(5) *Salmonella* O and H antigens	2.0
(6) Influenza virus hemagglutinin and neuraminidase	2.8
(7) Rhinovirus capsid protein	2.5
(8) HIV envelope proteins	3.0
(9) HCV envelope proteins	2.0
h. Explain how cytokine "decoy" receptors (or cytokine decoys) produced by some viruses enhance their virulence.	2.0
i. List several viruses that produce cytokine decoys and the host cytokines that are targeted.	1.0
j. Explain what "virokines" are and how they enhance the ability of some viruses to evade the host immune response.	1.0
k. Describe several mechanisms used by viruses to evade the anti-viral interferon response.	2.0
l. Explain how HIV- and CMV-mediated downregulation of MHC class I expression enhances their ability to evade the host immune response.	2.0
m. List several viruses that produce syncytia and how this mechanism of cell-to-cell spread enhances their ability to evade the host immune response.	3.0
n. Explain how HIV infection of T cells affects the host immune response to this virus and other infectious agents.	3.0
o. Explain what is meant by "immune privileged" sites in the body and list several viruses that exhibit a tropism for these sites.	1.0
p. Describe several mechanisms used by viruses to produce persistent infections.	2.0
q. Describe the mechanism by which herpesviruses produce a latent infection in their host and how this contributes to their ability to evade the host immune response.	3.0
r. Describe how "immune tolerance" is developed in neonates infected with hepatitis B virus, rubella virus, or CMV and the effects on the infant.	2.0
s. Compare and contrast the mechanisms of persistence for HBV and HIV.	1.0
t. Compare and contrast the mechanisms of persistence for HBV and HCV.	1.0
u. Explain why prion diseases do not induce a host immune response.	1.0
v. Explain how antigenic shift and antigenic drift contribute to the ability of influenza virus to evade the host immune response.	3.0
w. Explain how viral "quasispecies" are generated and how this contributes to the ability of some viruses to evade the host immune response.	3.0
7. Transmissability	
a. Define/Describe and give examples of the following modes of transmission of infectious agents:	
(1) Person-to-person	2.7
(2) Nosocomial/Hospital-acquired	2.7
(3) Endogenous infection	2.7
(4) Percutaneous/blood-associated	2.7
(5) Fomites	2.7
(6) Soil	2.3
(7) Vertical transmission	2.7
(8) Horizontal transmission	2.7
(9) Aerosols	2.7
(10) Food, water	2.7
(11) Zoonotic	2.7
(12) Sexual contact	2.7
(13) Fecal-oral	2.7
b. Describe structural features of viruses that often affect their stability in the environment and mode of transmission.	3.0
c. List the major sites of entry for infectious agents into the body and the barriers they must overcome at these sites to survive.	3.0
d. Describe conditions that enhance the transmission of infectious agents from person-to-person via non-sexual modes.	3.0
e. Define "reservoir" and "vector" in the context of zoonoses.	3.0
f. Define self-limited vs. resolution of infection vs. chronic infection.	3.0
g. Describe the steps that occur in an acute, self-limiting infection with respect to the pathogen,	

pathogenesis, and host immune response.	2.0
h. List several infectious agents that cause acute, self-limiting infections in healthy, immunocompetent hosts.	3.0
i. List several infectious agents that cause acute, self-limiting infections in healthy, immunocompetent hosts, but can cause persistent infections in immunocompromised/immuno-immature hosts.	3.0
j. Compare and contrast the major characteristics of a chronic viral infection vs. a latent viral infection.	3.0
k. List several infectious agents that can produce chronic infections.	3.0
l. Describe the roles of humoral vs. cell-mediated immune responses in mediating clearance of different types of viruses.	3.0
