MICRO BIOLOGY

Content Of Dr. Murali Bharadwaz's E-Learning Material

Microbiology Mock test & Notes			
Topic	**Lecture**	**Duration**	**Size (MB)**
AIIMS Microbiology			
	Lec-02	0:43:28	148
	Lec-03	0:45:59	157
	Lec-04	0:39:58	136
Microbiology Test499			
	Lec-01	0:39:47	136
	Lec-02	0:37:05	127

Microbiology Notes	
Microbiology Notes	**No. of Pages = 130**

Subject Name	Lecture Number	Lecture Content	Lecture Duration	File Size
MICRO BIOLOGY	***Lec 01***	◆ Differences Between Prokaryotic and Eukaryotic cells ◆ Supravital staining ◆ Basic Fuchsin staining ◆ Nigrosin stain ◆ Gram stain ◆ Acid Fast staining ◆ Shape of Bacteria ◆ The Cell Wall ◆ Ribosomes ◆ Mesosomes (Chondroids) ◆ Intracytoplasmic Inclusions ◆ A comparison of Cell Walls of Gram Positive and Gram ◆ Slime Layer and Capsule ◆ Flagella ◆ Fimbriae ◆ Haemagglutination ◆ Pleomorphism and involutions forms ◆ Bacterial Growth Curve ◆ Lag phase ◆ Log (logarithmic) or exponential phase ◆ Stationary phase ◆ Phase of decline ◆ Factor Affecting Growth ◆ Sterilisation and disinfection ◆ Incineration ◆ Hot air oven-dry heat ◆ Moist heat	0:42:37	145
	Lec 02	◆ Coxiella burnetti ◆ Steam at atmospheric pressure (100^0C) ◆ Sterilisation Control ◆ Filtration ◆ Ionising radiation ◆ UV Radiation ◆ Alcohols ◆ Glutaraldehyde ◆ Ethylene oxide ◆ Riedel Walker test ◆ Culture Media ◆ Types of Media ◆ Enriched media ◆ Enrichment media ◆ Selective media & Indicator media ◆ Mac Conkey's medium ◆ Nagler's medium ◆ Transport media ◆ Buffered glycerol saline ◆ Culture methods ◆ Methods of isolating pure cultures ◆ Identification of Bacteria ◆ Stormy fermentation ◆ Catalase production ◆ Egg yolk reaction	0:36:11	123

Subject Name	Lecture Number	Lecture Content	Lecture Duration	File Size
MICRO BIOLOGY Bacteriology	***Lec 03***	◆ Staphylococcus ◆ Streptococcus ◆ Serological typing (M protein) Griffith types ◆ Streptococcus pyogenes	0:40:26	138
	Lec 04	◆ Impetigo ◆ ASO titers ◆ Group B ◆ CAMP positive vs CAMP negative ◆ Group D streptococcus ◆ Pneumococcus ◆ Pneumococcal Pneumonia ◆ Klebsiella Pneumonia ◆ Mycoplasmal Pneumonia ◆ Meningococci ◆ Modified Thayer-Martin	0:39:33	135
	Lec 05	◆ Gonococci ◆ Diphtheria ◆ Toxin ◆ Elek immunodiffusion test ◆ Bacillus ◆ Bacillus anthracis ◆ Anthrax	0:41:13	141
	Lec 06	◆ Clostridium ◆ Target haemolysis ◆ Food poisoning ◆ Gas gangrene ◆ Clostridium tetani ◆ Tetanolysin ◆ Tetanus ◆ Human antitetanus serum ◆ Clostridium Botulism ◆ Clostridum Difficile ◆ Antibiotic associated colitis ◆ Enterobacteriaceaae-I Coliforms and ◆ Escherichia Coli ◆ IMVic	0:34:42	129
	Lec 07	◆ E.coli verocytotoxin or verotoxin (VT) ◆ Gries's nitrite test ◆ Enteropathogenic E.coli:(EPEC) ◆ Enteropathogenic E.coli (ETEC) ◆ Enteroinvasive E.coli (EIEC) ◆ Enterohaemorrhagic E.coli (EHEC) ◆ Klebsiella ◆ Klebsiella pneumoniae ◆ Proteus ◆ Enterobacteriaceae - II Shigella ◆ Enterobacteriaceae - III Salmonella ◆ H antigen ◆ Somatic O antigen ◆ Enteric fever, V: antigen	0:38:37	135

