

Syllabus for the post of

Assistant Professor, Infectious Disease, Class-I (Advt. No. 162/2020-21)

Marks – 200

Questions – 200

Medium - English

1. MICROBIAL PATHOGENESIS

Molecular Perspective of Microbial Pathogenicity, Microbial Adherence, Toxins

2. HOST DEFENSE MECHANISMS

Innate (General or Nonspecific) Host Defense Mechanisms, Human Genetics and Infection, Antibodies, Complement, Granulocytic Phagocytes, Cell-Mediated Defense against Infection; Nutrition, Immunity, and Infection; Prebiotics, Probiotics, and Synbiotics; Evaluation of the Patient with Suspected Immunodeficiency

3. EPIDEMIOLOGY OF INFECTIOUS DISEASES

Epidemiologic Principles, Outbreak Investigation, Emerging and Reemerging Infectious Disease Threats, Hospital Preparedness for Emerging and Highly Contagious Infectious Diseases: Getting Ready for the Next Epidemic or Pandemic

4. CLINICAL MICROBIOLOGY

The Clinician and Microbiology

5. ANTI-INFECTIVE THERAPY

Principles of Anti-infective Therapy, Molecular Mechanisms of Antibiotic Resistance in Bacteria, Pharmacokinetics and Pharmacodynamics of Anti-infective Agents, Penicillin and β -Lactam Inhibitors, Cephalosporins, Carbapenems and Monobactams, β -Lactam, Fusidic Acid, Aminoglycosides, Tetracyclines and Chloramphenicol, Rifamycins, Metronidazole, Macrolides, Clindamycin, and Ketolides, Glycopeptides (Vancomycin and Teicoplanin), Streptogramins (Quinupristin- Dalfopristin), and Lipopeptides (Daptomycin), Polymyxins (Polymyxin B and Colistin), Linezolid and Other Oxazolidinones,

Sulfonamides and Trimethoprim, Quinolones, Novel Antibiotics, Urinary Tract Agents: Nitrofurantoin and Methenamine, Topical Antibacterials, Antimycobacterial Agents, Systemic Antifungal Agents, Antiviral Drugs (Other Than Antiretrovirals), Immunomodulators, Hyperbaric Oxygen, Agents Active against Parasites and Pneumocystis, Alternative Medicines for Infectious Diseases, Antimicrobial Stewardship, Interpreting the Results of Clinical Trials of Antimicrobial Agents, Outpatient Parenteral Antimicrobial Therapy, Tables of Antimicrobial Agent Pharmacology, Major Clinical syndromes

6. FEVER

Temperature Regulation and the Pathogenesis of Fever, Fever of Unknown Origin, The Acutely Ill Patient with Fever and Rash

7. UPPER RESPIRATORY TRACT INFECTIONS

The Common Cold, Pharyngitis, Acute Laryngitis, Acute Laryngotracheobronchitis (Croup, Otitis Externa, Otitis Media, and Mastoiditis, Sinusitis, Epiglottitis, Infections of the Oral Cavity, Neck, and Head

8. PLEUROPULMONARY AND BRONCHIAL INFECTIONS

Acute Bronchitis, Chronic Obstructive Pulmonary Disease and Acute Exacerbations, Bronchiolitis, Acute Pneumonia, Pleural Effusion and Empyema, Bacterial Lung Abscess, Chronic Pneumonia, Cystic Fibrosis

9. URINARY TRACT INFECTIONS

10. SEPSIS

Sepsis, Severe Sepsis, and Septic Shock

11. INTRA-ABDOMINAL INFECTION

Peritonitis and Intraperitoneal Abscesses, Infections of the Liver and Biliary System, Pancreatic Infection, Splenic Abscess, Appendicitis, Diverticulitis and Typhlitis

12. CARDIOVASCULAR INFECTIONS

Endocarditis and Intravascular Infections, Prosthetic Valve Endocarditis, Infections of Nonvalvular Cardiovascular Devices, Prevention of Infective Endocarditis, Myocarditis and Pericarditis, Mediastinitis