m. Explain what is meant by the term "chronic carrier" and list examples of infectious agents that can induce this state in human hosts.	3.0
n. List an example of a slow virus and explain how slow virus infections are defined.	2.5
D. TREATMENT AND PREVENTION	
1. Pharmacotherapy – Antibacterial Agents	
a. Differentiate bacteriostatic and bactericidal anti-bacterial agents and give examples of each.	3.0
b. Describe major classes of antibacterial agents based on their mechanisms of action.	3.0
c. What is the most important structural feature of penicillins and cephalosporins?	1.7
d. What is their mechanism of action?	3.0
e. Describe the spectrum of activity of penicillin.	2.3
f. What is the source of bacterial resistance to penicillin?	3.0
g. Name several penicillins that have been developed to overcome this resistance and describe how that has been done.	3.0
h. Name several penicillins (beta-lactam antibiotics) that have been developed to overcome this resistance	3.0
i. Describe how that has been done.	1.3
j. What has been done to develop extended spectrum penicillins?	1.7
k. What is the major side effect of penicillins and why is their toxicity generally limited?	3.0
l. Describe the spectrum of activity of the various generations of cephalosporins.	1.3
m. What is the mechanism of action of vancomycin?	3.0
(1) Against what organisms is it the antibiotic of choice?	2.3
(2) Describe the toxicity of vancomycin.	2.0
n. Describe the mechanism of action and spectrum of activity of daptomycin.	1.7
o. Name antibacterial agents whose activity depends on inhibition of nucleotide synthesis.	3.0
p. Describe the toxicities seen with sulfonamides.	2.0
q. Explain the usage of the sulfamethoxazole-trimethoprim combination.	3.0
r. Name the group of antibacterial agents active through inhibition of DNA synthesis.	3.0
s. What is the spectrum of activity and toxicities of the fluoroquinolones?	2.5
t. Describe the mechanism of action, spectrum of activity, and toxicity of metronidazole.	2.5
u. Name an antibacterial agent that acts through inhibition of RNA synthesis.	3.0
v. In which infections is rifampin used?	2.0
w. Name an antibacterial agent that acts in the early translation steps of bacterial protein synthesis.	2.5
x. Describe the mechanism of action, spectrum of activity, and toxicities of aminoglycosides.	2.5
y. Which antibacterial agent is especially useful against intracellular organisms?	3.0
z. Describe the mechanism of action, spectrum of activity, and toxicity of the tetracyclines.	3.0
aa. What are the adverse effects that have led to decreased usage of chloramphenicol?	3.0
bb. Name the macrolide antibiotics and their specific usages.	3.0
cc At what step in bacterial protein synthesis are they active?	2.0
dd. What is the reason for their numerous drug interactions?	2.5
ee. What is the major adverse effect of clindamycin?	2.5
2. Pharmacotherapy – Antiviral Agents	
a. What steps in the process of viral pathogenesis are targets of antiviral agents?	3.0
b. Name a group of natural antiviral compounds.	3.0
c. Describe the clinical uses and antiviral effects of the Type I and Type II interferons.	3.0

d. Describe the mechanism of action and clinical usage and amantidine and rimantidine.	2.0
e. How does Pleconaril exert its antiviral effect on enteroviruses?	3.0
f. Name antiviral agents that act through inhibition of DNA polymerase.	3.0
g. Why are acyclovir and its related drugs relatively nontoxic?	3.0
h. Describe the mechanism of action of the reverse transcriptase inhibitors, their usages and side effects.	3.0
i. What is the role of protease inhibitors in antiretroviral therapy?	2.0
j. Name two neuraminidase blockers in current usage and show how they are useful.	3.0
k. Describe the mechanism of action of ribavirin and the areas of its usage.	3.0
l. How does foscarnet exert its antiviral effects?	2.0
m. Describe the mechanisms and usage of adefovir, tenofovir, and cidofivir.	1.0
