

PUNERTH-12

REG. NUMBER

Zoonosis

ONA: SEQ

- Vector - *Xenopsylla cheopis*  
 - Reservoir - rodents - rats, squirrel  
 - Transmission - bite (by flea) <sup>blood</sup> regurgitation into the wound  
 - *Yersinia pestis* to humans. (5 marks)  
 Pneumonic plague - aerosol.

- a) Write short notes on the transmission of *Yersinia pestis* to humans. (5 marks)
- b) Write short notes on *Histoplasma capsulatum capsulatum*. (5 marks)
- c) Write short notes on clinical manifestations of infection by pathogenic species of mycoplasma, and indicate the causative agent. (5 marks)
- d) Write short notes on virulence factors associated with uropathogenic strains of *E. coli*. (5 marks)

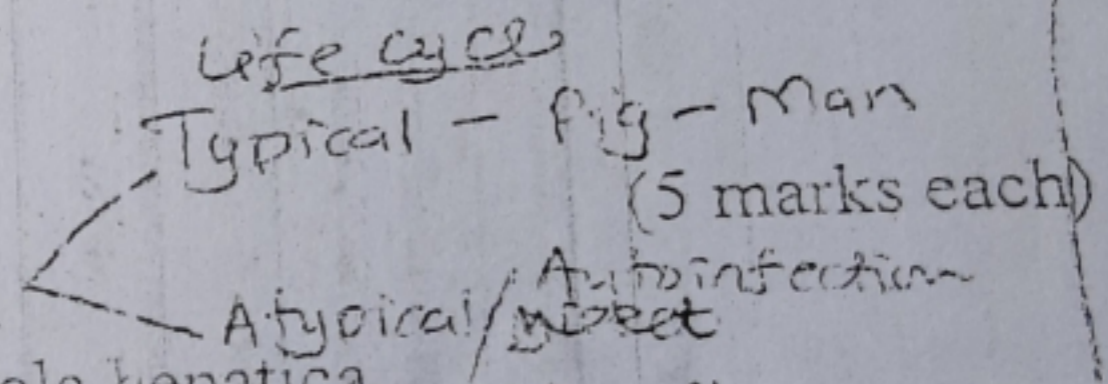
- Fimbriae ✓
- Capsule ✓
- Flagella ✓
- Toxins ✓
- Endotoxins ✓

EHEC

[Total 20 marks]

Write short notes on each of the following:

- a) Life cycle and complications of *Taenia solium*
- b) Pathology and clinical manifestations of *Fasciola hepatica*
- c) Laboratory diagnosis and treatment of *Plasmodium falciparum*
- d) Prevention and control of *Wuchereria bancrofti*



Complicated

Uncomplicated *falciparum*, non-multiplying  
 & A+B Artemisinin <sup>Bayer</sup> resistant  
 A + Sulfur/pyrimine A + mefloquine  
 A + Lumefantrine

[Total 20 marks]

a) Outline the use of Hepatitis B surface Antigen (HBsAg) and surface antibody (anti-HBs) in laboratory diagnosis of Hepatitis E virus infection. (5 marks)

Briefly discuss approaches used in the production of live attenuated and killed viral vaccines. (5 marks)

[Total 10 marks]

- ✓ HBsAg - Infection marker - Immunity?
- ✓ anti HBs IgM - Acute - latent?
- ✓ anti HBs IgG - Chronic + Immunity

\* Viral  $\oplus$  ~~Vienna~~ capsid  
 Virulence factors

Whole - attenuated  
 Killed

Adult  
 ↓  
 Proglot  
 ↓  
 Egg  
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## SECTION B : MCQ

