RKMVERI SYLLABUS FOR MSC MLST 3RD Semester
(SPECIALIZATION -MICROBIOLOGY)

Course	Course Code	Credit
BACTERIOLOGY I	MM301	2+1
BACTERIOLOGY II	MM302	2+1
Immunology	MM303	2+1
Mycology	MM304	2+1
Parasitology	MM305	2
Virology	**MM306**	**2**
Microbiology Management	MM307	2
Total		**18**

Serial number	Course Code	
	MM301	**BACTERIOLOGY I**
1.		Morphology Of Bacteria, Bacterial Growth, Nutrition and Metabolism
2.		Sample Collection and Transport of Specimen for Microbiological Investigations (RTI, GIT, UTI, FEMALE GENITAL TRACT INFECTION, CNS, PYOGENIC AND PUO)
3.		Method of Sterlization, Disinfection and C.S.S.D
4.		Identification of Bacteria by Various Methods
6.		Gram Positive Cocci -1 (Staphylococcus)
7.		Gram Positive Cocci-2 (Streptococcus, Enterococcus and Pneumococcus)
8.		Corynebacterium and Bacillus
9.		Gram Negative Cocci (Neisseria) Gonorrhea and Nongonococcal Urethritis
10.		Clostridium (C. perfringens, C. tetani, C. botulinum, C. difficile)
11.		Vibrio and Aeromonas/ Plesiomonas
	MM302	**BACTERIOLOGY II**
12.		Mycobacterium-1
13.		Mycobacterium-2
14.		Enterobacteriaceae-1
15.		Enterobacteriaceae-2

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16.		Actinomycetes, Nocardia and Listeria
17.		Bordetella, Brucella and Haemophilus
18.		Bacterial Vaginosis, Gardnerella Vaginalis
19.		Spirochetes (Pathogenic and Nonpathogenic Treponemes), Nonvenereal Treponematosis
20.		Leptospira and Borrelia
21.		Miscellaneous bacteria: Chlamydia and Legionella
22.		Miscellaneous bacteria: Mycoplasma, Campylobacter, HACEK
23.		Miscellaneous bacteria: Rickettsia and related genera (Coxiella burnetti, Bartonella)
	MM303	**IMMUNOLOGY**
1.		Antigen and Antibody, Antigen Antibody Reaction and Complement Pathways
2.		Immunity (Innate and Acquired)
	MM304	**MYCOLOGY**
1.		General Mycology (Morphology, Reproduction and Classification of Fungi)
2.		Yeast and Yeast Like Fungi
3.		Dimorphic Fungi (Endemic mycosis)
4.		Superficial Mycoses
5.		Subcutaneous Mycoses
6.		Opportunistic Mycoses
	MM305	**PARASITOLOGY**
1.		Introduction and General Parasitology
2.		Entamoeba Histolytica and Free-living Amoeba
3.		Haemoparasites(Plasmodium and Babesia)-1
4.		Haemoparasites (Leishmania and Trypanosomes)-2
5.		Giardia, Trichomonas and Balantidium
6.		Coccidian protozoa (Cryptosporidium, Cystoisospora, Cyclospora)

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7.		Cestodes(tapeworms) and Trematodes(flukes) (Classification and Infection)
8.		Intestinal Nematodes (Ascaris, Strongloides) and Tissue Nematodes (Wuchereria)
	MM306	**VIROLOGY**
1.		General Properties, Classification, Morphology, Replication and Genetics of Virus (Class-1)
2.		General Properties, Classification, Morphology, Replication and Genetics of Virus (Class-2)
3.		Isolation and Identification of Virus
4.		Lab Diagnosis of Major DNA Virus Of Medical Importance
5.		Lab Diagnosis of Major RNA Virus Of Medical Importance
6.		HIV, Pre and Post Exposure Guidelines
7.		Zoonotic Infection
8.		Herpes Virus
9.		Hepatitis Virus
10.		Oncogenic Virus
	MM307	**Microbiology Management**
1.		Surveillance of HAI, Spillage Management, Waste Management, NSI And PEP
2.		Quality Control in Microbiology Laboratory and Accreditation
3.		PCR (Basic, advanced and types of PCR)
4.		MALDI TOF
5.		Electrophoresis
		SEMINAR TOPICS (To be matched with the Theory papers)
1.		AST by Kirby-Bauer techniques
2.		Sexually transmitted infections STD
3.		Hypersensitivity reactions
4.		Screening for staphylococci for methicillin resistance

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5.		Screening for enterococci for vancomycin resistance
6.		Screening for gram negative isolates for ESBL and MBL
7.		Diagnostic PCR
		PRACTICAL (To be conducted in tandem with the theoretical Papers)
1.		Staining of clinical specimens
2.		Preparation of culture media
3.		VDRL/RPR Testing
4.		Stool Examination for Ova and Cyst
5.		WIDAL Test
6.		DNA And RNA Isolation , conventional and automated PCR operations
7.		AFB culture and sensitivity
8.		Operation of Bact/ Alert and Operation of VITek 2
9.		Advanced Techniques in Diagnostic Microbiology
10.		Spectroscopic Technique
11.		Mass spectroscopy
12.		Chromatographic technique