3. Pharmacotherapy – Antifungal Agents	
a. Name the targets of attack for current antifungal agents.	3.0
b. What antifungal drug has been used in most severe life-threatening fungal infections? Why is its usage currently decreasing?	3.0
c. What related drug is clinically useful only in Candida albicans infections of skin, mucous membranes, and GI infections?	3.0
d. Describe the mechanism of action, clinical uses, and side effects of the azoles and allylamines.	2.0
e. Name the class of antifungal agents that attacks fungi at the cell wall. How are they used.	2.0
f. Name the antifungal agent that is now used almost exclusively for dermatophyte infections of the hair and explain its mechanism of action.	3.0
4. Pharmacotherapy – Antiparasitic Agents	
a. Explain why the choice of antiparasitic drugs is limited.	1.0
b. Describe the mechanism of action and usage of metronidazole.	3.0
c. What drug is used for asymptomatic amoebiasis?	2.0
d. Explain the usage of nifurtimox and allopurinol for trypanosomiasis.	1.0
e. How are the pentavalent antimonials effective in leishmaniasis?	1.0
f. Name the current recommended drugs for malaria and explain their mechanisms.	2.0
g. Explain the mechanism of sulfamethoxazole/trimethoprim in parasitic diseases.	2.0
h. Explain the mode of action of antibacterial agents in parasitic diseases.	2.0
i. Explain the usage of the benzimidazoles and ivermectin in helminth infections.	2.0
5. Vaccines	
a. Explain the origin of the term “vaccination”.	1.5
b. Describe the types of vaccines and explain their differences in effectiveness.	3.0
c. Name 2 inactivated viral vaccines currently in use.	3.0
d. What attenuated bacterial vaccine is recommended throughout the world with the exception of the US and the Netherlands?	2.5
e. Name several live attenuated viral vaccines in current use.	3.0
f. Describe the advantages and disadvantages of the oral polio vaccine.	3.0
g. Name two bacterial polysaccharide vaccines and explain their disadvantages.	3.0
h. How has the immunogenicity of *Hemophilus influenza* vaccine been enhanced?	2.5
i. Name two bacterial toxoid vaccines.	3.0
j. What type of vaccine is the current pertussis vaccine?	2.5
k. Give an example of a viral component vaccine in current use.	3.0
l. Explain the concept of recombinant vaccines.	2.0
DIVISION II: SYSTEMS-BASED DISEASES	
A. UPPER RESPIRATORY TRACT INFECTIONS	
1. Rhinitis	
a. Define rhinitis	3.0
b. Name the two types of viruses that cause most cases of rhinitis	2.0
c. Identify the characteristics of each virus	2.0
d. Describe the attachment mechanisms of each virus	3.0
e. Describe the means by which the viruses are spread	1.0

f. Identify the major host defenses preventing infection by these viruses	1.0
g. Identify treatment recommended for rhinitis	3.0
h. What are important causes of rhinitis (rhinoviruses, coronaviruses)?	3.0
2. Pharyngitis	
a. Define pharyngitis	3.0
b. Name the viruses that cause pharyngitis	2.0
c. Identify the characteristics of each of these viruses	2.0
d. Describe the means by which the viruses are spread	3.0
e. Identify sites other than the pharynx that may be associated with pharyngitis caused by some of these viruses	3.0
f. Describe treatment for viral pharyngitis	1.0
g. Name the most common cause of bacterial pharyngitis	3.0
h. Identify the virulence factors of this species	3.0
i. Describe the method of diagnosing bacterial pharyngitis	3.0
j. Describe the normal reservoir of this species	3.0
k. Identify the complications of infection by this species	3.0
l. Describe the events that lead to the complications	2.5
m. Identify the antibiotic(s) used to treat bacterial pharyngitis	3.0
n. List important causes of pharyngitis	3.0
1) Viral	
a) Rhinoviruses	
b) Adenoviruses	
c) Coronaviruses	
d) Epstein Barr virus	
2) Bacterial	
a) *Streptococcus pyogenes*	
b) *Corynebacterium diphtheria*	3.0
c) *Neisseria gonorrhoeae*	1.0
