

Where is *Bacillus Cereus* commonly found?

- A. **In rice**
- B. in Fish Exclusively
- C. In animal hides (fur)
- D. In Humans only
- E. In certain species of Birds

2. Which of the following are NOT traits of Mycobacterium?

- i. -acid-Fast Bacterium
- ii. -can grow rapidly on artificial media
- iii. -are Gram-positive cocci

- A. i only
- B. ii only
- C. iii only
- D. i and ii only
- E. **ii and iii only**

3. Which of the following statements about syphilis is false?

- A. Syphilis is caused by a spirochete bacterium
- B. A positive VDRL test must be confirmed by specific treponemal antibody tests
- C. A non-specific test involves cardiolipin as an antigen.
- D. It can be transmitted to the foetus
- E. **It can be seen microscopically using acid fast stain.**

4. Which of the following is not a parasitic disease?

- A. Amoebiasis
- B. Trichomoniasis
- C. Giardiasis
- D. Toxoplasmosis
- E. **Histoplasmosis**

5. Which of the following disease is NOT caused by bacterial Exotoxin?

- A. Botulism
- B. **Enteric Fever**
- C. Anthrax
- D. Tetanus
- E. Diphtheria

6. Which of the following is NOT a part of the metazoa family?

- A. Enterobius Vermicularis
- B. Trichinella Spiralis
- C. Anisakis Simplex
- D. Schistosoma spp.
- E. **Giardia Lamblia**

7. To be considered positive, a tuberculin test must show, after 48 hours, an induration:

- A. Less than 5mm in Diameter
- B. Larger than the redness (erythema)
- C. **10 mm or more in diameter**
- D. With some local hemorrhage
- E. With scab formation

8. Malaria is caused by which of the following organisms?

- A. Toxoplasma
- B. Trypanosoma
- C. Trichomonas
- D. Giardia
- E. **Plasmodium**

9. The Bacillus anthracis Toxin: (NOT SURE)

- A. **Is made up of the 3 separate proteins**
- B. Is Encoded on the plasmid pXO2
- C. Is an endotoxin
- D. Causes flaccid muscle paralysis
- E. This organism does not make a toxin

10. Cats the definitive hosts of which of the following parasites?

- A. Taenia solium
- B. **Toxoplasma gondii**
- C. Ascaris lumbricoides
- D. Cyclospora cayetanensis
- E. Giardia Lamblia

11. Which of the following is a symptom associated with tetanus? (NOT SURE)

- A. **Severe muscle spasms such as lockjaw**
- B. General muscle weakness
- C. Gas gangrene
- D. Spontaneous abortions
- E. Bilateral cranial nerve palsies

12. The unique characteristic of having wax-like material in its cell wall structure is a characteristic of:

- A. *Corynebacterium diphtheriae*
- B. *Listeria monocytogenes*
- C. *Clostridium perfringens*
- D. *Mycobacterium leprae***
- E. *Bacillus anthracis*

13. The most common route of infection with *Mycobacterium tuberculosis* is through:

- A. The skin by direct contact
- B. Ingestion of contaminated food
- C. Blood and blood products
- D. Inhalation of contaminated aerosols**
- E. Hospitals instrumentation (e.g., bronchoscopy)

14. Which of the following pathogens is NOT a spore former?

- A. *Clostridium tetani*
- B. *Bordetella pertussis***
- C. *Bacillus anthracis*
- D. *Clostridium difficile*
- E. All of the above are sporeformers.

15. *Listeria monocytogenes*:

- i. -is able to cross three protective barriers in humans
- ii. -is a non-sporeformer, Gram-negative bacillus
- iii. -tolerates cold temperatures and can grow in the refrigerator

- A. i only
- B. ii only
- C. iii only
- D. i, ii, and iii
- E. i and iii**

16. Endotoxins are found

- A. In gram positive bacteria exclusively
- B. In acid-fast bacteria such as *Mycobacterium*
- C. Only in protozoan parasites
- D. In Gram negative bacteria**
- E. In parasitic organisms

17. Leprosy is:

- A. Caused by Mycobacterium Tuberculosis
- B. Commonly found in North America
- C. Caused by an acid-fast bacterium**
- D. Caused by Mycoplasma leprae
- E. Is caused by a fungal infection that goes untreated.

