	
6.	RPR card test	10	20	30				30				30	
7.	Tube agglutination test	10	20	30				30				30	
8.	Gold conjugate Rapid card test	10	20	30				30				30	
9.	ANA by IF	5	5	10				10				10	
10.	ANA by Immunoblot	5	5	10				10				10	
11.	IQC-serology	5	5	5				5				5	

Signature of Faculty

HOD Microbiology

IMMUNOLOGY

		Period Of Posting				
		1 st Year			2 nd Year	3 rd Year
Sr. no.	Procedure	Observed no.	Assisted no.	Performed independently no.	Performed independently no.	Performed independently no.
1.	Centrifugation & separation of serum					
2.	Operation & maintenance of ELISA reader & washer					
3	Reading and interpretation of ELISA test					
4	Operation & maintenance of Immunofluorescence Microscope					
5	ANA by IF					
6	Interpretation of IIF-ANA					
7	ANA by Immunoblot					
8.	Other Immunoblot Test: -Anti Hepatitis Antibody -Anti Myositis Antibody					
9.	Any Other Test					
10.	Preparation and dispatch of report					

Signature of Faculty

HOD Microbiology

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MYCOBACTERIOLOGY													
RESIDENT SKILL SET		1st year				2nd year				3rd year			
Sr. no.	Procedure	O	A	P	SIGN	O	A	P	SIGN	O	A	P	SIGN
1.	Acid fast staining (Ziehl- Neelsen method)	10	20	30				30				30	
2.	Modified ZN staining for <i>M. leprae</i>	5	5	5				5				5	
3.	Petroff's concentration technique	10	10	20				20				20	
4.	AFB culture & sensitivity	5	10	20				20				20	
5.	Preparation of slit skin smear for lepra bacilli	5	5	5									
6.	Preparation of stains	4	4	4		-		5				10	

Signature of Faculty

HOD Microbiology

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BACTERIOLOGY													
RESIDENT SKILL SET		1st year				2nd year				3rd year			
Sr. no.	Procedure	O	A	P	SIGN	O	A	P	SIGN	O	A	P	SIGN
1.	Microscopy for unstained preparations/ wet mount	5	5	10									
2.	Microscopy for stained preparation	5	5	10									
3.	Preparation of direct smears from clinical specimens	5	5	10									
4.	Gram staining	10	20	30			-	30		-	30	30	
5.	Albert staining	5	10	10			-	5		-	-	5	
6.	Modified ZN staining for <i>Nocardia</i>	5	5	5				5				5	
7.	Hanging drop preparation	5	5	10				10					
8.	IQC-staining	5		5				5				5	
9.	Bacteriology of water	5	5	-			5	5				5	
10.	Bacteriology of air	5	5	-			5	5				5	
11.	Methods for preservation of bacteria	10	-	-			5	10				10	
12.	Maintenance of stock cultures	10	-	-				10				10	
13.	Specimen collection for Blood Culture	5	5	5				5				5	
14.	Inoculation of liquid & solid media	20	20	30				30				30	

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15.	Identification test	20	20	30				30				30	
16.	Operation of BacT/ALERT	5	10	20				20				20	
17.	Operation of Vitek 2 compact	5	10	20				20				20	



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ANTIBIOTIC SENSITIVITY LABORATORY													
RESIDENT SKILL SET		1st year				2nd year				3rd year			
Sr. no.	Procedure	O	A	P	SIGN	O	A	P	SIGN	O	A	P	SIGN
1.	Antibiotic disc preparation (lots)	-	-	-		5					5	2	
2.	Antimicrobial sensitivity testing- modified Kirby-bauer technique	10	20	30				30				30	
3.	IQC- Antibiotic disc potency	5	5	-			5	5				5	

Signature of Faculty

HOD Microbiology

ANIMAL HOUSE

Animal house													
Handling of laboratory-animal	-	-										10	

Signature of Animal House Incharge

HOD Pharmacology

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PARASITOLOGY

YEAR: _____ **DATES:** _____

PROCEDURE	METHOD & REPORT	SKILL LEARNT
STOOL FOR OVA CYST		
BLOOD SMEAR		
SEROLOGY		
Any other		
TOTAL		
END POSTING EXAMINATION		

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PARASITOLOGY													
RESIDENT SKILL SET		1st year				2nd year				3rd year			
Sr. no.	Procedure	O	A	P	SIGN	O	A	P	SIGN	O	A	P	SIGN
1	Giemsa staining for thick & thin peripheral blood smear	5	-	-		10	-			-			
2	Stool wet mount for R/M	10	20	30				30				30	
3	Stool concentration techniques	5	10	5				5				5	
4	Modified ZN staining for C. parvum	2	2	2				2				5	

Signature of Faculty

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VIROLOGY/ADVANCE VIROLOGY

YEAR: _____ **DATES:** _____

TEST	METHOD USED & REPORT	SKILL LEARNT
HIV		
HBV		
HCV		
JE/DENGUE/OTHERS		
MOLECULAR DIAGNOSTICS		
TOTAL		
END POSTING EXAMINATION		

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INFECTION CONTROL													
RESIDENT SKILL SET		1 st year				2 nd year				3 rd year			
Sr. no.	Procedure	O	A	P	SIGN	O	A	P	SIGN	O	A	P	SIGN
1.	Infection control activities- environmental sampling	10	10	-			10	10				10	
2.	Identification of HAI	5	5	--			5	5				5	
3.	Calculation of HAI quality indicators	5	5	--				5				5	