3. Sinusitis	2.0
a. Define sinusitis	
b. Name the three major bacterial causes of sinusitis	2.5
c. Identify the characteristics of each of these bacteria	2.5
d. Identify the virulence factors of these bacteria	2.5
e. Describe the normal reservoir of the bacteria	3.0
f. Identify the major host defenses that protect against infection by these bacteria	2.0
g. Identify factors that predispose a patient to sinusitis	1.5
h. Identify the major complication of sinusitis	2.0
i. Identify the treatment recommended for sinusitis	2.0
j. Important causes of sinusitis	
1) *Streptococcus pneumonia*	3.0
2) *Haemophilus influenzae*	3.0
3) *Moraxella catarrhalis*	2.0
4. Otitis media	
a. Define otitis media	3.0
b. Name the three major bacterial causes of otitis media	2.5
c. Identify the characteristics of each of these bacteria	2.5
d. Identify the virulence factors of these bacteria	2.5
e. Describe the normal reservoir of the bacteria	3.0
f. Identify the major host defenses that protect against infection by these bacteria	1.5
g. Identify factors that predispose a patient to otitis media	2.0
h. Identify the major complication of otitis media	2.5
i. Identify the treatment recommended for otitis media	2.0
j. Important causes of otitis media	
1) *Streptococcus pneumonia*	3.0
2) *Haemophilus influenza*	3.0

3) *Moraxella catarrhalis*	2.0
B. LOWER RESPIRATORY TRACT INFECTIONS	
1. Bronchitis	
a. Define bronchitis	3.0
b. List the types of infectious agents that are involved in most cases of bronchitis	3.0
c. Identify the clinical presentation associated with each infectious agent	1.0
d. Identify the characteristics of each etiologic agent	2.0
e. Describe the attachment mechanisms of each etiologic agent	1.0
f. Describe the major virulence factors and mechanism of pathogenesis of each infectious agent	1.0
g. Describe the means by which the etiologic agents are spread	3.0
h. Identify the major host defenses preventing infection by these agents	2.0
i. Identify treatment recommended for bronchitis	1.0
j. Important causes of bronchitis	
1) Bacterial	
a) *Bordetella pertussis*	
b) *Mycoplasma pneumoniae*	
c) *Chlamydophlia pneumoniae*	
2) Viral	
a) Influenza virus	
b) Adenovirus	
c) Respiratory syncytial virus (RSV)	
2. Bronchiolitis	
a. Define bronchiolitis	3.0
b. Name the viruses that cause bronchiolitis	3.0
c. Identify the characteristics of each of these viruses	2.0
d. Describe the major virulence factor(s) and mechanism(s) of pathogenesis of each virus	1.0
e. Describe the means by which the viruses are spread	3.0
f. Describe treatment for viral pharyngitis	1.0
g. Name the most common cause of bacterial bronchiolitis	2.0
h. Identify the clinical presentation associated with each bacterium	1.0
i. Describe the method of diagnosing bacterial bronchiolitis	2.0
j. Describe the major virulence factors and mechanism of pathogenesis of each infectious agent	1.0
k. Describe the normal reservoir of this species	3.0
l. Identify the complications of infection by this species	2.0
m. Describe the events that lead to the complications	2.0
n. Identify the antibiotic(s) used to treat bacterial bronchiolitis	1.0
o. Important causes of bronchiolitis	
1) Bacterial	
a) *Mycoplasma pneumoniae*	
b) *Bordetella pertussis*	
2) Viral	
a) Respiratory syncytial virus	
3. Pneumonia	
a. Define pneumonia	3.0
b. Differentiate between chronic and acute pneumonia	1.5
c. Name the major etiologic agents of pneumonia	3.0
d. Describe the normal reservoir of these etiologic agents	3.0
e. Identify the clinical presentation associated with each infectious agent	2.5
f. List pneumonia agents suggested by environmental history	3.0
g. Discuss the differential diagnosis of cavitary lesion on chest radiograph	2.0
h. Identify the characteristics of each etiologic agent	2.5
i. Describe the attachment mechanisms of each etiologic agent	1.5