Subject Name	Lecture Number	Lecture Content	Lecture Duration	File Size
MICRO BIOLOGY	***Lec 08***	◆ Narrow "Dryers" tube ◆ Vibrio Cholera ◆ Cholera ◆ Vibrio parahaemolyticus ◆ Vibrio vulnificus ◆ Pseudomonas ◆ Pseudomonas aeruginosa ◆ Pseudomonas mallei ◆ Yersinia pestis (Pasteurella pestis) ◆ Plague ◆ In bubonic plague ◆ Pneumonic plague ◆ Septicemic plague ◆ Haemophilus ◆ X factor ◆ V factor ◆ Satellitism' Phenomenon ◆ Levinthal's agar ◆ Filde's agar ◆ Meningitis ◆ Laryngoepiglottitis (Croup)	0:44:51	153
	Lec 09	◆ Haemophilus ducreyi ◆ Bordetella pertussis ◆ Brucellosis ◆ Mycobacterium ◆ Mycobacterium tuberculosis ◆ Mycobacterium tuberculosis Acid-fast stain ◆ Niacin test ◆ Aryl sulphatase test ◆ Neutral red test ◆ catalase-Peroxidase test ◆ Amidase test ◆ Nitrate reduction test	0:33:14	113
	Lec 10	◆ Pulmonary tuberculosis ◆ TB meningitis ◆ Atypical Mycobacteria ◆ Mycobacterium leprae ◆ Leprosy ◆ Lepromin test ◆ Borderline Tuberculoid Leprosy (BT) ◆ Differential Diagnosis of leprosy ◆ Type I: Reversal Reaction or Lepra Reaction ◆ Type 2 Reaction: Erythema Nodosum Leprosum (ENL) ◆ Lepromin test ◆ Early reaction of Fernandez ◆ Late reaction of Mitsuda ◆ Treponema ◆ Venereal syphilis ◆ Endemic syphilis ◆ Yaws ◆ Pinta ◆ Nicolle's strain ◆ Reiter's strain ◆ Syphilis, Reagin Antibody Tests ◆ Latent syphilis	0:36:00	123

Subject Name	Lecture Number	Lecture Content	Lecture Duration	File Size
MICRO BIOLOGY	***Lec 11***	◆ Primary atypical pnemonia ◆ Viral Pneumonia ◆ Cold agglutination test ◆ Ureaplasma urealyticum ◆ Actinomycetes ◆ Nocardia ◆ Madura mycosis ◆ Listeria monocytogenes ◆ Donovania Granulomatis ◆ Helicobacter pylori ◆ Legionella Pneumophila ◆ Gardnerella Vaginals ◆ Neill-Mooser or the Tunica reaction	0:41:02	140
	Lec 12	◆ General Properties of Viruses ◆ Elution ◆ Haemagglutination inhibition ◆ Elution ◆ Inoculation on the chrioallantoic membrane (CAM) ◆ Allantoic inoculation ◆ Organ culture ◆ Explant culture ◆ Cell culture ◆ Diploid cell strains ◆ Continuous cell lines ◆ Tube culture ◆ Cytopathic effect ◆ Interference ◆ DNA viruses ◆ Virus host interactions ◆ Inclusion bodies ◆ Cowdry type A inclusions ◆ Cowdry type B inclusions ◆ Translation inhibiting' protein (TIP) ◆ Alpha interferon ◆ Live vaccines-Advantages ◆ Live vaccines-Disadvantages ◆ killed vaccine-Advantages	0:10:32	36.5
	Lec 13	◆ Lysogenic or temperate cycle ◆ Latent period ◆ Lysogenic Cycle ◆ Transduction ◆ Poxviruses ◆ Orf (Contagious Pustular Dermatitis) ◆ Molluscum Contagiosum ◆ Molluscum bodies ◆ Herpes viruses ◆ Alpha herpesviridae ◆ Beta herpesviridae ◆ Herpes simplex ◆ Virus isolation ◆ Varicella-zoster	0:37:03	127