13. CENTRAL NERVOUS SYSTEM INFECTIONS

System Infection, Acute Meningitis, Cerebrospinal Fluid Shunt Infections, Chronic Meningitis, Encephalitis, Brain Abscess, Subdural Empyema, Epidural Abscess, and Suppurative Intracranial thrombophlebitis

14. SKIN AND SOFT TISSUE INFECTIONS

Cellulitis, Necrotizing Fasciitis, and Subcutaneous Tissue Infections, Myositis and Myonecrosis, Lymphadenitis and Lymphangitis

15. GASTROINTESTINAL INFECTIONS AND FOOD POISONING

Principles and Syndromes of Enteric Infection, Esophagitis, Nausea, Vomiting, and Noninflammatory Diarrhea, Antibiotic-Associated Colitis, Inflammatory Enteritides, Enteric Fever and Other Causes of Abdominal Symptoms with Fever, Foodborne Disease, Tropical Sprue: Enteropathy, Whipple's Disease

16. BONE AND JOINT INFECTIONS

Infectious Arthritis of Native Joints, Osteomyelitis, Infections with Prostheses in Bones and Joints

17. DISEASES OF THE REPRODUCTIVE ORGANS AND SEXUALLY TRANSMITTED DISEASES

Genital Skin and Mucous Membrane Lesions, Urethritis, Vulvovaginitis and Cervicitis, Infections of the Female Pelvis, Prostatitis, Epididymitis, and Orchitis

18. EYE INFECTIONS

Microbial Conjunctivitis, Microbial Keratitis, Endophthalmitis, Infectious Causes of Uveitis, Periocular Infections

19. HEPATITIS

Acute Viral Hepatitis, Chronic Viral Hepatitis

20. ACQUIRED IMMUNODEFICIENCY SYNDROME

Global Perspectives on Human Immunodeficiency Virus Infection and Acquired Immunodeficiency Syndrome, Epidemiology and Prevention of Acquired Immunodeficiency Syndrome and Human, Immunodeficiency Virus Infection, Diagnosis of Human Immunodeficiency Virus Infection, The Immunology of Human Immunodeficiency Virus Infection, General Clinical Manifestations of Human Immunodeficiency Virus Infection (Including the Acute Retroviral Syndrome and Oral, Cutaneous, Renal, Ocular, metabolic, and Cardiac Diseases), Pulmonary Manifestations of Human Immunodeficiency Virus Infection, Gastrointestinal and Hepatobiliary Manifestations of Human Immunodeficiency Virus Infection, Neurologic Diseases Caused by Human Immunodeficiency Virus Type 1 and Opportunistic Infections, Malignant Diseases in Human Immunodeficiency Virus Infection, Human Immunodeficiency Virus Infection in Women, Pediatric Human Immunodeficiency Virus infection, Antiretroviral Therapy for Human Immunodeficiency Virus Infection, Management of Opportunistic Infections Associated with Human Immunodeficiency Virus Infection, Vaccines for Human Immunodeficiency Virus-1 Infection

21. MISCELLANEOUS SYNDROMES

Chronic Fatigue Syndrome, Infectious Diseases and their Etiologic agents

22. VIRAL DISEASES

Introduction to Viruses and Viral Diseases, Orthopoxviruses: Vaccinia (Smallpox Vaccine), Variola (Smallpox), Monkeypox, and Cowpox, Other Poxviruses That Infect Humans: Parapoxviruses, Molluscum Contagiosum, and Yatapoxviruses, Introduction to Herpesviridae, Varicella-Zoster Virus, Cytomegalovirus, Epstein-Barr Virus (Infectious Mononucleosis, Epstein-Barr Virus–Associated Malignant Diseases, and Other Diseases), Human Herpesvirus Types 6 and 7, Kaposi's Sarcoma–Associated Herpesvirus (Human Herpesvirus Type 8), Herpes B Virus, Adenoviruses, Papillomaviruses, JC, BK, and Other Polyomaviruses: Progressive Multifocal Leukoencephalopathy, Hepatitis B Virus and Hepatitis Delta Virus, Human

