



Medical Microbiology (B213) Exam

Answer the following questions:

• **Choose the correct answer:**

- The microbe enters into a relationship with the host is called
 - Disease
 - infection
 - pathogenesis
 - immunity
- Entrance of the microbe into the host may be through
 - Broken skin
 - respiratory tract
 - gastrointestinal tract
 - all of them
- The microbe which completely unable to produce disease is called
 - High virulent
 - Avirulent
 - low virulent
 - mild virulent
- Virulent *Diphtheria bacilli* produce a powerful
 - Enzyme
 - toxin
 - acid
 - antibiotic
- Leukocidin is a substance produced by *staphylococci* and *streptococci* that kills
 - White blood cells
 - red blood cells
 - B-lymphocytes
 - T-lymphocytes
- Select antigen from the following
 - Bacterial cell wall
 - viral capsid
 - fungal spores
 - all of them
- Antibodies are produced by
 - B-lymphocytes
 - T-lymphocytes
 - Macrophages
 - Natural killer cells
- An example of nonspecific host defense mechanism
 - Hcl of stomach
 - antibodies
 - T helper(Th) cells
 - cytotoxic(Tc) cells
- Cell-mediated immune response is carried out by
 - T-lymphocytes
 - B-lymphocytes
 - Macrophages
 - Natural killer cells
- Antibodies are
 - Lipoproteins
 - Glycoproteins
 - Nucleoproteins
 - Polysaccharides
- Based on coagulase production, coagulase positive is
 - Staphylococcus aureus*
 - Staphylococcus epidermidis*
 - Staphylococcus saprophyticus*
 - none of them
- The diameter *Staphylococcus aureus* is pproximately
 - 2 μm
 - 3 μm
 - 1 μm
 - none of them
- Based on catalase test, catalase positive is
 - Staphylococcus aureus*
 - Strept. pyogenes*
 - Strept. agalactiae*
 - none of them
-is resistant to Novobiocin
 - Staphylococcus aureus*
 - Staphylococcus epidermidis*
 - Staphylococcus saprophyticus*
 - none of them
- Complete haemolysis caused by *Streptococci* is called

- a. α b. β c. γ d. ϵ

16. *Strept. pyogenes* causes

- a. Scarlet fever b. Enteric fever c. Follicular tonsillitis d. a and c

17. What does *Staphylococcus aureus* cause?

- a. Boils, food poisoning and wound infections b. pneumonia and otitis media
c. endocarditis and dental caries d. all of them

18. *Salmonella* is it a...

- a. Gram positive bacilli b. Gram negative bacilli c. Gram positive cocci d. none of them

19. Hepatitis B virus (HBV) is transmitted by

- a. Blood and bodily fluids b. Airborne c. Waterborne d. Foodborne

20. Thrush and mucocutaneous infection is caused by

- a. *Candida albicans* b. *Escherichia coli* (*E. coli*) c. *Aspergillus* spp d. *Treponema pallidum*

21. *Neisseria gonorrhoeae* causes gonorrhoea. Is it a...

- a. Gram-negative cocci b. Gram-negative bacilli c. Gram-positive bacilli d. Gram-positive cocci

22. Which vector(s) carry rabies?

- a. Mosquito. b. Mice and rats. c. Rodents and monkeys, d. Dogs, foxes and bats

23. Which of these is not a bloodborne virus?

- a. HIV b. Hepatitis A c. Hepatitis B d. Hepatitis D

24. Which of these is not a gram negative bacteria?

- a. *E. coli* b. *Salmonella* c. *Haemophilus influenzae* d. *Streptococcus pneumoniae*

25. Lancefield classification of *Streptococci* based on

- a. Cell wall carbohydrate b. M protein c. Streptolysin O d. all of them

26.facilitate the spread of *Streptococci* through tissues

- a. Deoxynucleases b. Streptokinases c. Hyaluronidases d. all of them

27. Rheumatic fever leads to damage

- a. heart valves muscle b. nephrons of kidney c. bone marrow d. a and b

28. Rheumatic fever can be prevented by prophylactic long actingadministration

- a. Tetracycline b. Penicillin c. Vancomycin d. Streptomycin

29. Which organisms give complete haemolysis when are cultivated on blood agar

- a. *Strept. pyogenes* b. *Strept. pneumoniae* c. *Strept. agalactiae* d. a and c

30. According to CAMP test, the positive result is produced by

- a. *Strept. pyogenes* b. *Strept. pneumoniae* c. *Strept. agalactiae* d. a and c