j. Describe the major virulence factors and mechanism of pathogenesis of each infectious agent	2.5

k. Describe the means by which the etiologic agents are spread	3.0
l. Identify the major host defenses preventing infection by these agents	2.0
m. Identify factors that predispose a patient to pneumonia	3.0
n. Identify treatment recommended for pneumonia	3.0
o. Important causes of pneumonia	
1) Bacterial	
(a) *Streptococcus pneumoniae*	3.0
(b) *Legionella pneumoniae*	3.0
(c) *Mycoplasma pneumoniae*	3.0
(d) *Mycobacterium tuberculosis*	3.0
(e) *Bacillus anthracis*	2.0
(f) *Chlamydia psittaci*	2.0
(g) *Rickettsia*	1.5
(h) *Coxiella burnetti*	1.5
(i) *Klebsiella*	2.5
(j) *Pseudomonas* (COPD, cystic fibrosis)	3.0
2) Fungal	
(a) *Histoplasma capsulatum*	2.0
(b) *Coccidioides immitis*	2.0
(c) Pneumocystis jiroveci	3.0
(d) *Blastomyces dermatitidis*	2.0
3) Viral	
(a) Respiratory syncytial virus	3.0
(b) Influenza virus	3.0
(c) Severe Acute Respiratory Syndrome Coronavirus	1.5
(d) Human metapneumovirus	1.5
(e) Bunyaviridae (Hantavirus pulmonary syndrome)	1.5
a. Adenovirus	2.5
C. CARDIAC INFECTIONS	
1. Endocarditis	
a. Name the organisms that commonly cause endocarditis.	3.0
b. Explain the epidemiologic factors (exposure, portal of entry) underlying specific etiologies in particular patients (i.e., Strep or Staph are common causes due to repeated transient exposure from the normal flora of the patient, for instance transient viridans Strep viremia associated with brushing teeth or dental work; Candida and other infectious agents associated with prosthetic valves or injection drug users; etc..)	3.0
c. Describe the "vegetative" lesions associated with endocarditis and explain how such lesions contribute to the diagnosis (persistently positive blood cultures, mass on valves by echocardiogram) and affect therapeutic options (choice of bacteriostatic versus bactericidal antibiotic therapy, etc.)	2.5
d. Explain how laboratory procedures could distinguish between these various organisms.	3.0
e. What clinical sample would be used, what lab procedures, which selective & differential media, and which biochemical assays would be necessary to distinguish between these pathogens?	3.0
f. What are important virulence factors for these pathogens? How do these factors contribute to the virulence of the organisms?	3.0
g. Important causes of endocarditis	
1) Streptococci	3.0
2) Pneumococci	2.5
3) Enterococci	3.0
4) Staphylococci	3.0
5) Gram (-) bacilli	2.0
6) Candida	1.5
7) Other microbes	1.5
2. Myocarditis	

a. Name the most common infectious cause of myocarditis.	2.5
b. Describe the epidemiology and pathogenesis of coxsackievirus infections and explain why most coxsackievirus infections are subclinical.	2.0
c. What is the protective acquired immune response that prevents disease in most people infected with this virus and how does the timing of this immune response correlate with symptomatic versus nonsymptomatic infection?	1.0
d. Important causes of myocarditis	
1) Coxsackieviruses	
2) Many other infectious agents	
D. GASTROINTESTINAL INFECTIONS	
1. Gastroenteritis	
a. Define diarrhea.	3.0
b. Differentiate gastroenteritis and enterocolitis.	3.0
c. Name the most common cause of diarrhea in infants.	3.0
d. Describe the clinical findings in acute gastroenteritis.	3.0
e. Differentiate an invasive infection vs. a toxin-mediated illness based on clinical findings.	3.0
f. Describe the two main modes for transmitting infectious agents that cause gastroenteritis and diarrhea.	3.0 3.0
g. Describe the pathogenesis of bacterial diarrhea.	2.5
h. Explain the mechanisms of damage from enterotoxins, cytotoxins, and invasive organisms.	2.5
i. Differentiate bacterial and viral causes of gastroenteritis based on clinical findings.	3.0
j. Describe the diagnostic techniques used to identify organisms causing gastroenteritis.	3.0
k. Describe the recommended treatment for gastroenteritis.	
