

**DEPARTMENT OF VETERINARY MICROBIOLOGY**  
**MJF COLLEGE OF VETERINARY & ANIMAL SCIENCE, CHOMU, JAIPUR**  
**COURSE OUTLINE FOR PRACTICAL**  
**TEACHING PROGRAMME**

**Course No.:** Unit 1 and 2

**Course Title:** General Veterinary Microbiology & Mycology

**Credit Hrs:** 3+2=5

**Duration of lecture Class:** 1 February 2021 to 22 March 2021

Ex. No.	Date	Title	Hrs.
1	1/2/21	General laboratory instructions	2
2	2/2/21	Sterilization & disinfection	6
	3/2/21 9/2/21 10/2/21	2.1 -Sterilization By Heat 2.2-Sterilization By Filtration 2.3- Sterilization By Chemical Agents 2.4-Phenol Coefficient Test	
3	15/2/21	Motility Of Bacteria By Hanging Drop Method	2
4	16/2/21	Media Preparation & Routine Culture Media	4
	17/2/21	4.1- Preparation Of Culture Media 4.2-Recipes For Culture Media 4.3-Adjustment Of P <sup>h</sup> Of Media & Preparation Of Plates & Slants	
5	22/2/21	Media Inoculation & Pure Culture Technique	2
6	23/2/21	Cultivation Of Bacteria Anaerobically	2
7	24/2/21	Morphology & Cultural Characteristics Of Bacteria	2
8	8/3/21 9/3/21	Bacterial Stains & Staining	4
		8.1 –Negative Staining 8.2- Simple Staining 8.3- Differential Staining 8.4- Spore Staining 8.5-Staining Metachromatic Granules 8.6- Capsule Staining	
9	10/3/21	Biochemical Characterization Of Bacteria	2
10	15/3/21	Antimicrobial Susceptibility Testing	2
11	16/3/21 17/3/21 22/3/21	Mycology	6
		11.1 – Cultivation Of Fungi 11.2 – Staining Of Mould By Lactophenol Cotton Blue Stain 11.3 – Slide Culture Technique to Study Sporulation of Fungi	

**Course No.:** Unit 3,4 & 5

14	8/6/21	Subculture and maintenance of continuous cell lines;	2
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**Course Title:** General Veterinary Microbiology & Mycology

**Credit Hrs:** 3+2=5

**Duration of lecture Class:** 23 March 2021 to 30 June 2021

Ex. No.	Date	Title	Hrs.
1	23/3/21	Extraction and quantitation of nucleic acid	2
2	24/3/21 31/3/21	Plasmid isolation and plasmid profiling; Agarose gel electrophoresis for studying or diagnosis of nucleic acid of microbes	4
	6/4/21 7/4/21	SDS PAGE electrophoresis for studying or diagnosis of proteins of microbes	
3	8/4/21	Use of Multimedia and audio-visual aids for molecular biology aspects	2
4	12/4/21	Inoculations of lab animals	4
	19/4/21	Preparation of antigen, Raising of antisera, separation and preservation of serum	
5	20/4/21	Concentration of Immunoglobulins, Agglutination tests: Plate, Tube	2
6	26/4/21 27/4/21	Haemagglutination, Precipitation test: Agar gel precipitation Test	2
7	28/4/21	Single radial immunodiffusion test, Immunoelectrophoresis	2
8	10/5/21 11/5/21	Cell mediated immune response (DTH), Enzyme linked immunosorbent assay (ELISA)	4
9	12/5/21	Visit and appraisal of Veterinary biological institute	2
10	17/5/21 18/5/21	Orientation to a virology laboratory	2
11	19/5/21	Collection, preservation, transport of samples and their processing in virology laboratory	2
12	24/5/21	Isolation of viruses in laboratory animals or poultry or embryonated chicken eggs	2
13	25/5/21	Preparation of media and reagents for cell culture	2

		Quantitation of cells by viable cell counts in a haemocytometer	
15	9/6/21	Cryopreservation and recovery of cell cultures; Preparation of Primary cell culture (chicken embryo fibroblast or Lamb kidney)	2
16	14/6/21 15/6/21	Demonstration of cytopathic effect by viruses in cell culture (Important virus isolates available in the department)	2
17	16/6/21	Demonstration of Titration of virus by TCID50 and plaque assay in cell cultures*;	2
18	21/6/21	Agar gel precipitation test for detection of virus infection	2
19	22/6/21	Titration of Newcastle disease virus by haemagglutination test; Haemagglutination inhibition test for detection of antibodies to Newcastle disease virus	2
20	23/6/21	ELISA for detection of viral antigen and antibodies;	2
21	28/6/21	Molecular techniques for viral disease diagnosis	2
22	29/6/21	Demonstration of neutralizing antibodies by serum neutralization test in cell cultures	2
23	30/6/21	Important virus isolates available in the department	2

**Signature of Head of Department**