Parvoviruses, Including Parvovirus B19 and Human Bocavirus, Orthoreoviruses and Orbiviruses, Coltiviruses and Seadornaviruses, Rotaviruses, Alphaviruses, Rubella Virus (German Measles), Flaviviruses (Yellow Fever, Dengue, Dengue Hemorrhagic Fever, Japanese Encephalitis, West Nile Encephalitis, St. Louis Encephalitis, Tick-Borne Encephalitis), Hepatitis C, Coronaviruses, Including Severe Acute Respiratory Syndrome (SARS)–Associated Coronavirus, Parainfluenza Viruses, Mumps Virus, Respiratory Syncytial Virus, Human Metapneumovirus, Measles Virus (Rubeola), Zoonotic Paramyxoviruses: Nipah, Hendra, and Menangle Viruses, Vesicular Stomatitis Virus and Related Vesiculoviruses, Rhabdoviruses, Marburg and Ebola Virus Hemorrhagic Fevers, Influenza Viruses, Including Avian Influenza and Swine Influenza, California Encephalitis, Hantavirus Pulmonary Syndrome, and Bunyavirid Hemorrhagic Fevers, Lymphocytic Choriomeningitis Virus, Lassa Virus, and the South American Hemorrhagic Fevers, Human T-Cell Lymphotropic Virus Types I and II, Human Immunodeficiency Viruses, Introduction to the Enteroviruses and Parechoviruses, Poliovirus, Coxsackieviruses, Echoviruses, Newer Enteroviruses, and Parechoviruses, Hepatitis A Virus, Rhinovirus, Noroviruses and Other Caliciviruses, Astroviruses and Hepatitis E Virus

23. PRION DISEASES

Prions and Prion Diseases of the Central Nervous System (Transmissible Neurodegenerative Diseases)

24. CHLAMYDIAL DISEASES

Introduction to Chlamydia and Chlamydophila, Chlamydia trachomatis (Trachoma, Perinatal Infections, Lymphogranuloma Venereum, and Other Genital Infections), Chlamydophila (Chlamydia) psittaci (Psittacosis), Chlamydophila (Chlamydia) pneumonia

25. MYCOPLASMA DISEASES

Introduction to Mycoplasma and Ureaplasma, Mycoplasma pneumoniae and Atypical Pneumonia, Genital Mycoplasmas: Mycoplasma genitalium, Mycoplasma hominis, and Ureaplasma Species

26. RICKETTSIOSES, EHRLICHIOSES, AND ANAPLASMOSIS

Introduction to Rickettsioses, Ehrlichioses, and Anaplasmosis; *Rickettsia rickettsii* and Other Spotted Fever Group Rickettsiae (Rocky Mountain Spotted Fever and Other Spotted Fevers), *Rickettsia akari* (Rickettsialpox), *Coxiella burnetii* (Q Fever), *Rickettsia prowazekii* (Epidemic or Louse-Borne Typhus), *Rickettsia typhi* (Murine Typhus), *Orientia tsutsugamushi* (Scrub Typhus), *Ehrlichia chaffeensis* (Human Monocytotropic Ehrlichiosis), *Anaplasma phagocytophilum* (Human Granulocytotropic Anaplasmosis), and Other Anaplasmataceae

