

DEPARTMENT OF MEDICAL MICROBIOLOGY

CONTINUOUS ASSESSMENT TEST FOR BDSII/BPH II 2014/2015

UPC 208 & HMM 210

MULTIPLE CHOICE QUESTIONS

06/07/2015

10.30 to 12.00

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Instructions

- a. Answer all the questions
- b. Answer as directed in each question, if you make a correction do so clearly.
- c. Choose one response for every question

1. Which of the following pathogens does not form part of the nasopharyngeal microbiota

- a. *Haemophilus influenzae*
- b. *Moraxella catarrhalis*
- c. *Staphylococcus aureus*
- d. *Clostridium tetani*
- e. *Neisseria meningitidis*

2. Which of the following is not a general characteristic of Streptococci

- a. Non-motile
- b. Catalase negative
- c. May or may not be capsulated
- d. Spore-forming
- e. Some are strict anaerobes

3. False statement about *Streptococcus agalactiae*

- a. Normal flora in the genitourinary tract in some individuals
- b. Causes neonatal sepsis
- c. Bacitracin sensitive
- d. Catalase negative
- e. Shows β -haemolysis on blood agar

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4. True statement about viridans Streptococci

- a. β -haemolytic
- b. Optochin sensitive
- c. Bile soluble
- d. Vaccine preventable
- e. Cause subacute endocarditis

5. Not a general characteristic of *Haemophilus* species

- a. Gram-negative coccobacilli
- b. Non-motile
- c. Oxidase positive
- d. Catalase negative
- e. Facultative anaerobes

6. True statement about *Haemophilus ducreyi*

- a. Transmission is by droplet inhalation
- b. Causes a painless ulcer
- c. Only requires the V factor for growth
- d. Metronidazole is the drug of choice
- e. Fastidious and requires a special nutritive base

7. False description of *Bordetella pertussis* whooping cough

- a. Gram-negative coccobacilli
- b. Obligate aerobes
- c. Capsulated
- d. Non-spore forming
- e. Motile

8. All the following antimicrobial agents are useful for the treatment of whooping cough except

- a. Azithromycin
- b. Amoxicillin
- c. Chloramphenicol
- d. Ampicillin
- e. Flucytosine

9. *Brucella melitensis* can be transmitted to humans via

- a. Mother to child transmission
- b. Ingestion
- c. Traumatic inoculation
- d. Animal bite
- e. Tick bite

13. Which of the following statements is true about normal flora.
- Only comprised of bacteria and viruses
 - Colonization occurs after birth
 - Corynebacterium* spp predominate in sebaceous areas of the skin
 - Normal bacterial flora in the stomach comprise of basophilic Gram-positive bacteria.
 - Majority of the bacterial normal flora in the large intestines are obligate aerobes

14. The following are mechanisms of gene transfer in bacteria except
- Conjugation
 - Programmed rearrangements
 - Sporulation
 - Transformation
 - Transduction

15. Virulence factors of *Neisseria gonorrhoeae* include the following except

- Capsule
- Outer membrane proteins
- Pili
- Endotoxin
- IgA protease

16. Sterilization of antibiotic solutions can be achieved by

- Filtration through nitrocellulose membrane
- Autoclaving
- Gamma radiation
- Boiling
- Exposure to ultraviolet light

17. Antipseudomonal agents include the following except

- Ampicillin
- Piperacillin
- Ceftazidime
- Meropenem
- Imipenem

18. An identifying laboratory characteristic for *Salmonella enterica typhi*

- Lactose fermenter
- Urease positive
- Oxidase positive
- Golden yellow colonies on Blood Agar
- Production of hydrogen sulphide on TSI agar slant

16. Skin disinfectants include

- a. Lysol
- b. Sodium hypochlorite
- c. Glutaldehyde
- d. Ethylene oxide
- e. Isopropyl alcohol

17. The following item is utilized in laboratory isolation of *Neisseria meningitidis* from CSF specimen

- a. Potassium tellurite agar
- b. Fildes McIntosh jar
- c. CO₂ extinction jar
- d. Gas Pak jar
- e. Loeffler's serum agar

18. Enrichment media for isolation of *Salmonella* from stool

- a. Sodium thioglycolate broth
- b. Cary Blair medium
- c. Alkaline Peptone water
- d. Selenite F broth / tetrathionate
- e. Blood agar

19. Items used to monitor efficacy of heat sterilization include the following except

- a. *Bacillus subtilis* spores
- b. *Bacillus stearothermophilus* spores
- c. *Bacillus anthracis* spores
- d. Bowie Dick tapes
- e. Browne's tubes

