

Lesson Plan

Name of the Faculty : Dr. Ram Kumar Pundir
Discipline : Biotechnology
Semester : 8th
Subject : Virology (BT-414N)
Lesson Plan Duration : 15 Weeks (From Feb, 2021 to Jun, 2021)
 Work Load (Lecture/Practical) per week(in hours): Lecture- 03; Tutorials: 01; Practical- 00

Week	Theory	
	Lecture Day	Topic(including assignment /test)
1 st	1 st	Virus and Virion General properties of viruses
	2 nd	Nature of the virion
	3 rd	Nomenclature and Classification of viruses
2 nd	4 th	Subviral particles- Viroids
	5 th	Subviral particles- Prions
	6 th	Viral Replication & Multiplication: Growth & Quantification: The vir Quantification of virus.
3 rd	7 th	-do-
	8 th	Virus replication: General features of viral replication
	9 th	-do-
4 th	10 th	Virus multiplication- attachment and penetration, production of viral nucleic acid and protein Assignment 1/Test 1 of Unit I
	11 th	Viral Diversity: Viruses of Prokaryotes: Overview of bacterial Virulent Bacteriophage and T4
	12 th	Temperate Bacteriophages, Bacteriophage lambda.
5 th	13 th	RNA Bacteriophages;
	14 th	Icosohedral single stranded DNA Bacteriophages,
	15 th	Filamentous single stranded DNA Bacteriophages- T7
6 th	16 th	Mu: Double Stranded transposable DNA Bacteriophage.
	17 th	Viral diversity- Viruses of Eukaryotes: Plant viruses.
	18 th	Viral diversity- Viruses of Eukaryotes: Positive strand RNA Vir animals- Poliovirus and Coronavirus.
7 th	19 th	Viral diversity- Viruses of Eukaryotes: Negative strand RNA Vir animals- Rabies & Influenza.
	20 th	Viral diversity- Viruses of Eukaryotes: Double stranded RNA Viruses- Reoviruses
	21 st	Replication of double stranded DNA Viruses of animals.
8 th	22 nd	Double stranded DNA Viruses-Herpesvirus, Pox Virus and Adenovirus
	23 rd	Viruses with reverse transcriptase- Retroviruses and Hepadnaviruses
	24 th	-do- Assignment 2/Test 2 of Unit II & III
9 th	25 th	Experimental Virology: Cultivation of viruses in embryonated eggs. Production of viruses on large scale.

	26 th	Serological methods in virology. Haemagglutination, Compliment fixation, Neutralization test
	27 th	-do-
10 th	28 th	Plaque method, Assays of viruses (Microscopic, Molecular and Immunological)
	29 th	-do-
	30 th	Applications of Virology: Viruses and transgenic plants and animals.
11 th	31 st	Overview of Tumor Viruses.
	32 nd	Viral Vaccines: Conventional Vaccines. New Generation Vaccines including DNA Vaccines with examples.
	33 rd	-do-
12 th	34 th	Interferons- Production and mode of action.
	35 th	-do-
	36 th	Antiviral drugs
13 th	37 th	-do-
		Assignment 3/Test 3 of Unit IV
	38 th	Revision
	39 th	Revision
14 th	40 th	Revision
	41 st	Revision
	42 nd	Revision
15 th	43 rd	Revision
	44 th	Revision
	45 th	Revision