



UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES

Part I (2nd) 2016/2017
Microbiology -Paper I

Date: 10.03.2022

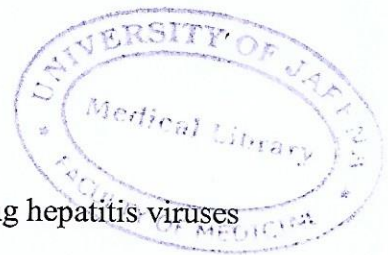
Time: 1.30 pm. to 3pm. (1 ½ hours)

1. Virulence factors of *Streptococcus pyogenes* include
 - a) hyaluronidase
 - b) endotoxins
 - c) catalase
 - d) M protein
 - e) streptokinase
2. Alcohol-based disinfectants
 - a) have a good residual effect
 - b) are inactivated by organic materials
 - c) are used in disinfecting blood spillage
 - d) act against spores
 - e) can be used to disinfect metal surfaces
3. Events occurring during innate immune response to bacterial infections include
 - a) pathogens being recognised by T helper cells through the antigens presented by antigen presenting cells
 - b) inflammatory response
 - c) complement activation resulting in opsonization
 - d) vasoactive substances being released by the mast cells
 - e) B cells recognizing capsulated pathogens
4. A child is currently on a high dose of prednisolone. The vaccines this child cannot be given include
 - a) conjugate meningococcal vaccine
 - b) MMR vaccine
 - c) chickenpox vaccine
 - d) pneumococcal polysaccharide vaccine
 - e) pentavalent vaccine



5. Organisms transmitted through the placenta include
 - a) *Chlamydia trachomatis*
 - b) Varicella zoster virus
 - c) *Treponema pallidum*
 - d) Hepatitis E virus
 - e) Dermatophytes
6. *Neisseria gonorrhoeae*
 - a) is a capsulated organism
 - b) is resistant to environmental heat
 - c) infected females are mostly symptomatic
 - d) causes congenital abnormalities in the developing foetus
 - e) strains produce penicillinase
7. Complications associated with rubella include
 - a) pulmonary artery stenosis
 - b) microcephaly
 - c) ophthalmia neonatorum
 - d) Guillain Barre syndrome
 - e) deafness
8. *Bordetella pertussis*
 - a) is a Gram negative bacillus
 - b) is mainly transmitted by airborne transmission
 - c) infection occurs primarily in the elderly
 - d) can be cultured in routine clinical microbiology laboratories
 - e) is treated with vancomycin
9. Possible modes of transmission of rabies include
 - a) drinking raw milk from a rabid cow
 - b) cat bite
 - c) feeding a rabid dog
 - d) corneal transplantation
 - e) contamination of the intact skin with saliva of a rabid dog

10. Antibiotics which can be used for the treatment of spotted fever include
- co-amoxiclav
 - flucloxacillin
 - doxycycline
 - chloramphenicol
 - penicillin G
11. Infectious diseases which can be diagnosed using urine samples include
- leptospirosis
 - legionellosis
 - mumps
 - enteric fever
 - rheumatic fever
12. State whether the following are true or false regarding hepatitis viruses
- Hepatitis B is an RNA virus.
 - Hepatitis E is a defective virus.
 - Hepatitis A is the commonest cause of viral hepatitis in Sri Lanka.
 - Hepatitis C infections can be prevented by vaccination.
 - Hepatitis B infection is confirmed by detection of HBs antibody.
13. Which of the following bacteria is/are correctly matched with the infection they cause?
- Pseudomonas aeruginosa* – Community acquired pneumonia
 - Acinetobacter baumannii* – Hospital acquired infections
 - Pseudomonas aeruginosa* – Otitis externa
 - Stenotrophomonas maltophilia* – Community acquired urinary tract infection
 - Burkholderia pseudomallei* – Typhus
14. Organisms causing watery diarrhoea include
- Enterotoxigenic *Escherichia coli*
 - Enteroinvasive *Escherichia coli*
 - Proteus Spp.*
 - Rota virus
 - Vibrio cholerae*
15. Varicella zoster virus can be transmitted
- by airborne transmission of aerosols from the vesicular fluid of skin lesions of chickenpox patients
 - by respiratory secretions of zoster patients