20. Hospital acquired infections that can occur from contaminated antibiotic solutions or respiratory therapy equipment would most likely be caused by

- a. *Escherichia coli*
- b. *Staphylococcus aureus*
- c. *Pseudomonas aeruginosa*
- d. *Proteus* species
- e. *Klebsiella pneumoniae*

21. Double zone haemolysis is a characteristic of

- a. *Clostridium botulinum*
- b. *Clostridium difficile*
- c. *Clostridium perfringens*
- d. *Corynebacterium diphtheriae*
- e. *Clostridium tetani*

22. Most suitable medium for initial inoculation of a specimen for isolation of obligate anaerobic pathogens is

- a. Thayer Martin
- b. Selenite broth
- c. Potassium tellurite agar
- d. Nutrient agar
- e. Robertson's cooked meat medium / Thioglycolate

23. Aerobic Gram positive filamentous bacteria which is also acid fast is

- a. *Nocardia brasiliensis*
- b. *Actinomyces israelii*
- c. *Actinomadura madurae*
- d. *Streptomyces somaliensis*
- e. Bifidobacterium species

24. Which one is not significant in pathogenicity of Gram negative bacteria

- a. Capsule
- b. Spore formation
- c. Exotoxins
- d. Plasmids
- e. Hyaluronidase

25. *Clostridium sporogenes*

- a. Is a causative agent of gas gangrene
- b. Is a facultative anaerobe
- c. Produces a neurotoxin
- d. Has no significant pathogenic role
- e. Releases cytotoxins

26. Bacteroides species are

- a. Gram positive spore-forming bacilli
- b. Isolated using carbon dioxide jar
- c. Generally susceptible to penicillin
- d. Causative agents of infectious lesions together with facultative anaerobes
- e. Producers of heat labile exotoxins

27. *Corynebacterium diphtheriae*

- a. Causes bacteraemia
- b. Reduces tellurite in cultures
- c. Is capsulated
- d. Endotoxin is responsible for severity of associated illness
- e. Loeffler's serum is a selective medium

28. False statement for *Bacillus* species
- a. Causative agent of wound infection
 - b. Causative agent of food borne diarrhoeal illness
 - c. Possession of a polysaccharide capsule
 - d. Formation of Medusa head like colonies
 - e. Susceptibility to penicillin
29. Actinomycetes
- a. Are strictly human pathogens
 - b. Produce endospores
 - c. Are Gram negative coccobacilli
 - d. Are not culturable in artificial media
 - e. Are encountered as saprophytes in the environment
30. Recognized complications of diphtheria include
- a. Myocarditis
 - b. Pleural effusion
 - c. Toxic shock syndrome
 - d. Rheumatic fever
 - e. Septicaemia
31. Strict anaerobes
- a. Grow well in low concentrations of oxygen and higher carbon dioxide
 - b. Require O_2 for growth
 - c. Grow in the absence of O_2
 - d. Do not require O_2 for growth but grow better in its presence
 - e. Produce catalase enzyme
32. The following statement is True regarding *Staphylococcus aureus* except
- a. Colonization rate rises in long stay hospital patients
 - b. Main mode of identification is by of Coagulase production
 - c. Responsible for community acquired infections ✓
 - d. Preformed toxins in food are responsible for food poisoning ✓
 - e. All strains are sensitive to methicillin
33. The following is not true about *Escherichia coli*
- a. Causes urinary tract infections
 - b. Capsulated strains are associated with neonatal meningitis
 - c. Is a normal habitat of gastrointestinal tract
 - d. Some strains causes bloody diarrhea
 - e. Does not ferment lactose

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34. Antibiotic that targets the 50s ribosomal subunit

- a. Chloramphenicol
- b. Vancomycin
- c. Ceftriaxone
- d. Erythromycin
- e. Rifampicin

35. Activities that occurs during bacterial stationary phase

- a. Maximal growth rate
- b. Cell division
- c. Vigorous metabolic activity
- d. Cells undergo binary fission
- e. Spore formation

36. The following statement on *Vibrio cholerae* is true except

- a. It adheres to the epithelia cells of gastric intestinal mucosa via pili
- b. A low infectious dose will elicit an infection
- c. Produces mucinase which dissolves protective glycoprotein coating cells
- d. High motility
- e. It produces an enterotoxin

37. *Staphylococcus epidermidis*

- a. Coagulase positive
- b. Resistant to novobocin
- c. Have superantigen activities that induce toxic shock syndrome
- d. Causes bacteremia related to indwelling devices
- e. Infections are treated with penicillin