1. Which of the following statements about *Brucella* spp. is false
  - a) Their prime targets are macrophages
  - b) There is temporary fusion of the *Brucella*-containing vacuole with the lysosome
  - c) Bone and joint involvement is the most frequent complication of brucellosis
  - d) *Brucella* species have a high infectious dose
  - e) They are facultative intracellular pathogens
2. True about *Haemophilus influenzae*
  - a) Motile  Flagella
  - b) Capsule contains polyribosyl-ribitol phosphate
  - c) Obligate pathogen
  - d) Grows luxuriously on blood agar
  - e) Vaccines are available for serotypes a, b and c  Hib
3. Which of the following organisms is not a member of the spotted Fever Group Rickettsia
  - a) *Rickettsia africae*
  - b) *Rickettsia rickettsii*
  - c) *Rickettsia conorii*
  - d) *Rickettsia askari*
  - e) *Rickettsia prowazekii*
4. Which of the following is not useful in the species identification of *Candida* spp.
  - a) Chromagar
  - b) Chlamyospore production
  - c) Carbohydrate assimilation
  - d) Carbohydrate fermentation
  - e) Birdseed agar
5. Which of the following is false about *Pausteuella multocida*
  - a)  Capsulated
  - b) Produces dermonecrotic toxin
  - c) Bites or scratch hands from pets is an important mode of transmission
  - d) Amoxicillin/clavulanic acid is the combination of choice
  - e) Forms spores when exposed to unfavourable conditions
6. Laboratory characteristics of *Francisella tularensis* include all the following EXCEPT
  - a)  Gram-negative coccobacilli
  - b) Anaerobic
  - c)  Grows on cysteine heat blood agar to form greenish-blue colonies
  - d)  Demonstration of spores is not indicated
  - e)  In the Gram stains of the specimen, the organisms may be found intracellularly
7. Which one of the following is not a virulence factor of *Bordetella pertussis*?
  - a) Type III secretion system
  - b) Filamentous haemagglutinin (FHA)
  - c) Tracheal cytotoxin
  - d) Dermonecrotic toxin
  - e) IgA protease

False about pathogenesis of Mycobacterium tuberculosis

- a) Fusion of the phagosome with Lysosomes occurs ✓
- b) Phagocytosis by resident alveolar macrophages ✓
- c) Formation of multinucleated giant cells ✓
- d) Foamy macrophages form part of the TB granuloma ✓
- e) Epithelioid macrophages form part of the TB granuloma ✓

block phagosome  
acid fast

Which of the following is true about Atypical mycobacteria

- a) High virulence
- b) Saprophytes of soil and water ✓
- c) Cause disease in immune competent individuals ✗
- d) Sensitive to many anti-TB drugs ✗
- e) Do not commonly cause pulmonary infection ✗

Which of the following clinical conditions is not part of superficial mycoses

- a) Pityriasis versicolor ✓
- b) Black piedra ✓
- c) Seborrheic dermatitis ✓
- d) Chromoblastomycosis ✓
- e) Mycotic keratitis ✓

Chromoblastomycosis

The following clinical manifestations are seen in vibrio cholera EXCEPT

- a) Sudden onset of effortless vomiting ✗
- b) Profuse watery diarrhoea
- c) Rapid dehydration
- d) Hypersensitivity shock
- e) Muscle cramps

Which of the following bacteria colonizes moist environmental hospital sites

- a) Proteins
- b) Klebsiella
- c) Pseudomonas ✓
- d) Enterococcus
- e) staphylococcus

Complications associated with untreated cases of campylobacter jejuni infections include the following EXCEPT:

- a) Toxic megacolon
- b) Reactive arthritis ✓
- c) Guillain-Barre syndrome ✓
- d) Rheumatic fever ✓
- e) Hemolytic uremic syndrome ✓

enterocolitis  
diarrhoea  
reactive arthritis  
hemolytic uremic syndrome

Motile  
Some - flagella  
Non-motile  
Non-flagellated

The following statements is not true of klebsiella pneumoniae

- a) Has the ability to produce extended spectrum beta-lactamases
- b) Is associated with bloody mucoid sputum ✓
- c) It can cause urinary tract infections especially in patients with urinary catheters ✓
- d) It is encapsulated ✓
- e) It is a normal flora of the conjunctiva

