

PART II: MCQ

3

INSTRUCTIONS:

Answer all questions in the question paper

Circle the correct answer. Each question has only one appropriate response

1. False about *Haemophilus influenzae*

- a) Gram-negative coccobacilli ✓
- b) Contains PRP (polyribosyl-ribitol phosphate) ✓
- c) Ornithine decarboxylase activity is used in biotyping ✓
- d) Requires both X and V factors for growth ✓
- e) Catalase negative ✗

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 - low
- 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 → penicillin

4. Members of the *Mycobacterium tuberculosis* complex (MTBC) include all the following except

- a) *Mycobacterium caprae* ✓
- b) *Mycobacterium microti*
- c) *Mycobacterium africanum* ✓
- d) *Mycobacterium bovis* ✓
- e) *Mycobacterium kansasii* ✓

5. False about *Mycobacterium leprae*

- a) Obligate intracellular organism ✓
- b) Has a low infectivity ✗
- c) Principal target is the schwann cell ✓
- d) Dapsone is the drug of choice ✓
- e) Incubation period is 3 to 5 months ✓

6. Which of the following organisms is **not** part of the spotted fever group (SFG) rickettsia
- a) *Rickettsia africae*
 - b) *Rickettsia conori*
 - c) *Rickettsia rickettsii*
 - d) *Rickettsia felis*
 - e) *Rickettsia prowazekii*
7. False about *Coxiella burnetii*
- a) Gram-negative coccobacilli ✓
 - b) Obligate intracellular bacteria
 - c) Small cell variant (SCV) multiplies in the host monocytes and macrophages
 - d) Able to survive inside acidic lysosomes
 - e) Doxycycline is the drug of choice ✓
8. True about *Corynebacterium diphtheriae* 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. False about *Bacillus anthracis*
- a) Gram-positive spore-forming rods
 - b) Non-motile
 - c) Capsulated in tissues
 - d) Strict anaerobe ✗ *aerobe*
 - e) Catalase positive ✓
10. Which of the following is **not** a common cause of acute bacterial sinusitis
- a) *Streptococcus pneumoniae* ✓
 - b) *Haemophilus influenzae* ✓
 - c) *Staphylococcus aureus*
 - d) *Pseudomonas aeruginosa*
 - e) *Streptococcus sanguinis* - UTI
11. Pseudomembranous colitis
- a) Results from exogenous infection
 - b) Results from ingestion of preformed toxin
 - c) Is caused by effects of enterotoxin on cyclic AMP in the small intestine ✗
 - d) Treatment does not include antimicrobial agents ✗
 - e) Is due to the effects of enterotoxin and cytotoxin from the causative agent

12. Species of *Aspergillus* which causes disease through effects of its toxin is

- a) *Aspergillus nidulans*
- b) *Aspergillus fumigatus*
- c) *Aspergillus versicolor*
- d) *Aspergillus niger*
- e) *Aspergillus flavus*

13. Pathogenicity of bacteria refers to the

- a) Ability of an organism to attach itself and multiply on humans
- b) Ability of an organism to produce exotoxins
- c) Potential of an organism to cause disease
- d) Potential of an organism to invade tissues
- e) Capacity of an organism to produce harmful effects on tissues

14. Lymphatic spread in humans is a prominent characteristic of

- a) *Malassezia furfur* - lungs
- b) *Rhinosporidium seberi*
- c) *Pneumocystis jiroveci* ✗
- d) *Paracoccidioides brasiliensis* - lungs
- e) *Candida albicans* - a

15. Blood culture is particularly important in the investigation of infections caused by

- a) *Clostridium botulinum* ✓
- b) *Treponema pallidum pertenuis* ✗
- c) *Clostridium tetani* ✗
- d) *Brucella species* ✗
- e) *Corynebacterium diphtheriae*

16. Species of *Leptospira*

- a) Are all pathogenic to humans - ^{not all}
- b) Are not culturable in artificial media - ^{can be}
- c) Human infections are associated with localized swellings due to inflammation at the site of entry
- d) Are susceptible to penicillin
- e) Infections are associated with antibodies which are not detectable in serological tests ✗

