

# CLASS REVIEW SESSION IV

- I. SCOPE AND HISTORY
  - NAMES, DATES AND DISCOVERIES
  - PROKARYOTES: BACTERIA AND ARCHAEA; VIRUSES
  - THE BACTERIAL CELL & MACROMOLECULES
- II. MICROSCOPY AND STAINING
  - THE LIGHT MICROSCOPE
  - SIMPLE, DIFFERENTIAL & SPECIAL STAINS
  - THE GRAM & ACID-FAST STAINS
- III. PROKARYOTES VS. EUKARYOTES
  - ORGANELLES & ORGANIZATION
  - MOLECULAR BIOLOGY
- IV. BACTERIAL MORPHOLOGY
  - THE CYTOSOL
  - APPENDAGES
  - THE ENVELOPE
    - THE GRAM POSITIVE CELL
    - THE GRAM NEGATIVE CELL
    - THE ACID-FAST CELL
- V. NUTRITION & GROWTH
  - REQUIREMENTS, TROPHISMS, MEDIA & GROWTH CURVES
- VI. METABOLISM: AN OVERVIEW
  - GLYCOLYSIS, TCA CYCLE, ELECTRON TRANSPORT FERMENTATIONS (VS. RESPIRATION)
  - ANABOLIC PATHWAYS & FEEDBACK INHIBITION
- VII. BACTERIAL GENETICS & GENETIC MANIPULATIONS
  - MOLECULAR BIOLOGY
    - REPLICATION, TRANSCRIPTION, TRANSLATION
  - DNA TRANSFERS
    - TRANSFORMATION
    - TRANSDUCTION
    - CONJUGATION
- VIII. THE BACTERIA (EUBACTERIA)
  - PROTEOBACTERIA
  - GRAM POSITIVE BACTERIA
  - CHLAMYDIA & SPIROCHETES
- IX. VIRUSES
  - CHARACTERISTICS
  - PHAGE & PLANT VIRUSES
  - HUMAN (ANIMAL) VIRUSES
    - 4 DNA & 6 RNA VIRUS FAMILIES
  - SUBVIRAL PARTICLES
- X. DISEASE AND VIRULENCE
  - PARASITES
  - NORMAL FLORA & PATHOGENS
  - VIRULENCE FACTORS
- XI. HOST DEFENSES
  - PRIMARY BARRIERS
  - SECONDARY DEFENSES

- XII. IMMUNOLOGY
    - TYPES OF IMMUNITY
    - DUALITY OF THE IMMUNE RESPONSE
    - ANTIBODY STRUCTURE & FUNCTION
    - VACCINES
  - XIII. ANTIBIOTICS
    - CELL WALL
    - PROTEIN SYNTHESIS
    - ANTIMETABOLITES
  - XIV. BACTERIAL & VIRAL DISEASES
    - SKIN & EYES
    - THE NERVOUS SYSTEM
    - CIRCULATORY
    - RESPIRATORY
    - UROGENITAL DISEASES (STDS)
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- I. DISEASE OF THE DIGESTIVE SYSTEM
  - FOOD POISONINGS
  - HEPATITIS VIRUSES & DISEASE
- II. ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)
  - HIV-1: A LENTIVIRUS
  - LIFE CYCLE (WHAT ENZYMES ?)
  - TRANSMISSION, LATENCY, PROGRESSION
  - TREATMENTS - AZT, PROTEASE INHIB.
  - PREVENTION (EDUCATION)
- III. PRION DISEASES
  - HUMAN AND ANIMAL DISEASES (CJD, KURU, ETC.)
  - TRANSMISSION, SPORATIC AND GENITIC FORMS
  - THE PRION PROTEIN IN ALL MAMMALS
  - PATHOGENIC CONFORMATIONAL FORM OF PROTEIN
  - SYMPTOMS - A FATAL NEUROLOGICAL DISEASE
- IV. NOSOCOMIAL INFECTIONS
  - INCIDENCE & SURVEILLANCE
  - BACTERIA - E. COLI & STAPH. AUREUS
  - EPIDEMIOLOGY
    - SOURCE & TRANSMISSION
    - HOST SUSCEPTIBILITY
  - PREVENTION AND CONTROL
- V. FOOD MICROBIOLOGY
  - EXAMINATION OF FOODS (CANNING, FRESH FOODS)
  - FOOD-BORNE DISEASES
    - "TRUE" TOXINOSES (E.G., STAPHYLOCOCCUS)
    - OTHER FOOD POISONINGS-CLOSTRIDIAL, CHOLERA
    - GASTROENTERITIS - BACTERIAL & VIRAL
  - FOOD SPOILAGE
    - CLOSTRIDIUM & BACILLUS (CANNED FOOD)
    - PSEUDOMONAS SPP., ERWINIA SPP.
      - (FRUITS & VEGETABLES)
    - STAPHYLOCOCCUS & ENTERICS (MEATS & MILK)
    - LACTIC ACID BACTERIA (MILK)
    - MOLDS & BACILLUS (CEREALS)