15. Bacterial pathogen associated with neonatal meningitis
- Staphylococcus aureus
  - Bordetella pertussis ✗
  - Neisseria gonorrhoeae ✗
  - Escherichia coli
  - Salmonella paratyphi ✗
16. Virulence factor in helicobacter pylori infection
- IgA protease
  - Capsule ✗
  - Haemolysin
  - Enterotoxin
  - urease
17. The following are gram-negative rods EXCEPT
- Escherichia coli ✓
  - Proteus mirabilis ✓
  - Corynebacterium diphtheria
  - Bordetella pertussis
  - Pseudomonas aeruginosa
18. Infections with dermatophytes is most often associated with
- Intravenous drug abuse
  - Inhalation of the organism from contaminated bird feces
  - Adherence of the organism to perspiration moist skin
  - Fecal-oral transmission
  - Trauma
19. The following is true of pathogenesis of fungi EXCEPT:
- Production of capsules ✓
  - Secretion of mycotoxins ✓
  - Ability to acquire iron from red blood cells
  - Adhere to host cells by way of cell wall glycoproteins
  - Production of haemolysins
20. Colony count that is considered significant to be termed as urinary tract infection is
- Less than  $10^4$  organisms/mL  $10 \times 10^3 \times 10 \times 10$
  - $10^4 - 10^5$  organisms/mL
  - Any number of pathogens
  - $> 10^5$  organisms/mL
  - $< 10$  white blood cells/ $\mu$ L
21. Enrichment media include
- Cysteine lactose electrolyte deficient medium
  - Chocolate blood agar
  - Lowenstein-Jensen medium
  - Alkaline peptone water
  - Stuart's medium

Enlargement of inguinal lymph nodes is associated with

- a) *Neisseria gonorrhoeae*
- b) *Candida albicans*
- c) *Lactobacillus* spp
- d) *Chlamydia trachomatis* ✓
- e) *E. coli*

A stain used in microscopic examination of fungal culture

- a) Giemsa stain
- b) Lactophenol blue
- c) Methylene blue
- d) India ink ✓
- e) Haematoxylin and Eosin

Which of these is not a causative agent of mycetoma

- a) *Pseudallescheria boydii* ✓
- b) *Madurella grisea* ✓
- c) *Actinomyces madurae* ✓
- d) *Leptosphaeria senegalensis*
- e) *Basidiobolus heptosporus*

Causative agent of enteric fever

- a) *Salmonella enterica typhi* ✓
- b) *Proteus mirabilis* ✗
- c) *E. coli*
- d) *Shigella boydii*
- e) *Vibrio cholerae*

Fluconazole acts by inhibition of

- a) Protein synthesis
- b) Peptidoglycan synthesis
- c) DNA transcription
- d) RNA translation
- e) Ergosterol synthesis ✓

7. Common causative agent of neonatal meningitis.

- a) *Streptococci pneumoniae* ✗
- b) Group B streptococci ✓ *Group B*
- c) *Haemophilus influenzae* type b ✗
- d) *Neisseria meningitidis*
- e) *Staphylococcus saprophyticus* ✗

8. A screening test for syphilis

- a) Schick test ✗
- b) *Treponema pallidum* hemagglutination assay
- c) Widal test
- d) Motility test
- e) Rapid plasma reagin ✓ *RPR*

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29. Endogenous infection in humans may be caused by
- Streptomyces somaliensis
  - Actinomyces israelii
  - Nocardia asteroides
  - Actinomyces israelii
  - Nocardia brasiliensis
30. A most likely infection to occur following exposure to sporothrix is
- Urinary tract infection
  - Pneumonia
  - Menengitis
  - Ulcerated skin lesion
  - Dissemination systemic infection
31. Organism which is most likely to fulfil Koch's postulates is
- Treponema pallidum
  - Haemophilus influenzae
  - Neisseria gonorrhoeae
  - Chlamydia trachomatis
  - Yersinia pestis
32. Leptospira species
- Cause human infections which are not detectable by serological tests
  - Are all human pathogens
  - Are not culturable artificially
  - Pathogenic strains are resistant to penicillin
  - Human infections are associated with septicaemia
33. Fildes-McIntosh jar is particularly useful for laboratory isolation of
- Streptococcus pneumoniae
  - Haemophilus ducreyi
  - Clostridium tetani
  - Micrococcus species
  - Pseudomonas putrefaciens
34. The main virulence property of the following organism is associated with: acquired genetic material
- Treponema pertense
  - Corynebacterium diphtheriae
  - Brucella melitensis
  - Streptococcus pyogenes
  - Neisseria meningitidis
35. Food borne gastroenteritis which is not due to effects of bacterial toxin is caused by
- Campylobacter jejuni
  - Salmonella Typhimurium
  - Bacillus cereus
  - Clostridium botulinum
  - Staphylococcus aureus