31. A positive C-reactive protein (CRP) and a high antistreptolysin O titre (ASOT) are indication for

- a. Scarlet fever b. Enteric fever c. Rheumatic fever d. a and c

32. For diagnosis of HBV, the sample was taken from

- a. stool b urine c. blood d. all of them

33. Which of the *E. coli* listed below produce a cholera-like toxin causes watery diarrhea?

- a. Enterotoxigenic *E. coli* (ETEC) b. Enteroinvasive *E. coli* (EIEC) c. Enteropathogenic *E. coli* (EPEC) d. Enterohemorrhagic *E. coli* (EHEC).
34. Which of the *E. coli* listed below causes bloody diarrhea without pus?
a. Enterotoxigenic *E. coli* (ETEC) b. Enteroinvasive *E. coli* (EIEC) c. Enteropathogenic *E. coli* (EPEC) d. Enterohemorrhagic *E. coli* (EHEC).
35. *Escherichia coli* grows on MacConkey's medium and producecolonies
a. rose pink b. pale yellow c. golden yellow d. faint green
36. Antigenic Structure of *Salmonella* depended on
a. O antigen (somatic) b. H antigen (flagellar) c. Vi antigen (surface) d. all of them
37. Antigenic Structure of *E. coli* depended on
a. O antigen (somatic) b. H antigen (flagellar) c. K antigen (capsular) d. all of them
38. *Salmonella* live in the intestinal tracts of
a. some animals b. some humans c. a and b d. none of them
39. Transmission of *Salmonella* is via a
a. fecal-oral route b. blood c. skin d. sexual contact
40. *Escherichia coli* is the leading cause of
a. Localized skin infections b. urinary tract infections c. respiratory tract infections d. all of them
41. *Salmonella* causes
a. Scarlet fever b. Enteric fever c. Rheumatic fever d. All of them
42. Which of the proteins listed below directly inhibit phagocytosis?
a. Listolysin O b. M protein c. IgA protease d. b and c
43. Transmission of gonorrhoea is via a
a. fecal-oral route b. blood transfusion c. sexual contact d. a and c
44. Virulence factors of *Neisseria gonorrhoea* are
a. pili b. IgA protease c. Lipopolysaccharides d. all of them
45. Chemically, virus is composed of
a. Protein b. nucleic acid c. a and b d. none of them
46. Generally, medically important viruses vary in size from
a. 5 to 10 nm b. 20 to 300 nm c. 100 to 1000 nm d. 1000 to 2000 nm
47. Viruses are cultivated in
a. Embryonated eggs b. Tissue cultures c. Blood agar media d. a and b
48. Heat alters the structure of
a. viral proteins b. viral nucleic acids c. a and b d. none of them
49. Ultraviolet light affects
a. viral DNA b. viral protein c. a and b d. viral envelope
50. Phenol reacts with
a. viral DNA b. viral protein c. a and b d. viral envelope

- 51.** Light Microscopy can detect
 a. viral inclusion body b. viral DNA c. viral capsid d. none of them
- 52.** Nucleic acid hybridization depends on.....in diagnosis of viral infection
 a. viral DNA b. viral protein c. a and b d. viral envelope
- 53.** ELISA depends on.....in diagnosis of viral infection
 a. viral DNA b. viral protein c. a and b d. none of them.
- 54.** Addition of specific antisera to the clinical materials lead to aggregation of virus, this is used for
 a. Nucleic acid hybridization b. ELISA c. Immunoelectron microscopy d. all of them
- 55.** DNA probes are used in.....technique for detection of viral infection
 a. ELISA b. dot blot hybridization c. neutralization d. a and c
- 56.** In haemagglutination inhibition test, we usedas carrier particles
 a. antibodies b. white blood cells c. red blood cells d. a and c
- 57.** In positive result of complement fixation test, RBCs are.....
 a. lysed b. not lysed c. agglutinated d. precipitated
- 58.** Specimens collection for respiratory viruses isolation obtained from
 a. Throat washings b. throat swabs c. blood d. a and b
- 59.** From serological analyses used in diagnosis of viral infections are
 a. ELISA tests b. hemagglutination tests c. PCR tests d. a and b
- 60.** Tests depend on antibodies and antigens reactions are
 a. ELISA tests b. hemagglutination tests c. a and b d. PCR tests
- 61.** In ELISA test, the positive result appeared as change in
 a. color b. light c. fluorescing d. none of them
- 62.** From requirements of In situ hybridization test are
 a. Tissue sections b. Nitrocellulose membranes c. a and b d. Primers
- 63.** The antibody and antigen (in a soluble form) combine to form
 a. precipitation b. agglutination c. clumping d. a and b
- 64.** Core of influenza viruses contains
 a. ssRNA segmented (8) b. dsRNA segmented (8) c. ssDNA segmented (8) d. dsDNA segmented (8)
- 65.** Capsid of influenza viruses is
 a. Spherical b. filamentous c. complex d. none of them
- 66.** mediates binding of the influenza virus to target cells
 a. Hemagglutinin (HA) b. Neuraminidase (NA) c. a and b d. Capsid (cap)
- 67.**occurs by reassortment between different segments of human and animals influenza virus of type A
 a. Antigenic shift b. Antigenic drift c. Complementation d. a and b
- 68.** From symptoms of influenza
 a. Fever b. cough c. runny or stuffy nose d. all of them