Subject Name	Lecture Number	Lecture Content	Lecture Duration	File Size
MICRO BIOLOGY	***Lec 14***	◆ Varicella (Chickenpox) ◆ Herpes zoster (Shingles, zona) ◆ Ramsay Hunt syndrome ◆ Cytomegaloviruses (CMV) ◆ Active CMV infection ◆ Nasopharyngeal carcinoma ◆ Infectious mononucleosis (Glandular fever) ◆ Orthomyxovirus ◆ Haemagglutination ◆ Antigenic Drift ◆ Von Magnus phenomenon ◆ Hepatitis viruses ◆ Hepatitis A virus (HAV) ◆ Type B hepatitis	0:38:45	132
Laboratory Diagnosis	***Lec 15***	◆ Nucleoside and nucleotide analogs (NA) ◆ Hepatitis B virus (HBV) ◆ HBcAG IgG antibody to HBc ◆ Super carriers ◆ Simple carriers ◆ Mother to child transmission ◆ HBeAG ◆ HBV DNA level in serum ◆ Type D (Delta) Hepatitis ◆ Type E Hepatitis ◆ Hepatitis G virus ◆ Specific tests for HIV infection	0:43:19	148
	Lec 16	◆ Medical Mycology ◆ Yeasts ◆ Cryptococcosis ◆ Yeastlike fungi ◆ Dimorphic fungi ◆ The systemic classifications of fungi ◆ Phycomycetes ◆ Ascomycetes ◆ Fungi imperfecti ◆ Chlamydospores' ◆ Superficial Mycoses ◆ Pityriases versicolor ◆ Tinea nigra ◆ Piedra ◆ Dermatophytoses ◆ Microsporum ◆ Epidermophyton ◆ Tinea imbricata ◆ Moccasin-type tinea pedis ◆ Tinea incognito or steroid modified tinea pedis ◆ kerion lesion caused by T. verrucosum ◆ UV light (Wood's lamp) ◆ Tinea Unguium ◆ Tinea capitis, Tinea corporis ◆ Tinea cruris,Tinea pedis ◆ Candidasis,Deep Mycoses,Subcutaneous mycoses	0:38:10	130

Subject Name	Lecture Number	Lecture Content	Lecture Duration	File Size
MICRO BIOLOGY	***Lec 17***	◆ Blastomycosis ◆ Paracoccidiomycosis ◆ Histoplasmosis ◆ Aspergillosis ◆ Mucormycosis ◆ Rhinocerebral zygomycosis ◆ Otomycosis ◆ Oculomycosis ◆ Mycotic poisoning	0:25:40	81.8
Immunology	***Lec 18***	◆ Structure of Immunoglobulines ◆ The Fc fragment ◆ IgG ◆ IgA ◆ IgM ◆ IgD ◆ IgE ◆ Cryolgobulinemia ◆ Idiotype	0:34:35	118
	Lec 19	◆ Ring Tests ◆ Slide test ◆ Tube test ◆ Elek immunodiffusion test ◆ Counter-Immunoelectrophoresis ◆ Agglutination reaction ◆ Treponema pallidum particle agglutination test (TPPA) ◆ Treponema pallidum particle agglutination (TPPA) test ◆ Weil Felix reaction ◆ Paul Bunnell test ◆ Cold agglutination test ◆ Indirect Coomb's test ◆ Passive agglutination test ◆ Warm AIHA ◆ cold AIHA or cold agglutinin disease ◆ Rose-Waaler test ◆ Complement fixation tests (CFT)	1:00:07	205
	Lec 20	◆ Advantages of CFT ◆ Opsonisation ◆ Immunofluorescence ◆ Direct immunofluorescence test ◆ Indirect immunofluorescent test ◆ Radioimmunossay (RIA) ◆ Enzyme Immuno Assays (EIAz) ◆ Immunoelectroblot techniques	0:40:38	139