27. BACTERIAL DISEASES

Introduction to Bacteria and Bacterial Diseases, *Staphylococcus aureus* (Including Staphylococcal Toxic Shock), *Staphylococcus epidermidis* and Other Coagulase-Negative Staphylococci, Classification of Streptococci, *Streptococcus pyogenes*, Nonsuppurative Poststreptococcal Sequelae: Rheumatic Fever and Glomerulonephritis, *Streptococcus pneumoniae*, Enterococcus Species, *Streptococcus bovis* Group, and *Leuconostoc* Species, *Streptococcus agalactiae* (Group B Streptococcus), Viridans Streptococci, Groups C and G Streptococci, and *Gemella* Species, *Streptococcus anginosus* Group, *Corynebacterium diphtheriae*, *Listeria monocytogenes*, *Bacillus anthracis* (Anthrax), *Bacillus* Species and Related Genera Other than *Bacillus anthracis*, *Erysipelothrix rhusiopathiae*, *Neisseria meningitidis*, *Neisseria gonorrhoeae*, *Moraxella catarrhalis*, *Kingella*, and Other Gram-Negative Cocci, *Vibrio cholerae*, Other Pathogenic *Vibrios*, *Campylobacter jejuni* and Related Species, *Helicobacter pylori* and Other Gastric *Helicobacter* Species, Enterobacteriaceae, *Pseudomonas aeruginosa*, *Stenotrophomonas maltophilia* and *Burkholderia cepacia* Complex, *Burkholderia pseudomallei* and *Burkholderia mallei*: Melioidosis and Glanders, *Acinetobacter* Species, *Salmonella* Species, Including *Salmonella Typhi*, *Shigella* Species (Bacillary Dysentery), *Haemophilus* Species (Including *H. influenzae* and Chancroid), *Brucella* Species, *Francisella tularensis* (Tularemia), *Pasteurella* Species, *Yersinia* Species, Including Plague, *Bordetella pertussis*, Rat-Bite Fever: *Streptobacillus moniliformis* and *Spirillum minus*, *Legionella*, Other *Legionella*

Species, Capnocytophaga, Bartonella, Including Cat-Scratch Disease, Klebsiella granulomatis (Donovanosis, Granuloma Inguinale), Other Gram-Negative and Gram-Variable Bacilli, Treponema pallidum (Syphilis), Endemic Treponematoses, Leptospira Species (Leptospirosis), Borrelia Species (Relapsing Fever), Borrelia burgdorferi (Lyme Disease, Lyme Borreliosis), Anaerobic Infections: General Concepts, Clostridium tetani (Tetanus), Clostridium botulinum (Botulism), Gas Gangrene and Other Clostridium-Associated Diseases, Bacteroides, Prevotella, Porphyromonas, and Fusobacterium Species (and Other Medically Important Anaerobic Gram-Negative Bacilli), Anaerobic Cocci, Anaerobic Gram-Positive Nonsporulating Bacilli, Mycobacterium tuberculosis, Mycobacterium leprae, Mycobacterium avium Complex, Infections Due to Nontuberculous Mycobacteria Other than Mycobacterium avium-intracellulare, Nocardia Species, Agents of Actinomycosis

28. MYCOSES

Introduction to Mycoses, Candida Species, Aspergillus Species, Agents of Mucormycosis and Entomophthoromycosis, Sporothrix schenckii, Agents of Chromoblastomycosis, Agents of Mycetoma, Cryptococcus neoformans, Histoplasma capsulatum, Blastomyces dermatitidis, Coccidioides Species Dermatophytosis and Other Superficial Mycoses, Paracoccidioides brasiliensis, Uncommon Fungi and Prototheca, Pneumocystis Species, Microsporidiosis

29. PROTOZOAL DISEASES

Introduction to Protozoal, Entamoeba Species, Including Amebiasis, Free-Living Amebas, Plasmodium Species (Malaria), Leishmania Species: Visceral (Kala-Azar), Cutaneous, and Mucosal Leishmaniasis, Trypanosoma Species (American Trypanosomiasis, Chagas' Disease): Biology of Trypanosomes, Agents of African Trypanosomiasis (Sleeping Sickness), Toxoplasma gondii, Giardia lamblia, Trichomonas vaginalis, Babesia Species, Cryptosporidium Species, Cyclospora cayentanensis, Isospora belli, Sarcocystis Species, Balantidium coli, and Blastocystis hominis

30. DISEASES DUE TO TOXIC ALGAE

Human Illnesses Associated with Harmful Algal Blooms

31. DISEASES DUE TO HELMINTHS

Introduction to Helminth Infections, Intestinal Nematodes (Roundworms), Tissue Nematodes, Including Trichinellosis, Dracunculiasis, and the Filariases, Trematodes (Schistosomes and Other Flukes), Cestodes (Tapeworms), Visceral Larva Migrans and Other Unusual Helminth Infections

32. ECTOPARASITIC DISEASES

Introduction to Ectoparasitic Diseases, Lice (Pediculosis), Scabies, Myiasis and Tungiasis, Mites, Including Chiggers, Ticks, Including Tick Paralysis