17. Culture and identification from specimens are not useful in laboratory investigation of:

- a) *Ophthalmia neonatorum* ✓
- b) Genitourinary tract infections due to *Chlamydia trachomatis* ✓
- c) Chancroid ✓
- d) *Neurosyphilis*
- e) Salpingitis ✓

18. Beta-lactamases are commonly associated with the following pathogenic bacteria except

- a) *Haemophilus influenzae* - ✓
- b) *Streptococcus pneumoniae* → ✓
- c) ***Bacteroides fragilis***
- d) *Staphylococcus aureus* ✓ MRSA
- e) *Neisseria gonorrhoeae* ✓ - not resistant

19. Organism which is least likely to be a causative agent of bacterial endocarditis

- a) *Streptococcus pneumoniae*
- b) *Staphylococcus epidermidis*
- c) *Corynebacterium diphtheriae*
- d) ***Eikenella species***
- e) *Coxiella species* ✓

20. Insyndromic approach to the management of sexually transmitted infections

- a) Antimicrobial agent treatment is based on laboratory test results
- b) Contact tracing is not applied ✗
- c) Physical examination of the patient is not performed ✗
- d) Chances of over diagnosis are minimal
- e) **Antimicrobial agents for the patient are selected to cover the main pathogens associated with the clinical manifestations**

21. Bacteria that are indicators of excreta pollution of water include the following except

- a) *Escherichia coli* ✓
- b) ***Bacillus species*** ✓
- c) *Aeromonas species*
- d) *Enterobacter species* ✓
- e) *Citrobacter species* ✓

22. Skin disinfectants can include the following except

- a) Isopropyl alcohol
- b) Iodine
- c) Chlorhexidine ✗
- d) **Sodium hypochlorite ✗**
- e) Ethyl alcohol

23. Causative agent of trachoma can be transmitted to humans through

- a) Body louse
- b) **House flies**
- c) Ticks ✗
- d) Dog bite ✗
- e) Cat scratch ✗

24. The following would not be useful in stool microbiology

- a) Thiosulphate citrate bile salt agar ✓ urinary
- b) Sorbitol MacConkey agar → culture
- c) Thayer Martin agar → Shigella/serum/urine
- d) Cary Blair medium ✓ - mucus
- e) Salmonella Shigella agar ✓ - stool spec

25. Medium that is useful for isolation of *Neisseria gonorrhoeae* from high vaginal swab

- a) MacConkey Agar
- b) Lowenstein-Jensen medium
- c) Thayer-Martin medium
- d) Potassium tellurite medium
- e) Loeffler's medium

26. Hemolytic uraemic syndrome can be a clinical manifestation seen in infection with

- a) *Shigelladysenteriae* megacolon
- b) *Salmonellaentericatyphi*
- c) *Vibrio cholerae*
- d) Enteropathogenic *E. coli* ✗
- e) Enterotoxigenic *E. coli* ✗

27. The commonest bacterium associated with contaminated antibiotic ointments

- a) *Staphylococcus epidermidis*
- b) *Staphylococcus aureus*
- c) *Proteus spp*
- d) *Pseudomonas aeruginosa*
- e) *Escherichia coli*

28. Which organism is associated with fungal infection after pricks from a rose flower thorn

- a) *Aspergillusfumigatus*
- b) *Histoplasma capsulatum*
- c) *Epidermophytonfloccosum*
- d) *Cryptococcus neoformans*
- e) *Sporothrixschenckii*

29. Common causative agent of neonatal meningitis

- a) Group B streptococci
- b) *Streptococcus pneumoniae*
- c) *Haemophilus influenzae type b*
- d) *Neisseria meningitidis*
- e) *Treponemapallidum*

30. The following conditions can be prevented by vaccination except

- a) Typhoid ✓
- b) Cholera ✓
- c) Gonorrhoea
- d) Whooping cough ✓
- e) Tuberculosis

31. Genus of a non-lactose fermenter bacillus that is urease positive

- a) Shigella ✗
- b) Salmonella ✗
- c) Neisseria ✗
- d) Pseudomonas ✗
- e) Proteus ✗