Which one of the following procedures would be most suitable for sterilizing chondro intravenous fluid?

- a. Boiling ✓
- b. Autoclaving ✓
- c. Treatment with a bactericid ✓
- d. Pasteurisation ✓
- e. Use of ultra violet light ✓

b. Pyrazinamide ✓  
 c. Ethambutol ✓  
 d. Rifampicin ✓  
 e. Tetracycline ✓

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Which statement is not true for blood cultures

- a) Large number of blood culture sets improves the isolation rate
- b) Ratio of broth to the volume of blood can influence the results
- c) Biphasic medium has more advantages than single phase liquid medium
- d) Anticoagulant used has no effect on bacterial growth
- e) Skin cleaning with antiseptic is recommended for better results

Secondary syphilis is characterized by

- a) Chancre
- b) Numerous spirochaetes in the blood circulation
- c) Gummatous lesions
- d) False negative non-treponemal test results
- e) Aortic valve abnormality

Fluorescence staining and microscopy are particularly useful and reliable in laboratory investigation of

- a) Disseminated Neisseria gonorrhoeae infection
- b) Genital tract infection by Chlamydia trachomatis
- c) Chancroid *H. ducreyi*
- d) Neurosyphilis
- e) Bacterial vaginosis

Organism which forms large spherical structures containing spores infected lung tissue is

- a) Candida glabrata
- b) Malassezia furfur
- c) Phialophora verrucosa
- d) Coccidioides immitis
- e) Madurella grisea

Aspergillus species cause diseases in humans through the following mechanisms **EXCEPT**

- a) Effects of mycotoxins on tissues ✓
- b) Colonization ✓
- c) Predilection for and enhanced growth in devitalized tissue
- d) Invasiveness ✓
- e) Hypersensitivity reaction ✓

Which of the following statements about Hepatitis B virus is **FALSE**?

- a) 90% of perinatal infection are likely to become chronic
- b) Infants are more likely to develop immune tolerant Hepatitis than adults ✗
- c) Hepatitis B e-Antigen is more reliable than HBV DNA PCR in predicting infectiousness ✓
- d) Less than 1% of infected adults develop Fulminant disease ✓
- e) Treatment is life long ✓

42. One of the following oncogenic viruses does not integrate its genome into the host's genome:
- a) **Hepatitis C virus**
  - b) Human papillomavirus 16
  - c) HIV-1
  - d) Hepatitis B virus **HBV**
  - e) Rous sarcoma virus
43. Which of the following has the broadest antiviral spectrum
- a) Lamivudine
  - b) Ribavirin
  - c) Maraviroc
  - d) **Interferon**
  - e) Acyclovir
44. One of the following statements about influenza viruses is FALSE:
- a) They have eight copies of their genome
  - b) They can infect birds, horses and pigs
  - c) **Rimantadine is only active against type A influenza virus**
  - d) Amantadine has no cross-resistance with oseltamivir
  - e) Its an RNA virus that replicates in the nucleus
45. One of the following antiretroviral agents is NOT effective for X4-tropic HIV
- a) Efavirenz
  - b) Enfuvirtide
  - c) **Maraviroc**
  - d) Raltegravir
  - e) Lamivudine
46. Passive immunization has:
- a) Long lasting protection
  - b) **No memory**
  - c) Develops after immune system has been exposed to an antigen
  - d) Memory
  - e) None of the above
47. One of the following cells does NOT belong to cells of innate immunity
- a) **CD4-T-helper cells**
  - b) Macrophages
  - c) Neutrophils
  - d) Natural killer cells
  - e) None of the above
48. Which one of the following Adenoviruses is associated with gastrointestinal disease
- a) Adenovirus 39
  - b) **Adenovirus 40**
  - c) Adenovirus 45
  - d) Adenovirus 51
  - e) Adenovirus 30