38. Complication associated with *Campylobacter jejuni* infection

- a. Trichiasis
- b. Guillain-Barré syndrome
- c. Cholecystitis
- d. Peritonitis
- e. Endocarditis

39. The following is useful in diagnosis of *Helicobacter pylori* except

- a. Blood antibody test
- b. Stool antigen test
- c. carbon urea breath test
- d. Urease test
- e. Culture on MacConkey

40. Antibiotics act on the following components of the bacterial cell except

- a. Cell wall
- b. Cell membrane
- c. Ribosomes
- d. Capsules
- e. Nucleoid

41. The following viruses replicate in the host cell ^{DNA} nucleus:

- a. All DNA viruses
- b. All RNA viruses
- c. All retroviruses
- d. All naked viruses
- e. All enveloped viruses

42. One of the following is not important in control of yellow fever:

- a. Vaccination
- b. Antiviral agents
- c. Eliminating mosquito breeding sites
- d. Surveillance
- e. Health education

43. Which of the following blocks viral release?

- a. Amantadine
- b. Tenofovir
- c. Oseltamivir
- d. Bocepravir
- e. Acyclovir

44. Which of the stages of HIV is characterised by the highest likelihood of transmission?

- a. Primary HIV infection
- b. Asymptomatic phase
- c. After ART initiation
- d. Patients with high CD-4 count
- e. Patients with low viral load

45. Which of the following is a vaccine-preventable cause of hepatocellular carcinoma?

- a. Hepatitis A virus
- b. Hepatitis B virus
- c. Hepatitis C virus
- d. Hepatitis D virus
- e. Hepatitis E virus

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46. Virus nucleocapsid is composed of
- Genetic material
 - Capsid protein
 - Envelope protein
 - Capsid & Envelope protein
 - Nucleic acid & capsid protein
47. Hepatitis D virus only replicates in the presence of what other virus?
- Hepatitis A virus
 - Hepatitis B virus
 - Hepatitis C virus
 - Hepatitis E virus
 - Herpesvirus
48. Nucleoside reverse-transcriptase inhibitors (NRTIs) can be used to treat infections with this virus
- Herpesviruses
 - Rhinovirus
 - Paramyxovirus
 - Influenza virus
 - Hepatitis B virus
49. Latency and reactivation is an important characteristic of this virus
- Human T-Lymphotropic Virus type 1 (HTLV-1)
 - Measles virus
 - Varicella-zoster virus (VZV) (chicken pox)
 - Adenovirus 21
 - Poliovirus
50. During the "window" period in HIV-1 infection, exposed persons should be tested for infection using
- Microscopy
 - Antibody ELISA
 - Western blot
 - Polymerase-chain reaction
 - Rapid tests

51. A mechanism that is a component of both the natural and acquired immune response:

- a. Phagocytosis
- b. Inflammation
- c. Endocytosis
- d. Cell differentiation
- e. Exocytosis

52. An altered or virally infected cell, against which a cytotoxic (cytolytic) cell - mediated immune response is directed, is known as:

- a. Cytotoxic cell
- b. Opsonized cell
- c. Target cell
- d. Memory cell
- e. Secondary immune cell

53. Which of the following are soluble mediators of an immune response released during T cell activation?

- a. Complement
- b. Thymosin
- c. Cytokines
- d. Hormones
- e. Immunoglobulins(Igs)

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5. Decay - accelerating factor (DAF) regulates the complement system to prevent - mediated lysis of cells. This involves:
- Dissociation of C4b2a or the C3bBb enzyme complex.
 - Blocking the binding of C3 convertase to the surface of bacterial cells.
 - Inhibiting the membrane attack complex from binding to bacterial membranes.
 - Acting as a cofactor for the cleavage of C3b.
 - Causing dissociation of C5 convertase.
9. All of the following statements describe immediate hypersensitivity (allergic/atopic) except.
- Most cells bind Ig E via their Fc receptors.
 - The response occurs on a second or subsequent encounter with the same antigen.
 - Complement is required for antigen binding with antibody.
 - Ig E is the antibody molecule that mediate the reaction.
 - Basophils are important cells.
3. A serious complication of the immunosuppressive agents is the:
- Increased incidence of autoimmune diseases.
 - Increased susceptibility to opportunistic infections.
 - Loss of tuberculin sensitivity in patients with tuberculosis.
 - Loss of hair.
 - Decrease in complement levels.
59. Each individual human may express:
- A maximum of 6 MHC Class I alleles from 3 Class I gene loci (HLA-A, -B, -C)
 - A maximum of 3 MHC Class I alleles from 3 Class I gene loci (HLA-A, -B, -C)
 - A maximum of 6 MHC Class I alleles from 6 Class I gene loci (HLA-A, -B, -C, -DQ, -DP, -DR)
 - A minimum of 6 MHC Class I alleles from 3 Class I gene loci (HLA-A, -B, -C)
 - All of the above
60. Mumps and measles are not generally given before the age of 1 year. A likely immunological basis for this is:
- Cell mediated immunity is defective
 - Inadequate Ig M response
 - Inadequate Ig A response
 - Inadequate Ig E response
 - Passive acquisition of maternal Ig M interfering with hormonal immune response.

