

1. Minimum inhibitory concentration (MIC)
- a) Lowest concentration of antimicrobial agent that kills 99.9% of the inoculum
 - b) Kirby-Bauer method is the most commonly used method to achieve it
 - c) Expressed in mmol/L
 - d) A standard inoculum of 0.5 McFarland is used
 - e) Requires 72 hours of incubation for results to be apparent

2. *Bordetella bronchiseptica*
- a) Non-motile
 - b) Strict anaerobe
 - c) Forms spores
 - d) Urease positive
 - e) Obligate human pathogen

3. *Brucella* species
- a) Have a high infectious dose
 - b) Commonest mode of transmission to humans is via droplets
 - c) Obligate anaerobes
 - d) Macrophages are their prime targets
 - e) Amoxicillin-clavulanic acid is the drug of choice

4. Which of the following only requires the X factor for growth
- a) *Haemophilus influenzae* serotype c
 - b) *Haemophilus influenzae* biotype aegyptius
 - c) *Haemophilus ducreyi*
 - d) *Haemophilus parainfluenzae*
 - e) *Haemophilus parahaemolyticus*

5. *Yersinia pestis*
- a) Obligate intracellular organism
 - b) Exhibits bipolar staining
 - c) Motile
 - d) Small gram positive coccobacilli
 - e) Incubation period is 3 to 5 months

6. *Yersinia pseudotuberculosis*
- a) Destroyed by refrigeration
 - b) Strict human pathogen
 - c) Causes acute mesenteric lymphadenitis
 - d) Complications include a pulmonary tuberculosis-like illness
 - e) Amoxicillin is the drug of choice

7. Which of the following is **not** a common cause of acute bacteria sinusitis
- a) *Streptococcus pneumoniae*
 - b) *Haemophilus influenzae*
 - c) *Staphylococcus aureus*
 - d) *Pseudomonas aeruginosa*
 - e) *Streptococcus sanguinus*

8. **True** about *Corynebacterium diphtheria* ^{diphtheria} **except**
- a) Contains metachromatic granules in the cytoplasm ✓
 - b) Ability to produce exotoxin is acquired through lysogeny ✓
 - c) Complications of infection are due to bloodstream invasion by the organism ✓
 - d) Catalase positive
 - e) Exotoxin is a heat-stable polypeptide

9. Genus of a non-lactose fermenter bacillus that is rapidly oxidase positive ^{Citrobacter}
- a) *Shigella*
 - b) *Salmonella*
 - c) *Neisseria*
 - d) *Pseudomonas* ^{aeruginosa?}
 - e) *Proteus*

10. The following statements are true for *Proteus* species except ^{E. coli Citrobacter 17}
- a) Produces H₂S on Triple Sugar Iron agar
 - b) Non-motile
 - c) Lactose fermentation is not a property
 - d) A common invader of bed sores
 - e) None of the above

11. Bacteria that are indicators of excreta pollution of water include the following except ^{Sal Shigella}
- a) *Escherichia coli*
 - b) *Bacillus* species
 - c) *Aeromonas* species
 - d) *Enterobacter* species
 - e) *Citrobacter* species

12. A false statement on urinary tract infections
- a. *E. coli* is a predominant causative agent of bacterial UTIs ✓
 - b. Polymicrobial infections are common in patients with structural abnormalities ✓
 - c) The bladder is fairly resistant to colonization due to the wide array of present commensals
 - d. Coagulase negative staphylococci are a common cause of urinary tract infection among sexually active women
 - e. *E. coli* causes UTI predominantly by the ascending route

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13. The following can be considered to be water related infections except

- (a) Trachoma - *Formidic, USA*
- (b) Legionnaires disease
- (c) Bacillary dysentery ← *bedamhidin*
- (d) Cholera
- (e) Listeriosis

14. Selective medium for *Neisseria gonorrhoeae*

- a) Sheep blood agar
- b) Skirrow's medium
- (c) Thayer-Martin agar
- d) Thiosulphate Citrate Bile salts Sucrose medium
- e) Lowenstein-Jensen medium