l. Important causes of gastroenteritis	
1) Bacteria	3.0
a) *E. coli*	3.0
b) *Shigella sp.*	3.0
c) *V. cholerae*	2.0
d) *V. parahemolyticus*	3.0
e) *C. difficile*	3.0
f) *Salmonella sp.*	1.0
g) *Yersinia sp.*	3.0
h) *C. perfringens*	
2) Viruses	3.0
a) Norovirus	3.0
b) Rotavirus	
3) Parasites	2.0
a) *Entamoeba histolytica*	2.5
b) *Giardia lamblia*	2.5
c) *Cryptosporidium*	
2. Hepatitis	
a. Define hepatitis.	3.0
b. Define jaundice.	3.0
c. Describe the symptoms and laboratory findings in hepatitis.	3.0
d. Describe the mechanism of liver damage in hepatitis.	3.0
e. Name the potential long-term sequelae of hepatitis.	3.0
f. Name several external factors that greatly accelerate microbe-induced liver damage.	2.0
g. What is the fatality rate of fulminant hepatitis?	1.0
h. For the following hepatotropic viruses describe the basic viral properties, principal routes of infection, global prevalence, potential to establish chronic infections, clinical symptoms, means of diagnosis including serologic markers, treatment options, and availability of vaccines:	3.0
1) Hepatitis A Virus (HAV; Picornavirus)	3.0
2) Hepatitis B Virus (HBV; Hepadnavirus, Pararetrovirus)	3.0

3) Hepatitis C Virus (HCV; Flavivirus)	3.0
4) Hepatitis D Virus (HDV; Unclassified defective virus, needs HBV helper)	3.0
5) Hepatitis E Virus (HEV; Unclassified – Calicivirus-like)	3.0
6) Yellow Fever Virus (YFV; Flavivirus)	2.0
i. Name several additional viruses that may target the liver.	2.0
j. Name 2 spirochetes that may target the liver.	2.0
k. Name 2 parasites that may target the liver	
3. Other food/water-borne diseases	3.0
a. Typhoid fever	3.0
b. *Campylobacter jejuni* infection	2.5
c. Botulism	2.5
d. Infant botulism	3.0
e. *Staphylococcus aureus* infection	
4. Oral/oral diseases	3.0
a. *Helicobacter*	
E. GENITOURINARY INFECTIONS	
1. Urinary Tract: Cystitis; Pyelonephritis	
a. Define cystitis and pyelonephritis	3.0
b. Distinguish acute from chronic pyelonephritis	1.5
c. List the most common causes of community-acquired v. nosocomial urinary tract infections (UTIs)	3.0
d. Explain the routes of transmission of agents of UTIs	3.0
e. Describe the primary virulence factors of bacterial agents of UTIs	2.0
f. Identify the major host defenses that protect against infection by these bacteria	2.0
g. Identify factors that predispose patients to UTIs	3.0
h. Explain the prevalence of bacterial UTIs in females	3.0
i. Describe diagnostic methods for bacterial UTIs	3.0
j. Identify the treatment recommended for bacterial UTIs	3.0
k. List viral and parasitic agents of UTIs	1.5
2. Common causes of urinary tract infections:	
a. Aerobic gram-negative rods, esp.	3.0
(1) Uropathogenic *Escherichia coli*	3.0
(2) *Pseudomonas aeruginosa*	3.0
(3) *Klebsiella*	3.0
(4) *Proteus*	3.0
(5) *Staphylococcus* sp., esp. *S. saprophyticus*	3.0
(6) *Enterococcus* sp.	2.0
3. Less common causes of urinary tract infections	
a. Adenovirus-hemorrhagic cystitis	2.0
b. *Schistosoma haematobium*-schistosomiasis (blood in urine, associated with rural Africa)	1.0
F. GENITAL TRACT	
1. Syphilis	
a. Describe structural and cultural characteristics of *Treponema pallidum*	3.0
b. Describe the epidemiology and pathogenesis of syphilis, including primary, secondary and tertiary manifestations of the disease	3.0
c. Define congenital syphilis and describe its manifestations and prevention	3.0
d. Define neurosyphilis and describe its manifestations	3.0
e. Describe the mode of transmission of the disease	2.5
f. Describe methods for the diagnosis of syphilis	3.0
g. Explain the difference between non-specific and specific serological tests for syphilis and the pattern of the immune response vis-à-vis these tests in treated and untreated cases	3.0
h. Identify antibiotics of choice in treating syphilis	3.0
2. Gonorrhea	