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NSP4 is a viral enterotoxin associated with which virus

- a) Poliovirus
- b) Adenovirus 41
- c) Rotavirus
- d) Ebola virus
- e) Yellow fever virus

Which one of the following species of Rotaviruses is the most significant cause of human disease

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

This paramyxovirus belongs to the morbillivirus genus

- a) Mumps virus
- b) Rubella virus
- c) Respiratory syncytial virus (R&V)
- d) Measles virus
- e) Influenza virus

"Fifth disease", a classical childhood exanthema (rash) is caused by this human pathogen

- a) Parvovirus B19
- b) Rubella virus
- c) Measles virus
- d) Human herpesvirus 3 (MHV3)
- e) Human herpesvirus 6 (HHV6)

Parotid gland swelling is associated with this human virus

- a) Rubella virus
- b) Parvovirus B19
- c) Measles virus
- d) Chickenpox virus
- e) Mumps virus

4. Deafness, cataracts, heart defects and mental retardation are some complications associated with in-utero transmission of this virus in the first trimester of pregnancy

- a) HSV-2
- b) HIV-1
- c) CMV
- d) Rubella virus
- e) Mumps virus

5. "Swimming pool". Conjunctivitis is associated with this virus infection

- a) Adenoviruses
- b) Corona virus
- c) Rotavirus
- d) RSV
- e) Yellow fever virus

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56. Intranuclear inclusion bodies is a likely characteristic of infection with this virus
- a) Rubella virus
  - b) SARS virus (Corona virus)
  - c) **Human herpesvirus 6 (HHV-6)**
  - d) RSV
  - e) Parainfluenza virus
57. Haemagglutination assay can be used for diagnosis of one of these viruses
- a) HIV-1
  - b) Poliovirus
  - c) Hepatitis E virus
  - d) Human papillomavirus
  - e) **Influenza virus**
58. Diagnosis of HIV-1 infection of an infant (9 months old) is best done with this laboratory test
- a) Rapid test
  - b) Antibody ELISA
  - c) DNA PCR
  - d) Haemagglutination assay
  - e) **Western blot**
59. This laboratory test analyses DNA from patient blood sample and is very specific
- a) Northern blot
  - b) Western blot
  - c) Eastern blot
  - d) **Southern blot**
  - e) Dot blot
60. Transmissible spongiform Encephalitis (TSE) is caused by a:
- a) Virus
  - b) Bacteria
  - c) Parasite
  - d) DNA
  - e) **Protein**
61. Which one of the following is NOT a complication of infection with *Entamoeba histolytica*?
- a) Lung abscess ✓
  - b) **Intestinal obstruction**
  - c) Pericarditis ✓
  - d) Amoeboma ✓
  - e) Hepatoma ✓
62. Clinical presentations of *Trichomonas vaginalis* include all of the following EXCEPT
- a) Vulvovaginitis ✓
  - b) Dyspareunia ✓
  - c) Vaginal discharge ✓
  - d) **Cancer of urinary bladder**
  - e) Prostatitis ✓

DATA

Which of the specimens below is not useful in the diagnosis of African trypanosomiasis?

- a) Cerebrospinal fluid
- b) Splenic aspirate
- c) Lymph node aspirate
- d) Blood
- e) None of the above

Which one of the following is an intermediate host for *Diphylobothrium latum*?

- a) Copepod ✓
- b) Man
- c) Flea
- d) Onchomelania snail
- e) All of the above

The infective form of *Trypanosoma cruzi* is

- a) Amastigotes
- b) Metacyclic trypomastigotes
- c) Epimastigotes
- d) Trypomastigotes
- e) Metacyclic amastigotes

Which of the following is NOT a clinical presentation in American trypanosomiasis?

