

Introduction to Microbiology

Exam 3 - Chapter 10, 11, 12, and 13

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Name [REDACTED]

4/20/01

Please choose the one best answer

1. The Process of characterizing organisms is called
 - a. Identification- (Our identity law)
 - b. Classification
 - c. Nomenclature
2. The process of arranging organisms into related groups to provide easier identification and study is
 - a. Identification- (Our identity law)
 - b. Classification
 - c. Nomenclature
3. The system of assigning names to organisms is
 - a. Identification- (Our identity law)
 - b. Classification
 - c. Nomenclature
4. A group of related isolates or strains.
 - a. Species
 - b. Genus
 - c. Family
 - d. Order
 - e. Class
5. A collection of related species
 - a. Species
 - b. Genus
 - c. Family
 - d. Order
 - e. Class
6. A collection of similar genera
 - a. Species
 - b. Genus
 - c. Family
 - d. Order
 - e. Class
7. A collection of similar orders
 - a. Species
 - b. Genus
 - c. Family
 - e. Class
 - d. Order
8. A collection of similar families
 - a. Species
 - b. Genus
 - c. Family
 - d. Order
 - e. Class
9. A collection of similar Classes
 - a. Phylum
 - b. Kingdom
 - c. Domain
10. A collection of similar Phyla
 - a. Phylum
 - b. Kingdom
 - c. Domain
11. A collection of similar Kingdoms
 - a. Phylum
 - b. Kingdom
 - c. Domain

Species
Genus
Family
Order
Class
Phylum
Kingdom
Domain

11

12. The definitive classification manual of Microbiology is

- a. Microbiology by Nester et. al.
- b. Bergey's Manual of Systematic Bacteriology
- c. The Difco manual of microbiology
- d. none of these

Use the following to answer questions:

- a. Microscopic morphology *of slides*
- b. Metabolic differences *foods*
- c. Serology *antibodies*
- d. DNA hybridization *with DNA from other species*
- e. Sequencing Nucleic acid

13. I would look for bacillus, coccus, spirillum, vibrio, and sizes to determine this. *A*

14. I would need to react my unknown sample with a known antibody to determine this. *C*

15. I would need to compare two samples of DNA with one another to perform this method of *D* identification.

16. I would need to grow my unknown in different single foods or other substances to determine it by this *B* method.

17. I would need to pay for someone to specifically determine what bases are found in my sample and what *E* order they are in by this method.

18. What was it that we did in laboratory that was in the category of metabolic or biochemical testing?

- a. Gram's stain
- b. Identifying shapes
- c. characterizing colonies
- d. API20
- e. none of these

19. Sequencing RNA can sometimes be used to identify organisms. What one was mentioned in the text?

- a. tRNA
- b. mRNA
- c. 16S rRNA
- d. 30S rRNA

20. About how many species have been identified and named?

- a. 10 million
- b. 1 million
- c. 6,000
- d. 600
- e. 60

21. There are NO medically important Chemolithotrophs or anaerobic chemoorganotrophs.

- a. true
- b. false

22. Anaerobic chemoorganotrophs can only live by fermentation and produce lactic acid. Which of the following is NOT one of these?

- a. Clostridium botulinum- most toxic known to mankind.
- b. Streptococcus
- c. Lactobacillus
- d. Escherichia coli
- e. They are all members of this group

23. The Anoxygenic phototrophs do not produce oxygen but do use photosynthesis. There are NO medically important members.