18. Which of the following statements referring to acute gastroenteritis caused by salmonellae, is incorrect?

- A. is caused by salmonella typhi**
- B. Is caused by a non-lactose fermenter
- C. Should generally not be treated with antibiotics
- D. Have animals as reservoirs
- E. Is manifested as acute diarrhea

19. What is correct about legionella pneumophila?

- i.-is a gram negative opportunistic pathogen
- ii.-Transmitted via aerosols from person-to-person
- iii.Grows in water and found in air cooling tanks

- A. i only
- B. ii only
- C. iii only
- D. i and iii
- E. ii and iii**

20. Malaria

- A. Is characterized by spiking fever**
- B. May be prevented by vaccination globally
- C. Can be prevented by vaccination globally
- D. Is caused by a gram-positive bacterium
- E. Is caused by a gram-negative bacterium

21. Overuse of broad spectrum antibiotics destroying the normal microbial flora can lead to

- A. Infection with Legionella spp.
- B. Infection with Bacillus cereus
- C. Infection with Bordetella pertussis
- D. infection with Haemophilus influenza

E. Infection with Clostridium difficile

22. Which of the following gram-negative rods is commonly linked to bloody stool?

- A. Haemophilus influenza
- B. Salmonella enteritidis
- C. Vibrio cholerae
- D. Clostridium tetani
- E. **Shigella sonnei**

23. A common opportunistic infection associated with AIDS patient is caused by

- A. **Cryptococcus neoformans**
- B. Tinea Corporis
- C. Tinea Pedis
- D. Candida albicans
- E. Aspergillus flavus

24. The most common route of exposure for tetanus is

- A. Ingestion of neurotoxin that causes muscle paralysis
- B. **Skin trauma or puncture wound by an object containing**
- C. stepping on a rusted nail
- D. From ingesting improperly prepared home-canned vegetables
- E. Nobody gets tetanus anymore because there exists a vaccine

25. Gas gangrene is caused by

- A. Clostridium botulinum
- B. Salmonella serovar Typhi
- C. Listeria monocytogenes
- D. **Clostridium perfringens**
- E. Shingella spp.

26. Powdered infant formula is most often associated with

- A. Enteroinvasive Escherichia coli
- B. **Cronobacter (Enterobacter sakazakii)**
- C. Vibrio cholerae
- D. Pseudomonas aeruginosa
- E. None of the above as powdered infant formula is a sterile product

27. Ulcers are most commonly a result of

- A. **Infection with Helicobacter pylori**
- B. Too much stress from studying for this midterm

- C. Alcohol abuse
- D. Being immunocompromised
- E. Infection with *Entamoeba ulceritica*

28. The campylobacter species are

- A. Anaerobic
- B. Microaerophilic**
- C. Facultive anaerobes
- D. Aerobes
- E. Obligative thermophiles

29. Both EMB and MacConkey growth media: (NOT SURE)

- A. Are selective only
- B. Are selective and Differential**
- C. Only allow gram positive bacteria to grow
- D. Only allow lactose fermenters to grow
- E. Are useful for growing viruses

30. The organism causing giardiasis is a

- A. Protozoan**
- B. Retrovirus
- C. Yeast
- D. Bacteria
- E. Spirochete

PART B: SHORT ANSWERS

1. Give an example of a PARASITE that can gain entry into the human host via each of the following modes of transmission. Use a different parasite for each. (4 marks)

- i.) **Waterborne:** Cryptosporidiosis, Giardia Lambilia
- ii.) **Foodborne:** cyclosporiasis
- iii.) **Sexual contact:** Trichonomas Vaginalis
- iv.) **Skin penetration:** Schistosomiasis, Plasmodium (Malaria)

2. List the FOUR stages of Syphilis infection? (4 marks)

- 1. Primary syphilis
- 2. Secondary Syphilis
- 3. Latent Syphilis
- 4. Late Syphilis

3. Chlamydia exists as 2 distinct forms during its life cycle. Name these 2 forms and list their roles in the life cycle. (4 marks)

- i) **Elementary body**: No growth or replication
- ii) **Replication body**: Replication and growth

4. List 4 gram negative bacilli bacteria that do not cause gastrointestinal illness (i.e.,) they are classified as enterics in the notes but cause problems elsewhere in the body) (4 marks)

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5. List 2 similarities and 2 differences between Clostridium botulinum and Clostridium tetani

Similarities: 1. Gram positive bacilli, 2. Spore forming rods

Differences: 1. Clostridium tetani requires booster every 10 year, 2. Clostridium botulinum causes is from improper canned vegetables EXTRA: C. Tetani causes tetanus EXTRA: C. botulinum causes Botulism

6. What are the 2 types of toxins produced by Clostridium difficile and what are their effects on the infected host? (4 marks)

- 1. Toxic A: Causes diarrhea
- 2. Toxic B: Cytotoxic to colonic cells

7. List the four levels of fungal infections, starting from the least to serious to the most serious symptoms (4 marks)

- 1. Superficial fungal infection
- 2. cutaneous fungal infection
- 3. subcutaneous fungal infection
- 4. Systemic fungal infection

8. What are the 2 gram negative bacilli most commonly associated with infections in cystic Fibrosis patients. (2 marks)

- 1. pseudomonas aeruginosa
- 2. pseudomonas cepacia