32. An innate mechanism of antimicrobial resistance by bacteria

- a) Increased drug extrusion by efflux pumps
- b) Lack of target site
- c) Reduced permeability to the drug
- d) Development of cross-resistance
- e) Acquired modes of destruction by β -lactamase

33. A well demarcated rash around the groin is a characteristic of:

- a) Tineaunguium
- b) Tineacorporis
- c) Folliculitis
- d) Tineacruris
- e) Black piedra

34. Characteristics of diarrhea caused by *Vibrio cholerae*

- a) Profound watery diarrhoea
- b) Severe abdominal pain
- c) Massive bloody diarrhoea
- d) Renal insufficiency
- e) Formed stool

*35. Citrobacter species

- a) Are lactose fermenters
- b) Are non-lactose fermenters
- c) Do not show multidrug resistance
- d) Are not commonly associated with nosocomial infections ✗
- e) Are highly sensitive to penicillins

36. O antigen of Enterobacteriaceae is

- a) Heat labile
- b) Heat stable
- c) Prevents O agglutination*
- d) Only 6 O antigens are known*
- e) Is also known as the capsular antigen

37. Urease positive organism implicated in causation of peptic ulcers

- a) *Escherichia coli*
- b) *Haemophilus parainfluenzae*
- c) *Staphylococcus aureus*
- d) *Proteus mirabilis*
- e) *Helicobacter pylori*

38. Natural reservoir of *Campylobacter jejuni* includes

- a) Humans
- b) Fish
- c) Fleas*
- d) Cat*
- e) Chicken

39. Causative agents of food borne gastroenteritis associated with heat stable exotoxins

- a) *Bacillus cereus**
- b) *Clostridium botulinum**
- c) *Campylobacter jejuni*
- d) *Staphylococcus aureus*
- e) *Yersinia enterocolitica*

40. The most common fungal causative agent of meningitis in immunocompromised patients

- a) *Candida albicans*
- b) *Malassezia furfur*
- c) *Cryptococcus neoformans*
- d) *Coccidioides immitis*
- e) *Microsporium canis*

41. Rhinoviruses have the following characteristics

- a) Are enveloped*
- b) Have dsRNA genomes
- c) Belong to the Rhinoviridae family*
- d) Have >100 serotypes*
- e) Are stable at acidic pH like other enteroviruses*

42. The main mode of transmission of rhinoviruses is via

- a) Fecal-oral ✗
- b) Blood ✗
- c) Mother-to-child ✗
- d) Arthropods ✗

e) Formites/contact

43. Congenital rubella syndrome (CRS) usually results following primary infection of pregnant woman at this period of gestation

a) First trimester

b) Second trimester

c) Third trimester

d) Fourth trimester

e) Any period during pregnancy

44. Which of the following viruses can be transmitted via fecal-oral route?

a) Parainfluenza virus ✗

b) Rubella virus ✗

c) SARS virus (corona virus)

d) Respiratory syncytial virus (RSV) ✗

e) Adenovirus 39 40+41

45. One of the following statements is true about influenza viruses

a) Replication occurs in the cytoplasm ✗

b) They have a segmented genome ✓

c) Rarely undergo antigenic variation ✗

d) Can infect chicken ✗

e) They are DNA viruses ✗

46. About uncoating inhibitors used in treatment of influenza

a) Include Rimantadine and amantadine

b) Include Zanamivir and Oseltamivir

c) Are active against Influenza A, B and C

d) Resistance against them is rare

e) They block viral release

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47. One of the following malignancies is associated with an RNA virus

- a) Cervical cancer ✗
- b) Hepatocellular carcinoma
- c) Burkitt Lymphoma ✓
- d) Nasopharyngeal Cancer ✗
- e) Kaposi sarcoma ✓

48. Vaccines play a major role in prevention of one of the following malignancies

- a) Cervical cancer
- b) Breast cancer
- c) Burkitt Lymphoma
- d) Nasopharyngeal Cancer
- e) Kaposi sarcoma