- a. True
- b. False

- 24. Oxygenic phototrophs make huge amounts of Oxygen and sugar and lots of green slime on ponds and rivers around here, but NO major medically important bacteria. (cyanobacteria)
 - a. True
 - b. False
- 25. Aerobic Chemolithotrophs oxidize sulfur or ammonia but have NO medically important organisms.
 - a. True
 - b. False
- 26. Aerobic Chemoorganotrophs, which are obligate aerobes, include all of the following medically important organisms except
 - a. Micrococcus roseus and other micrococcus species. G-
 - b. Mycobacterium tuberculosis and other species.
 - c. Pseudomonas species that are hard to keep out of burn wounds.
 - d. E. coli *facultative anaerobe!*
- 27. The aerobic chemoorganotrophs- facultative anaerobes! G- rods contain all of the following except
 - a. Diphtheria organisms
 - b. Enterobacteriaceae including E. coli and many dwellers in our gut. G- rods
 - c. Bubonic and pneumonic plague bacteria (Yersinia pestis)
 - d. Staphylococcus *G+ coccus*
- 28. Bacillus and Clostridium are known for having
 - a. spores and very poisonous toxins.
 - b. very long resistant lives as spores in the soil
 - c. an ability to live without oxygen
 - d. all of these are true
- 29. Streptomyces are bacteria but they resemble
 - a. fungi or molds and cause lots of illnesses but also antibiotics
 - b. mushrooms and get you high if you smoke them
 - c. log chains
 - d. lollypops
- 30. A bacterium that inhabits the skin and can cause boils is
 - a. Staphylococcus aureus
 - b. Helicobacter. pylori
 - c. Neiseria gonorrhoeae
 - d. Treponema pallidum
- 31. The Archea do not have major medical bacterial types
 - a. True
 - b. False
- 32. The Algae are nearly all beneficial except that a few form
 - a. toxins like in Red Tides or shellfish poisons.
 - b. giant man eating trees
 - c. glass shells (the diatoms) which are very sharp and may cut you.
- 33. Protozoa are classified by
 - a. the way that they move
 - b. their brilliant colors
 - c. how solid their bodies are
 - d. what kind of eyes they have

Matching- connect the organisms to the diseases they are associated with

Organisms

Diseases

~~E~~ 34. Trypanosoma

~~A~~ A. Very itchy around anus

~~C~~ 35. Candida albicans

~~B~~ B. worms vomited or in stools

~~B~~ 36. Pinworms

~~C~~ C. yeast infections of genitals, skin lungs

~~D~~ 37. Tapeworms

~~D~~ D. Long worms in intestine, lose weight

~~A~~ 38. Ascaris

~~E~~ E. African sleeping sickness

—39. A virus that eats bacteria is called

a. a retrovirus

c. a protozoan

~~b.~~ a bacteriophage

d. an algae

40. A virus is

a. living b. non-living

—41. Which is most dangerous to the bacterium?

a. a lytic bacteriophage

b. a latent bacteriophage or prophage

c. a phage that has infected another genus or species

d. none of these are a danger

42. Transduction is the process whereby *Reproduction*

~~a.~~ DNA from one organism may be carried to another by a virus.

~~b.~~ a virus crosses through a bacterium to get to the other side.

~~c.~~ a bacterium carries a virus to another part of a person's body

d. none of the above.

—43. Where is the virus DNA when it is latent?

a. in the cell wall

b. in the host cytoplasm

c. in the host DNA

e. hidden in the proteins

— 44. Enzymes that allow phage DNA to join with the bacterial DNA are called

a. restriction endonucleases

b. digestive enzymes

c. proteases

d. DNA polymerase

—45. The virus is allowed to enter the bacterium by

a. exploding and driving its DNA through the cell wall.

b. being invited in through a matching receptor.

c. dissolving the cell wall with acids or bases.

d. swimming at great speed and smashing its way in.

~~8~~ 8

Short Answer:

- What is a nucleic acid probe?

It's like cloning
Not even similar

- What is PCR?

DNA chain reaction

- What is phage typing?

A virus/bug will come from some virus/bug makes more.

List 4 steps of the lytic cycle of a bacterial virus like T4.

Attachment
Penetration
Transcription
Replication
Release

Tell how to distinguish between a lytic virus and one that is latent.

lytic - replicates. Latent does not

latent - stands still, nothing is happening

lytic all steps are happening, like the steps.

~~latent has steps but they're not the same as the~~

- What possible advantage is it to the virus to enter the DNA as a latent virus and do nothing? ~~latent.~~

Survives in the host cell.