- a) Romana sign ✓
- b) Megacolon ✓
- c) Cardiomegally ✓
- d) Winter bottom sign
- e) Chagoma

The Enterotest is useful in the diagnosis of infection with

- a) *Enterobius vermicularis*
- b) *Entamoeba histolytica*
- c) *Balantidium coli*
- d) *Giardia lamblia*
- e) *Trichomonas hominis*

→ *Diphylobothrium*

8. Which of the statements below about Sparganosis is true?

- a) It is a zoonosis ✓
- b) Man is definitive host ✓
- c) Coracidium is the infective form ✓
- d) It is caused by a nematode ✓
- e) Metronidazole is used in the treatment

a dx that can be transmitted from animals to humans

9. Which of the following strategies is not useful in the prevention and control of infection with *Giardia lamblia*?

- a) Avoiding swimming when one has diarrhoea ✓
- b) Disposal of human faeces in pit latrine ✓
- c) Hand washing before handling food ✓
- d) Treatment of infected individuals ✓
- e) None of the above

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70. The causative agent of Tungiasis is

- a) Crab louse
- b) Flea → Flea
- c) Screw worm fly
- d) Mite
- e) Pediculus humanus → cyst

71. The infective form of Entamoeba histolytica is

- a) Trophozoite
- b) Egg
- c) Cyst → pathogenic form → Trophozoite
- d) Miracidium
- e) Coracidium

72. Which of the following is the intermediate host for Schistosoma haematobium

- a) Biomphalaria snail
- b) Onchomelania snail
- c) Bulinus snail
- d) Copepod
- e) None of the above

73. Which of the following is not useful in the control and prevention of Toxoplasmosis?

- a) Blood screening ✓
- b) Thorough cooking of meat ✓
- c) Use of condoms
- d) Antenatal screening and treatment ✓
- e) None of the above

74. The vector for onchocerca volvulus is

- a) Phlebotomus spp.
- b) Chrysops spp.
- c) Simulium fly
- d) Aedes mosquito
- e) Anopheles mosquito

75. Which one of the following is a complication of infection with Diphyllobothrium latum?

- a) Liver abscess
- b) Megaloblastic anaemia ✓
- c) Convulsions
- d) Iron deficiency anaemia
- e) Lung abscess

76. Which of the drugs below are used to treat African trypanosomiasis?

- a) Suramin
  - b) Amphotericin B
  - c) Nifurtimox
  - d) Praziquantel
  - e) Diethylcarbamazine
- P S

7. Which of the following parasites ~~carry~~ cause jaundice
- Ascaris lumbricoides*
  - Trichiuris trichiura*
  - Necator americanus*
  - Ancylostoma duodenale*
  - Trichinella spiralis*
8. Which of the following parasites is commonly associated with cysticercosis in humans
- Hymenolepis nana*
  - Echinococcus granulosus*
  - Diphyllobothrium latum*
  - Taenia saginata*
  - Taenia solium*
79. From the following select a drug that can be used to treat infections with Hymenolepis nana:
- Praziquantel
  - Hycanthone
  - Diethylcarbamazine
  - Ivermectin
  - Artemisinin
80. Which is the infective stage of Toxoplasma gondii from cat?
- Trophozoite
  - Cyst
  - Cercaria
  - Oocyst
  - Metacercaria
81. Which of the following parasites is associated with muscular dystrophy?
- Farcocystis hominis*
  - Pneumocystis jirovecii*
  - Sarcocystis lindermanni*
  - Blastocystis hominis*
  - Giardia lamblia*
82. Which is the definitive host for Echinococcus granulosus?
- Jackal
  - Gazelle
  - Goats
  - Cattle
  - Humans
83. Which of the following is an important biological compound in snail control?
- Copper sulphate
  - Malathion
  - Endod
  - Fenitin
  - DDT