15. The following features can be seen in the various stages of trachoma disease except

- a) Presence of follicles and inflammation under the eye lid
- b) Formation of scar tissue
- (c) Excessive tearing and bleeding
- d) In-turning of the eyelids
- e) Corneal scarring

16. The following specimen is normally sterile

- a. Throat swab
- b. Urethral swab
- (c) Suprapubic urine specimen
- d. Stool
- e. Skin scrapings

17. Characteristics of mycoplasmas include

- a. Inability to grow on artificial media
- (b) Lack of a cell wall
- c. Susceptibility to penicillin
- d. Requirement of cell culture line for primary isolation
- e. Resistance to all antibacterial antimicrobial agents

18. A case of leprosy with good Cell mediated immunity usually presents as following form of disease:

- a) Lepromatous
- (b) Tuberculoid
- c) indeterminate
- d) Borderline
- e) Leproid

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19. MDR TB: is
a) More than
Isoniazid
b) Isoniazid
c) Isoniazid
d) Isoniazid

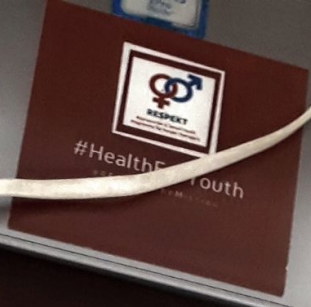
19. MDR TB: is defined as resistance to
a) More than three anti tubercular drugs
b) Isoniazid and rifampin irrespective of resistance to any other drug
c) Isoniazid, PZA and Rifampicin
d) fluoroquinolones and at least one of the three injectable second-line drugs used to treat TB
e) Resistance to Doxycycline, Isoniazid and Rifampicin
20. Cholera toxin increases the activity of what enzyme in human intestinal cells?
a) Adenyl cyclase
b) DNase
c) Coagulase
d) cAMP
e) cGMP
21. What enzyme possessed by *Helicobacter pylori* helps to neutralize stomach acid and whose presence is tested for in biopsy specimens?
a) Coagulase
b) Urease
c) Hyaluronidase
d) DNase
e) Catalase
22. Common causes of meningitis in the neonate include:
a) *Haemophilus influenzae*
b) coliform organisms
c) Group B streptococci - *S. Pyogenes*
d) Staphylococcus aureus
e) Streptococcus pneumoniae
23. Why is the infectious dose of *Vibrio cholerae* so high?
a) Because the organism has no virulence factors.
b) Because the organisms must invade all the cells at the mucosa of the duodenum and jejunum.
c) Because most are killed by the acidic environment in the stomach.
d) Because the organism is not spread person-to-person.
e) Because most are killed by lysozyme in saliva.
24. *Candida albicans* causes local infections in all but which of the following sites?
a) Endocardium
b) Mouth
c) Pharynx
d) Vagina
e) Lungs

GTPase

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25. What factor is important in the pathogenesis of *Cryptococcus neoformans*?
- a) Pili
 - b) Hyphae
 - c) Capsule
 - d) Glycoprotein spikes
 - e) Lipopolysaccharide
26. Enzyme lacking in obligate anaerobes is
- a) Collagenase
 - b) Oxidase
 - c) Hyaluronidase
 - d) Phospholipase
 - e) Haemolysin
27. Main clinical manifestation of borreliosis is a result of ^{Spirochetes}
- a) Antigenic variation
 - b) Effects of endotoxin
 - c) Rapid invasion of tissues
 - d) Intra-cellular location in phagocytic cells
 - e) Invasion of the central nervous system
28. Lymphatic spread and ulcerative lesions around mouth and nose are characteristics of infection by
- a) *Candida parapsilosis*
 - b) *Histoplasma capsulatum duboisii*
 - c) *Basidiobolus haptosporus*
 - d) *Paracoccidioides brasiliensis*
 - e) *Rhinosporidium seeberi*
29. *Treponema pallidum endemicum*
- a) Is mostly sexually transmitted
 - b) Causative agent of a chronic illness which starts in childhood
 - c) Is antigenically different from other *Treponema pallidum* subspecies
 - d) Requires special liquid medium for laboratory isolation
 - e) Is not susceptible to penicillin
30. False statement on botulinum toxin is
- a) Neutralized by serotype specific antitoxin
 - b) Acts through inhibition of protein synthesis
 - c) Can be ingested preformed in food
 - d) Heat labile
 - e) Genes coding for synthesis are acquired from bacteriophages