49. Which group of drugs is effective in treatment of Hepatitis C virus?

- a) Entry inhibitors
- b) Protease inhibitors
- c) DNA polymerase inhibitors
- d) Viral release inhibitors
- e) Integrase inhibitors

50. One of the following conditions is CURABLE using antiviral agents

- a) HIV ✗
- b) Herpes labialis ✗
- c) Hepatitis C
- d) Yellow fever
- e) Genital herpes ✗

51. Paramyxoviridae Family includes the following viruses EXCEPT:

- a) Measles ✓
- b) Mumps ✓
- c) Rubella
- d) Parainfluenza viruses ✓
- e) Metapneumovirus ✓

52. Koplik spots are characteristic for:

- a) Rubella
- b) Dengue
- c) Measles
- d) HIV
- e) Rocky mountain spotted fever

53. The following is true about poxviruses EXCEPT

- a) They are DNA virus ✓
- b) They replicate in the cytoplasm ✓
- c) They have lateral bodies ✓
- d) **Man is the only natural host**
- e) Vaccination with one protects against infection with all the others ✓

54. Yellow fever vaccine is not recommended for persons with severe allergy to eggs, why?

- a) The virus in the vaccine can be inactivated by eggs ✗
- b) The virus in the vaccine also causes allergy similar to those caused by eggs. ✓
- c) The vaccine is prepared in chicken eggs ✓
- d) The vaccine does not work in persons with allergies to eggs. ✗
- e) Egg components can make the virus in the vaccine to revert to virulence. ✗

55. One of the following viruses causes over 80% of hepatocellular carcinoma.

- a) Hepatitis A virus.
- b) **Hepatitis B virus.**
- c) Hepatitis C virus.
- d) Human papilloma virus.
- e) Hepatitis E virus.

56. The following are true about live attenuated vaccines, which one is NOT.

- a) They can induce both humoral and cell mediated immunity ✓
- b) **They are made up through recombinant technology.**
- c) They can revert to virulence ✓
- d) They are never recommended for persons with severe immunodeficiency ✓
- e) They induce long lasting immunity. ✓

57. Immunity to infection with Hepatitis B virus is related to 194.

- a) The presence of anti-HBsAg in blood. →
- b) The presence of HBsAg in blood. ✗ - infection
- c) The presence of HBcAg-IgM in blood ✗ - acute
- d) The presence of HBe Ag in blood ✗ - replication
- e) **None of the above.**

58. Which one of the following Rotaviruses is predominantly associated with gastroenteritis in the China?

- a) Rotavirus A
- b) **Rotavirus B**
- c) Rotavirus C
- d) Rotavirus D
- e) Rotavirus E

59. In the laboratory diagnosis of viruses, the wrong timing of specimen collection can lead to;

- a) False negative results -
- b) False positive results
- c) True negative results
- d) True positive results
- e) None of the above.

60. Prio-exposure to Rotavirus leads to immunity against this virus, which of the following antibodies is responsible for the immunity.

- a) IgA
- b) IgE
- c) IgG
- d) IgM
- e) None of the above

61. Which among the following parasites is commonly associated with hanging groin?

- a) *Loa loa*
- b) *Onchocerca volvulus*
- c) *Wuchereriabancrofti*
- d) *Mansonellaperstans*
- e) *Brugiamalayi*

62. Which of the following drugs is most suitable for treatment of *Diphyllobothriumlatum* infections?

- a) Sodium stibogluconate ✗
- b) Albendazole
- c) Niridazole
- d) Praziquantel
- e) Metronidazole

63. Which of the following parasites has cats as its definitive host?

- a) *Balantidium coli*
- b) *Wuchereriabancrofti*
- c) *Toxoplasma gondii*
- d) *Plasmodium falciparum*
- e) *Ancylostomaduodenale*

64. Peri-ova granulomas in tissues are associated with infection with?

- a) *Trichinellaspiralis*
- b) *Leishmaniadonovani*
- c) *Fasciola hepatica*
- d) *Taeniasolium*
- e) *Schistosomamansonii* ✗