PARASITIC

61. Malnutrition is associated with which parasite
- a. *Ancylostoma duodenale*
 - b. *Ascaris lumbricoides*
 - c. *Necator americanus*
 - d. *Trichinella spiralis*
 - e. *Entamoeba histolytica*
62. Which parasites can cross the placenta to reach the foetus
- a. *Taenia saginata*
 - b. *Trichomonas vaginalis*
 - c. *Trichinella spiralis*
 - d. *Toxoplasma gondii*
 - e. *Toxocara cati*
63. Severe and complicated malaria is treated by which drugs
- a. Chloroquine
 - b. Suramin
 - c. Quinine
 - d. Sulphadiazine-pyrimethamine
 - e. Amodiaquine
64. Cerebral spinal fluid examination is useful in the diagnosis of
- a. Trypanosomiasis
 - b. Taeniasis
 - c. Giardiasis
 - d. Amoebiasis
 - e. *Loa loa*
65. Pathological fracture is common in which parasitic disease
- a. Hydatid disease
 - b. Ascariasis
 - c. Hookworm disease
 - d. Filariasis
 - e. Amoebiasis
66. Megaloblastic anaemia is common in which parasitic disease
- a. *Diphyllobothrium latum*
 - b. *Necator americanus*
 - c. *Taenia solium*
 - d. *Taenia saginata*
 - e. *Loa loa*

67. Which of the following parasites may present with bloody diarrhoea
- ~~Plasmodium ovale~~
 - Entamoeba histolytica**
 - Giardia lamblia
 - Trichomonas vaginalis
 - Entamoeba butchilii
68. Which is a mechanical vector
- Musca domestica
 - Tsetse fly
 - Anopheles gambiae
 - Phlebotomus martini
 - Chrysops
69. Microcytic anaemia is common in which parasitic infection
- Diphyllobothrium latum
 - Entamoeba histolytica
 - Ancylostoma duodenale
 - Trichinella spiralis
 - Ascaris lumbricoides
70. Which of the following parasites may cause jaundice
- Ascaris lumbricoides
 - Trichinella spiralis
 - Trichuris trichiura
 - Necator americanus
 - Ancylostoma duodenale
71. Meat inspection is a control strategy for which parasitic disease
- Ascariasis
 - Schistosomiasis
 - Amoebiasis
 - Taeniasis
 - Trypanosomiasis
72. The drug of choice for the treatment of Taenia saginata is
- Melarsoprol
 - Metronidazole
 - Metrifonate
 - Bephenium hydroxide
 - Praziquantel**

73. River blindness is due to which parasite

- a. *Onchocerca volvulus*
- b. *Loa loa*
- c. *Mansonella perstans*
- d. *Wuchereria bancrofti*
- e. *Brugia malayi*

74. The following parasite is sexually transmitted

- a. *Echinococcus granulosus*
- b. *Trichomonas vaginalis*
- c. *Giardia lamblia*
- d. *Entamoeba coli*
- e. *Entamoeba hartmanii*

75. Acute renal failure may be associated with

- a. *Plasmodium falciparum*
- b. *Plasmodium knowlesi*
- c. *Entamoeba coli*
- d. *Plasmodium ovale*
- e. *Entamoeba hartmanii*

76. *Toxocara canis* may be responsible for

- a. Swimmer's itch
- b. Visceral larval migrans
- c. Cutaneous larva migrans
- d. Allergic dermatitis
- e. Cysticercosis

77. The following parasites are obtained through eating meat

- a. *Trichinella spiralis*
- b. *Onchocerca volvulus*
- c. *Ascaris lumbricoides*
- d. *Giardia lamblia*
- e. *Entamoeba histolytica*