Staphylococcus aureus? H31/2575/2015



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31. Sources of systemic fungal infections include the following except
- a) Soil ✓
 - b) Dust ✓
 - c) Normal flora ✓
 - d) Domestic animals
 - e) Bird's droppings ✓
32. Which one does not apply to strict anaerobes
- a) Triple sugar iron agar
 - b) Butyric acid
 - c) Clindamycin
 - d) Mixed infection ✓
 - e) Metronidazole
33. Which ONE is not useful in laboratory investigation of aspergillosis
- a) Lactophenol stain
 - b) Bird seed agar
 - c) Potassium hydroxide
 - d) Sabouraud's dextrose medium
 - e) Growth at 43 degrees centigrade
34. Scrub typhus is caused by
- a) *Rickettsia prowazekii*
 - b) *Rickettsia typhi*
 - c) *Rickettsia rickettsia*
 - d) *Orientia tsutsugamushi*
 - e) *Rickettsia conorii*
35. Bacteria **not** associated with post-surgical wound infections
- a) *Staphylococcus aureus*
 - b) *Proteus mirabilis*
 - c) *Escherichia coli*
 - d) *Pseudomonas aeruginosa*
 - e) *Neisseria gonorrhoeae*
36. Infection not commonly associated with *Escherichia coli*
- a) Gastrointestinal Infections
 - b) Urinary tract infections
 - c) Pyogenic infections
 - d) Neonatal meningitis
 - e) Infective endocarditis

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37. False of *Norcadia* Species

- a) Gram-positive bacilli
- b) Strict anaerobes
- c) Acid-fast with branching filaments
- d) Commensals in the oral cavity
- e) Transmission is through trauma introduction

38. Actinomycotic mycetoma

- a) Involves the keratinized tissue of the skin
- b) Presents as a tumour with multiple discharging sinuses.
- c) Caused by fungi
- d) Produces black sulfur granules
- e) Treated with fluconazole

39. False of *Coxiella burnetii*

- a) Obligate intracellular bacteria
- b) Causes Q- fever
- c) Human infection may occur after exposure to placenta of an infected mother
- d) Infective endocarditis is a common presentation of a chronic disease
- e) Diagnosis is based on isolation on artificial selective media.

40. Antifungal agent effective in treatment of candidemia

- a) Amphotericin B
- b) Nystatin
- c) Metronidazole
- d) Imidazole
- e) Ketoconazole

41. The flea is an intermediate host for

- a. *Faciolopsis buski*
- b. *Diphylobothrium latum*
- c. *Hymenolepis diminuta*
- d. *Loa loa*
- e. None of the above

42. The pathogenic form of *Toxoplasma gondii* is

- a. Tachyzoite
- b. Egg
- c. Trophozoite
- d. Oocyst
- e. Coracidium

43. Which of the following is a non-motile protozoan?
a. *Cryptosporidium parvum*
b. *Leishmania donovani*
c. *Giardia lamblia*
d. *Balantidium coli*
e. *Entamoeba histolytica*
44. Microfilaria of *Loa loa* are best detectable in blood at
a. 8am to 8pm
b. 8pm to 8am
c. 2am to 8am
d. 8pm to 2am
e. None of the above
45. Which of the following drugs is conventionally used in the treatment of Toxoplasmosis?
a. Praziquantel
b. Suramin
c. Ivermectin
d. Pyrimethamine
e. Metrifonate
46. Which of these parasites is NOT routinely diagnosed by examining blood for microfilariae?
a. *Mansonella perstans*
b. *Loa loa*
c. *Onchocerca volvulus*
d. *Wuchereria bancrofti*
e. *Brugia malayi*
47. Which of these statements is true regarding *Taenia solium*?
a. It is largely transmitted sexually
b. Albendazole is the drug of choice for treatment of infection
c. Only exists in a cysticercus stage
d. Is transmissible feco-orally
e. Intermediate host is a herbivore
48. Which of the following is NOT true regarding *Babesia* parasites?
a. May be transmitted through blood transfusion ✓
b. Quinine is useful for treating infected individuals ✓
c. Diagnosis is made by examining Gram stain blood smears ✓
d. Reproduce both sexually and asexually ✓
e. The flea is the vector tick