65. Which of the following parasites is commonly associated with night blindness?

- a) *Ascarislumbricoides*
- b) *Ancylostomaduodenale*
- c) *Onchocerca volvulus*
- d) *Entamoebahistolytica*
- e) *Taeniasaginata*

66. Which of the following parasites may NOT cause intestinal obstruction?

- a) *Entamoebahistolytica* ✓
- b) *Ascarislumbricoides* ✓
- c) *Giardia lamblia*
- d) *Diphyllobothriumlatum* ✓
- e) *Schistosomamansoni* ✓

67. Select one drug from the following that can be used to treat infections with *Leishmaniadonovani*:

- a) *Amphotericin B* ✗
- b) *Metronidazole*
- c) *Nifurtimox* - Trypano
- d) *Praziquantel* ✗
- e) *Paracetamol* ✗

68. Which of the following parasites is usually associated with regular fevers?

- a) *Entamoebahistolytica*
- b) *Giardia lamblia*
- c) *Necatoramericanus*
- d) *Plasmodium vivax*
- e) *Balantidium coli*

69. Black water fever is a characteristic of infections with?

- a) *Schistosomahaematobium* ✗
- b) *Wuchereriabancrofti*
- c) *Trypanosomarhodesiense*
- d) *Plasmodium falciparum* ✗
- e) *Plasmodium malariae* ✗

70. Which of the following parasitic stages is pathological to humans?

- a) Sporocyst
- b) *Metacercaria*
- c) Coracidium
- d) Hexacanthoncosphere
- e) Cercaria

71. Muscle biopsy is useful in diagnosis of:

- a) *Taeniasolium*
- b) *Taeniasaginata*
- c) *Trichinellaspiralis*
- d) *Necatoramericanus*
- e) *Schistosomamansoni*

72. One of the following is NOT pathogenic to man:

- a) *Dracunculusmedinesnsis*
- b) *Wuchereriabancrofti*
- c) *Mansonellaperstans*
- d) *Brugiamalayi*
- e) *Brugiatimori*

73. Which parasite is commonly occurs in patients with immunosuppression?

- a) *Trichinellaspiralis*
- b) *Entamoebahistolytica*
- c) *Plasmodium knowlesi*
- d) *Cryptosporidium parvum*
- e) *Brugiamalayi*

74. *Giardia lamblia* is associated with:

- a) *Bloody diarrhea*
- b) *Mucoid diarrhea*
- c) *Hematemesis*
- d) *Colitis*
- e) *Vomiting*

75. One of the following is a soil transmitted helminth:

- a) *Trichiuristrichiura*
- b) *Loa loa* x insect
- c) *Dracunculusmedinensis* x snail
- d) *Leishmaniadonovani* x insect
- e) *Onchocerca volvulus* x insect

76. One of the following is a vector for *Wuchereriabancrofti*:

- a) *Aedes spp.*
- b) *Simulium spp.*
- c) *Phlebotomine sandflies* x
- d) *Musca spp.*
- e) *Cyclops* x

77. The drug of choice for *Schistosomajaponicum*:

- a) Albendazole
- b) Mebendazole
- c) Oxamniquine - *marvix*
- d) Metrifonate
- e) Praziquantel

78. A cardinal feature of congenital toxoplasmosis:

- a) Hydrocephaly
- b) Hydrnephrosis
- c) Hydrocele ✗
- d) Hypothermia
- e) Anemia

79. Trematodes include all the following EXCEPT:

- a) *Heterophyesheterophys*
- b) *Schistosomamansoni*
- c) *Loa loa*
- d) *Clonorchissinensis*
- e) *Paragonimuswestermani*

80. The drug of choice for tissue Amoebiasis is:

- a) Emetine
- b) Lumefantrine
- c) Chlorquine
- d) Metronidazole
- e) Fluconazole

81. The intermediate host for *schistosomamansoni* is:

- a) *Lymnea spp.*
- b) *Biomphalaria spp.*
- c) *Cyclops spp.*
- d) *Oncomelania spp.* ✓
- e) *Bulinus - H*

82. One of the following is NOT a control method for *Schistosomajaponicum*:

- a) Wearing shoes
- b) Proper sewage disposal ✓
- c) Chemotherapy with praziquantel ✓
- d) Drainage of stagnant water ✓
- e) Use of molluscicides ✓