33. DISEASES OF UNKNOWN ETIOLOGY

Kawasaki Syndrome, Special problems

34. NOSOCOMIAL INFECTIONS

Organization for Infection Control, Isolation, Disinfection, Sterilization, and Control of Hospital Waste, Infections Caused by Percutaneous Intravascular Devices, Nosocomial Pneumonia, Nosocomial Urinary Tract Infections, Nosocomial Hepatitis and Other Transfusion- and Transplantation-Transmitted, Infections, Human Immunodeficiency Virus in Health Care Settings, Nosocomial Herpesvirus Infections

35. INFECTIONS IN SPECIAL HOSTS

Infections in the Immunocompromised Host: General Principles, Prophylaxis and Empirical Therapy of Infection in Cancer Patients, Risk Factors and Approaches to Infections in Transplant Recipients, Infections in Recipients of Hematopoietic Cell Transplantation, Infections in Solid Organ Transplant Recipients, Infections in Patients with Spinal Cord Injury, Infections in the Elderly, Infections in Asplenic Patients, Infections in Injection Drug Users

36. SURGICAL AND TRAUMA-RELATED INFECTIONS

Surgical Site Infections and Antimicrobial Prophylaxis, Burns, Bites

37. IMMUNIZATION

38. BIODEFENSE

Bioterrorism: An Overview, Plague as a Bioterrorism Weapon, *Francisella tularensis* (Tularemia) as an Agent of Bioterrorism, Smallpox as an Agent of Bioterrorism, Anthrax as an Agent of Bioterrorism, Botulinum Toxin as a Biological Weapon, Viral Hemorrhagic Fevers as Agents of Bioterrorism

39. ZONOOSES

40. PROTECTION OF TRAVELERS

Infections in Returning Travelers

41. Antimicrobials

Beta lactams, Carbapenems, Other antibacterial agents, Antifungal agents, Antiviral agents, Antiparasitic agents (protozoa, metazoa), Microbiologic techniques (blood cultures, etc.), Components of human immunity to microbes, Fever, thermoregulation, FUO, *Staphylococcus* sp., infections related thereto, *Streptococcus* sp., infections related thereto, Other Gram positive organisms, infections, Gram negative organisms; anaerobic organisms and their infections, Miscellaneous bacteria (*Legionella* sp., Actinomycetales), *Mycobacteria* sp., Fungal infections (systemic, cutaneous; normal and compromised hosts), Viral infections, RNA, DNA, Chronic Fatigue Syndrome/p>, HIV-1 infection, pathogenesis, complications, Prion diseases, *Mycoplasma*, Chlamydial infections, Rickettsioses, Spirochetal infections (syphilis, Lyme disease, etc.), Protozoa, Metazoa, Health Care-associated Infections, Infections in compromised hosts (transplant, neutropenia), Travel Medicine; bioterrorism, STDs - ulcerative, vaginitis, Prostatitis, epididymitis, orchitis, Systemic Inflammatory Response Syndrome (SIRS) due to infection (sepsis), Infective endocarditis and intra-vascular infections, Ophthalmologic, ENT infections and URIs, Bronchitis, community-acquired pneumonias (CAP),

and pleural infections, Hepatitis (A to G), Abdominal infections (biliary, abscesses, peritonitis), Diarrhea, food poisoning, C difficile infection, Whipple's Disease, Urinary tract infections (upper and lower tract), Encephalitis, meningitis, brain abscess, CSF shunt infections, Cellulitis, soft tissue infections, Osteomyelitis, septic arthritis, OB/GYN infections⁴⁵.
Pediatric infections, Immunizations, Antibiotic prophylaxis

42. RESEARCH METHEDODOLOGY.

43. MEDICO LEGAL ASPECTS RELEVANT TO THE DISCIPLINE.

44. INDIAN MEDICAL COUNCIL (PROFESSIONAL CONDUCT, ETIQUETTE AND ETHICS) REGULATIONS, 2002.

45. CURRENT TRENDS AND RECENT ADVANCEMENTS IN THE FIELD OF INFECTIOUS DISEASE.