49. Which of these is useful in diagnosing *Taenia saginata* infection?

- a. Identification of cysticerci in stool
- b. Identification of proglottids in stool
- c. Identification of trophozoites in string test
- d. Identification of cysticerci in tissues
- e. None of the above

50. Which of these parasites have microfilaria?

- a. *Plasmodium ovale*
- b. *Babesia microti*
- c. *Toxoplasma gondii*
- d. *Brugia timori*
- e. *Dracunculus medinensis*

51. Each of the following statements concerning malaria is correct **except**:

- a) The female anopheles mosquito is the vector ✓
- b) In early infection, sporozoites enter hepatocytes ✓
- c) Release of merozoites from red blood cells cause fever and chills ✓
- d) Principal site of gametocyte formation is the human gastrointestinal tract
- e) May cause anaemia ✓

52. In malaria, what stage is transmitted from mosquito to humans

- a) Sporozoite
- b) Gametocyte
- c) Merozoite
- d) Hypnozoite
- e) None of the above

53. Cerebral fever is a complication of malaria usually caused by;

- a) *P. falciparum*
- b) *P. malariae*
- c) *P. ovale*
- d) *P. vivax*
- e) All of the above

54. Which of the following statements regarding *Plasmodium falciparum* is true?

- a) Causes more severe disease in pregnancy
- b) Is associated with relapses after initial treatment because of liver hypnozoites
- c) Can be transmitted by female Aedes mosquitoes
- d) Can be treated with primaquine
- e) None of the above

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55. Which of these statements regarding Plasmodium vivax is false
- a) May cause cerebral malaria
 - b) May relapse after treatment without re-infection
 - c) Is transmitted by Anopheles mosquito
 - d) Treatment requires the use of primaquine
 - e) None of the above

56. Which of the following microfilariae is diagnosed by skin snip?
- a) Wuchereria bancrofti
 - b) Onchocerca volvulus
 - c) Loa loa
 - d) Brugia malayi
 - e) None of the above

57. Which of these parasites is associated with blindness
- a) Loa loa
 - b) Trypanosome brucei gambiense
 - c) Onchocerca volvulus *O. blindness*
 - d) Mansonella perstans
 - e) None of the above

58. Which of these tissue nematodes are transmitted by mosquitoes
- a) Wuchereria bancrofti
 - b) Loa loa *Simulium crappa*
 - c) Onchocerca volvulus *Simulium*
 - d) Mansonella ozzardi *Culex*
 - e) Dracunculus medinensis

59. Which of these parasites is associated with hanging groin
- a) Wuchereria bancrofti *hydrocoele elephantiasis*
 - b) Brugia malayi
 - c) Onchocerca volvulus *-hanging groin*
 - d) Mansonella mansoni
 - e) Mansonella streptocerca

60. Which of these parasites has sheathed microfilariae with nuclei extending to the tip of the tail
- a) Wuchereria bancrofti
 - b) Brugia malayi
 - c) Mansonella ozzardi
 - d) Onchocerca volvulus
 - e) Loa loa *-best ans*

3

61. All the following features are associated with African Trypanosomiasis except
- a) Hepatosplenomegaly
 - b) Chancres
 - c) Kerandals sign
 - d) Winter button sign
 - e) Arch 5 test *E. granulosus*
62. Which of the following drugs are used in the treatment of severe and complicated malaria?
- a) Primaquine
 - b) Tetracycline
 - c) Chloroquine
 - d) Quinine
 - e) Pyrimethamine
63. Hydrocephalus is a clinical feature observed in patients infected with which of the following parasite:
- a) *Pneumocystis carinii*
 - b) *Entamoeba histolytica*
 - c) *Trichinella spiralis* ×
 - d) *Toxoplasma gondii* ✓
 - e) *Onchocerca volvulus* ×
64. Fleas transmit all of the following parasitic infections except
- a) *Dipylidium caninum* ✓
 - b) *Rickettsia prowazeki* ✓
 - c) *Pasteurella pestis* ✓
 - d) *Rickettsia mooseri* ✓
 - e) *Hymenolepis diminuta*
65. The following are larval stages of Cestodes except
- a) Proceroid
 - b) Coracidium
 - c) Miracidium
 - d) Onchosphere
 - e) Cysticercoids
66. Which of the following chemical compounds are effective in the control of Schistosoma haematobium
- a) Permethrin
 - b) DDT
 - c) Malathion
 - d) Aldrin
 - e) Copper sulphate concentration