78. All but one of the following statements are correct, which is the incorrect statement?

- a. Insects are arthropods
- b. *Arachnids are arthropods*
- c. Some arachnids produce toxins
- d. All arthropods are disease vectors of humans
- e. Ectoparasites include insects and arachnids

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19. The following disease does NOT ^{involve} biological transmission by a vector
- African trypanosomiasis
 - Malaria
 - American trypanosomiasis
 - Leishmaniasis
 - Amoebiasis
20. Which of the following helminths requires an insect as intermediate host
- Hymenolepis diminuta*
 - Ascaris lumbricoides*
 - Echinococcus granulosus*
 - Trichinella spiralis*
 - Fasciola hepatica*
21. Which of the following is not an ectoparasite
- Flea
 - Pubic lice
 - Cockroach
 - Screwworm fly (Maggot fly)
 - Tick
22. Which of the following statements is not true
- Epimastigotes have a flagellum
 - Amastigotes have a nucleus
 - Trypomastigotes have no flagellum
 - Amastigotes have a kinetoplast
 - Trypomastigotes have a kinetoplast
23. Four of the following are clinical features of African trypanosomiasis; which one is not
- Jaundice
 - Anaemia
 - Lymphadenopathy
 - Fever
 - Blindness
24. Which one of the following is not useful in the diagnosis of African trypanosomiasis
- Amniocentesis
 - Serology
 - Animal inoculation
 - Lymph node aspiration
 - Blood smear

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85. In Kenya, the parasite for leishmaniasis is present in the following areas except

- a. Baringo
- b. Laikipia
- c. Nyeri
- d. Isiolo
- e. Nakuru

86. One of the following drugs is not useful in the treatment of leishmaniasis; which one

- a. Pentostam (sodium stibogluconate)
- b. Mebendazole
- c. Amphotericin B
- d. Ketoconazole
- e. Paromomycin

87. Which of the following statements is not true about post kalazar dermal leishmaniasis (PKDL)

- a. Lesions can occur on glans penis
- b. Can be misdiagnosed as leprosy
- c. Can cause blindness
- d. Is a complication of syphilis
- e. Lesions may heal spontaneously

88. Which of the following are late presentations of American trypanosomiasis

- a. Megaoesophagus, Megacolon, Cardiomegaly
- b. Cardiomegaly, Hepatomegaly, Splenomegaly
- c. Hydrocoele, Cardiomegaly, Megacolon
- d. Megacolon, Megaoesophagus, Hydrocephalus
- e. Megaoesophagus, Cardiomegaly, Elephantiasis

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 the following infection

- a. Paragonimus africanus
- b. *Trichuris trichiura*
- c. *Enterobius vermicularis*
- d. Hookworm infection
- e. *Taenia saginata*

91. Hepatomegaly 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 parasites are hermaphroditic
- a. *Trichuris trichiura*
 - b. *Fasciola hepatica*
 - c. *Trichinella spiralis*
 - d. *Strongyloides stercoralis*
 - e. *Schistosoma haematobium*
93. Casoni test is useful in diagnosis of
- a. *Taenia solium*
 - b. *Trichinella spiralis*
 - c. *Echinococcus granulosus*
 - d. *Fasciolopsis buski*
 - e. *Myiasis*
94. 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*
95. Which parasite has egg with lateral spine
- a. *Schistosoma mathei*
 - b. *Schistosoma haematobium*
 - c. *Schistosoma mansoni*
 - d. *Schistosoma japonicum*
 - e. *Schistosoma intercalatum*
96. Skin penetration is by which parasite
- a. *Ascaris lumbricoides*
 - b. *Necator americanus*
 - c. *Entamoeba histolytica*
 - d. *Giardia lamblia*
 - e. *Taenia solium*

97. The following parasites may cause lesions in the CNS

- a. *Entamoeba coli*
- b. *Taenia solium*
- c. *Dipylidium caninum*
- d. *Toxocara cati*
- e. *Taenia saginata*

98. Eye involvement is common in which parasitic disease

- a. *Wuchereria bancrofti*
- b. *Onchocerca volvulus*
- c. *Onchocerca volvulus* LOA LOA
- d. *Dracunculus medinensis*
- e. *Brugia malayi*

99. Macrocytic hypochromic anaemia is associated with

- a. *Taenia saginata*
- b. *Diphyllobothrium latum*
- c. *Taenia solium*
- d. *Dipylidium caninum*
- e. *Echinococcus granulosus*

100. Bloody diarrhoea is associated with which disease

- a. Ancylostomiasis
- b. Trichuriasis
- c. Amoebiasis
- d. Toxoplasmosis
- e. Hydatidosis

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