83. One of the following is NOT a food-borne parasite:

- a) *Entamoeba histolytica*
- b) *Fasciola hepatica*
- c) *Capillaria philipinensis*
- d) *Mansonella ozzardi*
- e) *Balantidium coli*

84. A mode of transmission for *Trichinella spiralis* is:

- a) Pork
- b) Percutaneous
- c) Fecal-oral
- d) Blood transfusion
- e) Vertical transmission

85. One of the following is sexually transmitted:

- a) *Trichomonas hominis*
- b) *Trichomonas vaginalis*
- c) *Taenia solium*
- d) *Capillaria philipinensis*
- e) *Giardia lamblia*

86. Which of the following parasites are hermaphroditic?

- a) *Trichuris trichiura*
- b) *Fasciola hepatica*
- c) *Trichinella spiralis*
- d) *Strongyloides stercoralis*
- e) *Schistosoma haematobium*

87. Casoni test is useful in diagnosis of:

- a) *Taenia solium*
- b) *Trichinella spiralis*
- c) *Echinococcus granulosus*
- d) *Fasciolopsis buski*
- e) Myiasis

88. String test is useful in the diagnosis of which of the following?

- a) *Strongyloides stercoralis*
- b) *Entamoeba histolytica*
- c) *Trichuris trichiura*
- d) *Enterobius vermicularis*
- e) *Schistosoma haematobium*

89. Montenegro test is diagnostic in which of the following;
- a) Leishmaniasis
 - b) Amoebiasis
 - c) Trypanosomiasis
 - d) Malaria
 - e) Toxoplasmosis
90. Blood stained sputum is a symptom of which of the following infections
- a) Paragonimus africanus ✗
 - b) Trichurus trichiura
 - c) Enterobius vermicularis ✗
 - d) Hookworm infection
 - e) Taenia saginata ✗
91. Hepatosplenomegaly is a pathological complication in which of the following
- a) Leishmania donovani
 - b) Trypanosomiasis
 - c) Ascaris lumbricoides
 - d) Giardia lamblia
 - e) Entamoeba histolytica ✗
92. Which of the following drugs are used in severe and complicated malaria
- a) Chloroquine
 - b) Amodiaquine
 - c) Quinine
 - d) Fansider
 - e) Sulphadoxine pyrimetherium
93. Bloody diarrhoea is associated with which disease
- a) Ancylostomiasis
 - b) Trichiuriasis
 - c) Amoebiasis
 - d) Toxoplasmosis
 - e) Hydatidosis ✗
94. Which parasite has an egg with a lateral spine
- ~~a) Schistosoma haematobium~~
 - b) Schistosoma haematobium
 - c) Schistosoma mansoni
 - d) Schistosoma japonicum
 - e) Schistosoma intercalatum
95. Skin penetration is by which parasite
- a) Ascaris lumbricoides
 - b) Necator americanus
 - c) Entamoeba histolytica
 - d) Giardia lamblia
 - e) Taenia solium

96. Which of the following is an Ectoparasite

- a) Ascaris lumbricoides
- b) Tinea sagnata
- c) Musca domestica
- d) Tinea solium
- e) Ancylostoma duodenale

97. Which parasite is obtained through raw pork

- a) Taenia saginata
- b) Hymenolepis nana
- c) Hymenolepis dimunita
- d) Trichinella spiralis
- e) Ascaris lumbricoides

98. Which of the following is a vector of Mansonella pentans

- a) Culicoides sps
- b) Glossinai palpalis
- c) Rhodnius prolixus
- d) Stomoxis calcitrans
- e) Anopheles sps

99. Riverblindness is treated by which of the following;-

- a) DEC
- b) Quinine
- c) Albendazole
- d) Mebendazole
- e) Ivermectin

100. Megaloblastic anaemia is associated with

- a) Diphyllobathrium latum
- b) Plasmodium malaria
- c) Ancylostoma duodenale - microst
- d) Trichinella spiralis λ
- e) Necator americanus - megaloblastic