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67. Which of the following parasites is associated with central nervous system complications:
a) *Plasmodium malariae*
b) *Leishmania donovani*
c) *Ascaris lumbricoides*
d) *Taenia saginata*
e) *Taenia Solium*

68. Bone marrow examination is helpful in which of the following parasitic infections
a) *Trichinella spiralis*
b) *Echinococcus granulosus* - *muscle*
c) *Trichuris trichuria* - *GI*
d) *Trichomonas hominis*
e) *Taenia saginata*

69. Which of the following parasitic infections may cause severe travellers' diarrhoea?
a) *Entamoeba coli*
b) *Giardia lamblia*
c) *Trichomonas hominis*
d) *Chilomastix mesneli*
e) *Balantidium coli*



70. Autoinfection usually occurs in infection with
a) *Taenia saginata*
b) *Balantidium coli*
c) *Taenia solium*
d) *Necator americanus*
e) *Ascaris lumbricoides*

71. Which of the following parasites can be associated with neurological disorders?
a) *Entamoeba histolytica*
b) *Isospora belli*
c) *Blastocystis hominis*
d) *Entamoeba coli*
e) *Giardia lamblia*

72. Which of the following is a non-pathogenic intestinal commensal?
a) *Entamoeba coli*
b) *Isospora belli*
c) *Strongyloides stercoralis*
d) *Trichinella spiralis*
e) *Sarcocystis suihominis*

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73. The human-infective stage of *Wuchereria bancrofti* is?

- a) Egg stage
- b) Larval stage one (L1)
- c) Larval stage two (L2)
- d) Larval stage three (L3)
- e) None of the above

74. Which of the following parasites is only found in Africa?

- a) *Schistosoma intercalatum*
- b) *Schistosoma mansoni*
- c) *Schistosoma mekongi*
- d) *Schistosoma japonicum*
- e) *Schistosoma haematobium*

75. Occult filariasis is mainly caused by?

- a) Eggs
- b) Microfilariae
- c) Adult worms
- d) Larval stage three (L3)
- e) None of the above

76. Which of the following stages of *Leishmania* spp. is found in the human host?

- a) Oocyst
- b) Cyst
- c) Egg
- d) Amastigote
- e) Trypomastigote

77. Which of the following parasites is associated with muscular dystrophy?

- a) *Necator americanus*
- b) *Blastocystis hominis*
- c) *Strongyloides stercoralis*
- d) *Entamoeba histolytica*
- e) *Trichinella spiralis*

78. Which of the following is the human-infective stage of *Isospora belli*?

- a) Egg
- b) Oocyst
- c) Cyst
- d) Cercaria
- e) Larval stage three (L3)

79. *Entamoeba histolytica* can be cultured in:
- f. Macconkey agar
 - g. Sebaroud's medium
 - h. Diamonds medium
 - i. NNN medium
 - j. None of the above

80. Mode of infection of *Dracunculus medinensis* is:
- k. Ingestion
 - l. Inhalation
 - m. Skin penetration
 - n. Inoculation by Cyclops
 - o. Inoculation by Chrysops

81. One of the following classes of antivirals is effective for Hepatitis C: *Rebavirin 2/1*
- a. Protease inhibitors
 - b. Integrase Inhibitors
 - c. Uncoating inhibitors
 - d. DNA polymerase inhibitors
 - e. Viral release inhibitors