- 69.** Secretory..... in respiratory tract against hemagglutinin prevents influenza.
 a. IgA b. IgM c. IgG d. IgD
- 70.** Influenza virus cultures on
 a. Embryonated eggs b. serum media c. blood agar media d. a and b
- 71.** Incubation period of HAV from
 a. 4-8 weeks b. 2-6 weeks c. 2-12 weeks d. 1-3 weeks
- 72.** Molecular diagnosis of HAV using
 a. RT-PCR b. PCR c. multiplex-PCR d. RAPD-PCR
- 73.** Tubular form of HBV represents
 a. HBsAg b. HBcAg c. HBeAg d. a and c
- 74.** There areforms of HBV structure
 a. 4 b. 3 c. 2 d. 5
- 75.** Dane particle of HBV within size
 a. 15 nm b. 22 nm c. 42 nm d. 80 nm
- 76.** HBV vaccinated persons have positive
 a. HBsAb b. HBcAg c. HBeAg d. a and b
- 77.** HBV infected persons have negative
 a. HBsAb b. HBcAg c. HBeAg d. a and c
- 78.** Detection HBV in blood is done by
 a. PCR b. Electron microscopy (EM) c. a and b d. none of them
- 79.** In laboratory diagnosis of HBV, Liver enzymes like (ALT) are inlevels
 a. low b. high c. normal d. very low
- 80.** Hepatitis A virus (HAV) causes
 a. hepatocellular carcinoma b. acute hepatitis c. chronic hepatitis d. none of these
- 81.** Hepatitis C virus (HCV) has
 a. ssDNA b. ssRNA c. dsRNA d. dsDNA
- 82.** From symptoms of HCV are
 a. yellowing of the skin and eyes b. cough and shortness of breath c. rashes d. a and b
- 83.** There are no vaccines to prevent.....
 a. HAV b. HBV c. HCV d. b and c
- 84.** A person can contract hepatitis C through any of the following:
 a. Blood transfusion b. Sharing of contaminated needles c. Uncooked foods d. a and b
- 85.** A person can contract hepatitis A through any of the following:
 a. Mosquito bites b. Eating of contaminated foods c. Sexual contact d. a and b
- 86.** Human Immunodeficiency Virus (HIV) infects.....
 a. CD4 cells b. CD8 cells c. a and b d. none of them
- 87.** Acquired Immunodeficiency Syndrome (AIDS) is transmitted by
 a. Infected blood products transfusions b. sexual contact c. a and b d. Mosquito bites

88. In HIV detection, if ELISA test gave +ve result it should be repeated by..... technique
a. western blot b. northern blot c. southern blot d. all of them
89. Antifungal agents (Polyoxins) inhibit the biosynthesis of.....of fungal cells.
a. chitin b. lignin c. pectin d. suberin
90. Amphotericin B is an antifungal agent, it binds with..... of fungal cell membranes.
a. cholesterol b. lanosterol c. ergosterol d. b and c
91. *Candida albicans* is considered afungus
a. monomorphic b. dimorphic c. pleiomorphic d. none of them
92. *Candida albicans* reproduces by
a. conidiospores b. arthrospores c. blastospores d. a and c
93. In diagnosis of *Candida albicans*, it was cultured on.....agar medium
a. Sabouraud b. Tryptone Soya c. Nutrient d. Starch Nitrate
94. Difference between *Candida albicans* and non-pathogenic candida is done by
a. Germ tube test b. chlamydospores formation test c. sugar fermentation test d. a and b
95. The most common pathogen for *Tinea corporis* “ringworm” is
a. *Trichophyton rubrum* b. *Trichophyton mentagrophytes* c. *Epidermophyton floccosum*
d. *Trichophyton tonsurans*
96. *Tinea pedis* affects
a. Hair and scalp b. the trunk and face c. the soles of the feet and between the toes
d. all of them

“Best wishes”

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The model answer for Medical Microbiology (B213) Exam

(20/1/2019)

The correct answer:

48 marks

1. b
2. d
3. b
4. b
5. a
6. d
7. a
8. a
9. a
10. b
11. a
12. c
13. a
14. c
15. b
16. d
17. a
18. b
19. a
20. a
21. a
22. d
23. b
24. d
25. a
26. d
27. a
28. b
29. d
30. c
31. c
32. c
33. a

34.d
35.a
36.d
37.d
38.a
39.a
40.b
41.b
42.b
43.c
44.d
45.c
46.b
47.d
48.c
49.a
50.b
51.a
52.a
53.b
54.c
55.b
56.c
57.b
58.d
59.d
60.c
61.a
62.a
63.a
64.a
65.a
66.a
67.a
68.d
69.a
70.a
71.b

72.a

73.a

74.b

75.c

76.a

77.a

78.c

79.b

80.b

81.b

82.a

83.c

84.d

85.b

86.a

87.c

88.a

89.a

90.c

91.c

92.c

93.a

94.d

95.a

96.c

“Best wishes”