a. Describe structural and cultural characteristics of *Neisseria gonorrhoeae*	3.0
b. List the virulence factors associated with Neisseria gonorrhoeae	3.0
c. Describe modes of transmission of gonorrhea	3.0
d. Describe the diagnosis and treatment of gonorrhea	3.0
e. Distinguish between a diagnosis of gonococcal and non-gonococcal urethritis	2.5
f. Describe disseminated gonococcal infections and distinguish them from gonococcal infections of the eyes and throat.	2.5
g. Describe the mechanisms of acquired penicillin resistance and alternative drugs for treating resistant strains	2.5
h. Explain the importance of phase and antigenic variation in pathogenesis of *Neisseria gonorrhoeae*	2.5
i. Appreciate that *Neisseria gonorrhoeae* infections can lead to pelvic inflammatory disease in women	3.0
3. Non-gonococcal urethritis	
a. List the causative agents of non-gonococcal urethritis	3.0
b. Distinguish between a diagnosis of gonococcal and non-gonococcal urethritis	2.5
c. Describe the life cycle and unique properties of *Chlamydia trachomatis*	2.0
d. Describe structural and cultural characteristics of *Ureaplasma urealyticum*	1.0
e. Describe structural and cultural characteristics of *Mycoplasma genitalium*	1.0
f. Describe the diagnosis and treatment of non-gonococcal urethritis	2.5
g. Appreciate that these bacteria can also cause pelvic inflammatory disease in women	2.5
h. Describe the characteristics of l*ymphogranuloma venereum*	1.0
i. Describe the causative agent of lymphogranuloma venereum (LGV) and *Chlamydia trachomatis*	1.0
j. Describe the clinical progress and symptoms of LGV	1.0
k. Explain the recent increase in LGV cases among travelers to Asia	1.0
l. Describe the diagnosis and treatment of LGV	1.0
m. Granuloma inguinale	1.0
n. Describe structural and cultural characteristics of *Klebsiella* (*Calymmatobacterium*) *granulomatis*	1.0
o. Describe the pathogenesis and symptoms of granuloma inguinale (GI)	1.0
p. Describe the diagnosis and treatment of GI	1.0
q. What is chancroid (soft chancre)	2.0
r. Describe structural and cultural characteristics of *Hemophilus ducreyi*	1.0
s. Describe the pathogenesis and symptoms of chancroid	1.0
t. Describe the diagnosis and treatment of chancroid	1.0
u. Appreciate how symptoms of chancroid can be confused with those of primary syphilis, LGV, GI, or genital herpes	2.0
4. Trichomoniasis	
a. Describe characteristics of the protozoan *Trichomonas vaginalis*	3.0
b. Describe symptoms associated with trichomoniasis	3.0
c. Describe the diagnosis and treatment of trichomoniasis	3.0
5. Bacterial vaginosis	
a. List the four signs associated with non-specific vaginitis	2.5
b. Describe the organisms associated with bacterial vaginosis (BV)	1.5
c. Describe the diagnosis and treatment of BV	2.5
6. Vulvovaginal candidiasis	
a. Describe the structural and cultural characteristics of *Candida albicans*	3.0
b. Explain how candida can cause disease as a member of normal human flora	3.0
c. Describe the diagnosis and treatment of vulvovaginal candidiasis	3.0
7. Genital herpes	
a. Describe the virion and genome structure of herpes simplex type 2 (HSV-2)	2.0
b. Describe the transmission and pathogenesis of HSV-2 infections	3.0
c. Discuss the concept of viral latency/reactivity and its significance with respect to genital herpes infections	3.0
d. Describe the current strategies for preventing and treating HSV-2 infections	2.0
8. Genital warts	
a. Describe the virion and genome structure of human papillomavirus (HPV)	3.0
b. Describe the transmission and pathogenesis of HPV	3.0

*Represents values of *'3'* for information that is essential knowledge to be included, *'2'* for information that is important knowledge to be included if there is time in the curriculum and *'1'* for information that is trivial knowledge not required in a curriculum on Pathogenesis/Infectious Diseases.