82. The main host for influenza B viruses is:
- a. Man
 - a. Horse
 - b. Ducks
 - c. Pigs
 - d. All the above

83. One of the following statements is true about influenza viruses: *RNA*
- a. They have a DNA genome ~~x~~
 - b. They replicate in the Nucleus ~~x~~
 - c. They have a non-segmented genome ~~x~~
 - d. Rarely undergo mutations ~~v~~
 - e. They are non-enveloped

84. One of the following statements on emerging infections is FALSE:
- a. They can occur anywhere in the globe
 - b. Many are zoonotic infections
 - c. Vaccination is the main strategy for prevention
 - d. They are difficult to diagnose because they present with non-specific symptoms
 - e. May remain undetected for a period of time

85. One of the following maybe treated with a specific anti-viral therapy EXCEPT?

- a. HIV
- b. Hepatitis B
- c. Hepatitis C
- d. Human Herpes virus 4 (*HHV-4*)
- e. Influenza

86. One of the following statements about abnormal prion proteins is true:

- a. They induce a strong immune response
- b. They are destroyed by gastric acid
- c. They cause granulomas in the brain of affected persons
- d. Can be controlled by cooking meat well
- e. The commonest form is sporadic

87. One of the following statements about Chikungunya is true:

- a. Causes hemorrhagic symptoms in over 50% of infected persons
- b. Has not been reported outside Africa and Asia
- c. Is transmitted by the soft tick *Ornithodoros moubata*
- d. Is an alphavirus in the Togaviridae family
- e. Has a licensed prophylactic vaccine

88. There are licensed vaccines available against the following viral infections except:

- a. Polio
- b. Hepatitis B
- c. Hepatitis C
- d. Herpes zoster
- e. Influenza

89. One of the following is a broad-spectrum RNA polymerase inhibitor:

- a. Acyclovir
- b. Efavirenz
- c. Favipravir
- d. Oseltamivir
- e. Lopinavir

90. Maternal prophylaxis with antiviral agents is useful in preventing vertical transmission of:

- a. Human papillomavirus
- b. Hepatitis B
- c. Measles
- d. Zika
- e. Human herpes virus 8

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91. Poxvirus:

- a. Is a small RNA virus
- b. Is enveloped
- c. Replicates in the nucleus
- d. Causes paralysis in over 50% of infected persons
- e. Destroys anterior horn cells by producing cytolytic toxin

92. This virus is associated with vesicular rash

- a. Measles virus
- b. Rubella virus
- c. Parvovirus B19
- d. HSV-2
- e. Calicivirus

93. This virus is associated with maculopapular rash

- a. Measles virus
- b. HSV-1
- c. HSV-2
- d. Coxsackievirus
- e. Varicella zoster virus

94. The virus that causes smallpox is transmitted

- a. Sexually
- b. Fecal-oral
- c. Via the aerosol
- d. Vertically
- e. Insect bite

95. Koplik spot is a feature of this virus

- a. Parvovirus B19
- b. Varicella-zoster virus
- c. Poxvirus
- d. Dengue virus
- e. Measles virus

96. Subacute sclerosing panencephalitis (SSPE) is a rare complication associated with infection with this virus

- a. Poliovirus
- b. HSV-1
- c. Calicivirus
- d. Measles virus
- e. Chikungunya virus

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97. Congenital rubella syndrome (CRS) can occur in women having primary infection with rubella virus during this period of pregnancy

- a. First trimester
- b. Second trimester
- c. Third trimester
- d. Entire pregnancy period (9-month period)
- e. Only occurs in immunodeficient women

98. Hand, foot, and mouth disease is caused by this virus

- a. Poliovirus
- b. Calicivirus
- c. Coxsackie virus type A
- d. A dsDNA virus
- e. A negative sense ssRNA virus

99. Parainfluenza viruses (associated with common colds) share the same virus family as this virus

- a. Influenza virus
- b. Coronavirus
- c. Rhinovirus
- d. Sars virus
- e. Respiratory Syncytial virus (RSV)

100. The oral polio virus vaccine (OPV) *Sabin salk.*

- a. Is a live-attenuated virus vaccine
- b. Induces both local IgA and systemic IgG
- c. Is easily administered
- d. Can be used in herd-immunity
- e. All of the above

Dead.