



The Islamia University of Bahawalpur
Department of Biochemistry & Biotechnology
BS (Hons) Program
Semester: 8th

Paper: VIROLOGY

Credit Hours: 3

Weekly Division of Syllabus

Week-1	Introduction to Viruses; Size, Shape, Capsid, Symmetry, Viral Proteins, Envelope, Atypical Virus Like agents.
Week-2	Replication; Viral growth curve, The Growth cycle, Viral mRNA Viral Gene expression, Lysogeny. Genetics of Virus and Gene Therapy.
Week-3	Virus Genome and types of virus genomes; mutations in virus genome and types of mutations, Classification of Medically Important Viruses; DNA Viruses, RNA Viruses and their families.
Week-4	The Pathogenesis of Virus; The infected Cell, The infected Patient, Pathogenesis and Immunopathogenesis, Virulence.
Week-5	Host Defenses; Non specific Defenses, Specific Defenses; Active immunity, Passive Immunity.
Week-6	Laboratory Diagnosis of Viruses; Cell Culture, Microscopy, Serology, PCR.
Week-7	Anti Viral Drugs; Inhibition of Viral Nucleic Acid Synthesis, Inhibition of Cleavage of Precursor Polypeptides, Inhibition of Viral protein Synthesis, Inhibition of Release of Viruses.
Week-8	Viral Vaccines; Active Immunity, Passive Immunity. Corona Virus and pathology, Dengue virus and pathology
Week-9	Mid Term Examination
Week-10	Herpes Simplex Viruses; Their Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment. Varicella Zoster Viruses; Their Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment Prevention.
Week-11	Cytomegalovirus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention. Epstein Barr Virus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention.
Week-12	Adenovirus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention.
Week-13	Papillomavirus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention. Parvovirus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention.
Week-14	Influenza Virus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention. Measles Virus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention.
Week-15	Mumps Virus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention. Rabies Viruses; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention.
Week-16	Polio Virus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention. Hepatitis A Virus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention.
Week-17	Hepatitis B Virus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention. Hepatitis C Virus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention. Hepatitis D Virus; Properties, Transmission and Epidemiology, Clinical findings, Laboratory diagnosis, Treatment, Prevention.
	Final Term Examination

BOOKS

- 1- Insect Virology by Sassan Asgari and Karyn N (2010) Caister Academic Press UK.
- 2- REVIEW OF MEDICAL MICROBIOLOGY AND IMMUNOLOGY 11th EditionBy Warren Levinson (2010) MCGRAW HILL Publishers.
- 3- Medical Microbiology & Immunology: Examination & Board Review by Warren E. Levinson, Ernest Jawetz (1994) MCGRAW HILL Publishers USA