Subject Name	Lecture Number	Lecture Content	Lecture Duration	File Size
MICRO BIOLOGY	***Lec 21***	◆ General properties of complement ◆ Components of complement ◆ Classical pathway ◆ Alternative C pathway ◆ Biological effects of C ◆ Structure and Functions of the Immune system ◆ Central (primary) lymphoid organs ◆ Peripheral lymphoid organs ◆ Thymus ◆ Runt disease ◆ Thymectomy ◆ Selective areas in the peripheral ◆ lymphoid organs ◆ Lymph nodes ◆ White pulp of the spleen ◆ Thymus Dependent areas ◆ Leucocyte Differentiation Antigents (A Few Examples) ◆ Extrachromosomal Genetic Elements ◆ Plasmids ◆ Transposition ◆ Mutation ◆ Transversion ◆ Transformation ◆ Transduction ◆ Conjugation ◆ The F factor ◆ Resistance transfer factor (RTF) ◆ Mutational Resistance ◆ Blotting Techniques ◆ Southern Blot ◆ Northen Blot ◆ Western Blot ◆ Distinguishing Feature of Exotoxins ad Endotoxins ◆ Biological Activities of Endotoxins ◆ Types of infectious disease ◆ Waterborne diseases ◆ Disease that spread by person - to - person contact ◆ Acute Phase Reactants ◆ Acquired Immunity ◆ Active Immunity ◆ Passive Immunity ◆ Comparison of Active and Passive ◆ Immunity ◆ Bacterial vaccines ◆ Viral vaccines ◆ Live vaccine ◆ Killed vaccine ◆ Immune system ◆ MHC Restriction ◆ Dendritic cells ◆ Langerhans cells ◆ Major Histocompatibility Complex (MHC) ◆ Class I proteins ◆ Class II proteins ◆ Class III proteins	0:41:48	143

		◆ HLA complex ◆ T cell receptor (TCR) ◆ Th1 cells ◆ Th2 cells ◆ HLA class I antigens (A,B and C) ◆ HLA class II antigen ◆ HLA typing ◆ HLA antigens ◆ Monoclonal Antibodies ◆ Hybridomas ◆ Factors influencing antibody production ◆ Sulzberger chase phenomenon ◆ Anamnestic reaction ◆ Adjuvant ◆ Scope of CMI ◆ Induction of CMI ◆ Cytokines ◆ Interleukin - I ◆ Immunological effects of IL-I ◆ Interleukin - 2 ◆ Interleukin - 3 ◆ Interleukin - 4 ◆ Interleukin - 5 ◆ Interleukin - 6 ◆ Interferons: (IFN) ◆ Detection of CMI ◆ Wiskott - Aldrich syndrome ◆ X-linked agammaglobulinemia ◆ Common variable immunodeficiency ◆ Selective immunoglobulin deficiencies ◆ Isolated IgA deficiency ◆ Ataxia telangiectasia ◆ Wiskott - Aldrich syndrome ◆ X-linked disease ◆ Swiss type agammaglobulinemia ◆ Adenosine deaminase (ADA) deficiency ◆ Chronic Granulamatous Disease ◆ Chediak - Higashi Syndrome ◆ Job's Syndrome ◆ Hyper IgE syndrome		