84. Which of the following is an important vector of *Leishmania donovani*?
- a) *Phlebotomus papatasi*
  - b) *Anopheles gambit*
  - c) *Simulium darnosum*
  - d) *Rhodnius prolixus*
  - e) *Culicoides grahami*
85. Which of the following parasites is frequently associated with hydrocephalus?
- a) *Schistosoma haematobium*
  - b) *Schistosoma mansoni*
  - c) *Schistosoma intercalatum*
  - d) *Echinococcus granulosus*
  - e) *Toxoplasma gondii*
86. Which of the following drugs is recommended for treatment of infections with *Fasciola gigantica*?
- a) Praziquantel
  - b) Bithionol
  - c) Artemisinin
  - d) Sodium stibogluconate
  - e) Clindamycin
87. Select an arthropod that is a host to *Dipylidium caninum* among the following:
- a) Bedbug
  - b) Louse
  - c) Flea
  - d) Simulium
  - e) House fly
88. Which of the following is a causative agent of human infections?
- a) *Dermatobia hominis*
  - b) *Anopheles funestus*
  - c) *Cyclops* spp.
  - d) *Chrysops* sp.
  - e) *Ctenocephalides cati*
89. Select a parasites that usually causes Splenomegaly in humans from the following:
- a) *Cordylobia*
  - b) *Anthropophaga*
  - c) *Trichuris trichiura*
  - d) *Leishmania Donovani*
  - e) *Glossina swynnertoni*
90. Which of the following is an effective vector of *Yersinia pestis*?
- a) *Xynopsella cheopis*
  - b) *Cimex lectularis*
  - c) *Pediculus humanus*
  - d) *Pthirus pubis*
  - e) *Culex quenguifasciatus*

Which of the following drugs can be used to treat myiasis

- a) Diethylcarbamazine
- b) Ivermectin
- c) Praziquantel
- d) Metronidazole
- e) Niclosamide

The definitive host of *Taenia saginata* is?

- a) Cattle
- b) Pigs
- c) Human
- d) Dogs
- e) Goats

Which of the following parasites cause rectal prolapse

- a) *Ancylostoma duodenale*
- b) *Enterobius vermicularis*
- c) *Trichiuris trichiura*
- d) *Ascaris lumbricoides*
- e) *Trichinella spiralis*

4. Microcephally and hydrocephalus are associated with:

- a) *Giardia lamblia*
- b) *Toxoplasma gondii*
- c) *Entamoeba histolytica*
- d) *Entamoeba hartmanni*
- e) *Entamoeba coli*

5. Dysentery is commonly associated with parasitic protozoa

- a) *Entamoeba gingivalis*
- b) *Giardia lamblia*
- c) *Entamoeba butschlii*
- d) *Entamoeba harmanii*
- e) *Entamoeba histolytica*

6. The following parasites may cause intestinal obstruction in man

- a) *Trichinella spiralis*
- b) *Necator americanus*
- c) *Ascaris lumbricoides*
- d) *Ancylostoma duodenale*
- e) *Trichiuris trichiura*

17. Which of the following have flagella

- a) *Entamoeba coli* - amoeba
- b) *Balantidium coli* - ciliates
- c) *Trichomonas vaginalis*
- d) *Entamoeba histolytica*
- e) *Entamoeba hartmanni*

- a. Boiling ✓
- b. Autoclaving ✗
- c. Treatment with a bactericid ✓
- d. pasteurisation ✓
- e. Use of ultra violet light ✓

- b. Pyrazinamide ✓
- c. Ethambutol ✓
- d. Rifampicin ✓
- e. Tetracycline ✗

Ultra violet

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98. CNS clinical manifestations occur in which infection
- a) Taenia saginata
  - b) Hymenolepis diminuta
  - c) Taenia solium ✓
  - d) Trichinella spiralis
  - e) Echinococcus granulosus
99. The drug of choice for severe and complicated malaria is
- a) Armodiaquine
  - b) Spectinomycine
  - c) Comaquine
  - d) Quinine ✓
  - e) Metrifonate
100. Which of the following is not a soil transmitted helminth?
- a) Ascaris lumbricoides
  - b) Strongyloides stercoralis
  - c) Brugia malayi ✓
  - d) Necator americanus
  - e) Ancylostoma duodenale