- c) by transplacental transmission
 - d) by airborne transmission of aerosols from vesicular fluid of skin lesions of zoster patients
 - e) to the new-born by direct contact with lesions during delivery
16. Which of the following is/are true regarding *Clostridium difficile*?
- a) It can cause pseudomembranous colitis.
 - b) It is universally susceptible to fluoroquinolones.
 - c) It can asymptotically colonize the human gut.
 - d) It causes disease through invasion of the gut epithelium.
 - e) Clindamycin is the treatment of choice for *Clostridium difficile*.
17. Azithromycin
- a) belongs to macrolide group of antibiotics
 - b) can be used to treat COVID-19 infection
 - c) can be used to treat chlamydial infections
 - d) is given 6 hourly
 - e) is available as oral & intravenous preparations
18. Antifungal agents used for dermatophytosis include
- a) terbinafine
 - b) nystatin
 - c) amphotericin B
 - d) griseofulvin
 - e) fluconazole
19. Emergence of antibiotic resistance can be reduced by
- a) avoiding use of antibiotics to treat viral infections
 - b) stopping antibiotics given to you as soon as you feel better
 - c) strengthening infection control measures in hospitals
 - d) giving half dose of antibiotics to treat infections when you are not sure about the aetiology
 - e) immunisation against infections
20. State whether the following are true/false regarding *Candida*.
- a) *Candida* infections are commonly from exogenous sources.
 - b) *Candida albicans* cannot be cultured in routine clinical microbiology laboratories.
 - c) Superficial infections can be treated with nystatin.
 - d) Resistant strains to fluconazole are increasing.

- e) Disseminated candida infection can be prevented by vaccination.

21. Antibiotics used for mycoplasma pneumonia include

- a) co-amoxiclav
- b) meropenem
- c) doxycycline
- d) azithromycin
- e) vancomycin

22. *Helicobacter pylori*,

- a) is a microaerophilic organism
- b) is acquired from animals
- c) infection is associated with gastritis
- d) colonization of the stomach decreases the risk of oesophageal reflux
- e) asymptomatic colonizers should be treated with antibiotics

23. Cervicitis in women

- a) can be caused by *Neisseria gonorrhoeae*
- b) can cause increased vaginal discharge
- c) can present with intermenstrual bleeding
- d) can be confirmed by Gram staining of urethral discharge
- e) is best treated with penicillin G



24. Enteric fever

- a) is a zoonotic disease
- b) is caused by *Salmonella typhimurium*
- c) typical presentation is sudden onset of high fever
- d) causative agent is best isolated from the blood during the second week of illness
- e) should be treated with antibiotics for 14 days

25. Rheumatic fever

- a) follows infection with Group B β haemolytic streptococcus
- b) commonly occurs in children
- c) relapses are prevented by long term prophylactic penicillin
- d) can result in valve damage and dysfunction
- e) can be transmitted by close contact

26. Which of the following is/are true of infections in the abdominal cavity?

- a) They are most often due to *Staphylococcus aureus*.
- b) Secondary peritonitis is the commonest cause of intra-abdominal infections.
- c) *Burkholderia pseudomallei* is a possible cause of liver abscess in Sri Lanka.
- d) Acute pancreatitis is most often caused by bacterial infection of the pancreas.
- e) Peritonitis is a well-known complication of peritoneal dialysis.

27. Laboratory diagnosis of *Mycobacterium tuberculosis* by culture

- a) provides results sooner than that of direct smear microscopy
- b) is done in most clinical microbiology laboratories in Sri Lanka
- c) has the advantage of providing the antibiotic sensitivity pattern
- d) is cheaper than that of direct smear microscopy test
- e) needs three sputum specimens for the initial diagnosis of pulmonary TB

28. Which of the following statements regarding cellulitis is/are true?

- a) This is non-suppurative invasive infection of tissues.
- b) It is poorly localised.
- c) It is most commonly caused by *Clostridium perfringens*.
- d) Systemic signs are not common.
- e) Blood culture is usually positive.

29. For the microbiological diagnosis of acute bacterial meningitis

- a) CSF for culture should be stored at 4°C until dispatch to the laboratory is possible
- b) examination of a centrifuged specimen of the CSF after Gram staining is useful
- c) Blood culture is not useful
- d) tests for microbial antigens in the CSF are useful
- e) tests for antibody in the CSF are useful

30. Which of the following is/are true of Infective Endocarditis (IE)

- a) It is always caused by bacteria.
- b) The commonest bacterial species causing IE are the viridans streptococci.
- c) Chronic rheumatic valvulitis is a predisposing cause of IE.
- d) The most important diagnostic test is determination of ASOT.
- e) It is easily treatable with parenteral antibiotics as the infected valves are directly exposed to the blood