Name _____

Characteristics Of Protists (p. 460 – 471)

I. Diversity

1. Define the term Kingdom Protista.

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Kingdom Protista – unsually diverse assortment of eukaryotes that exhibit a broad range of characteristics

2. Circle the letter of the sentence that is false concerning protists.

a. Protists exhibit a wide range of feeding styles.
b. The means of movement of protists varies significantly.
c. Protists normally exist in aquatic environments.
d. Protists cannot respond to environmental stimuli. ← Eyespots, Reproductive Changes

3. What are two traits that evolved among protists?

1. Sexual Reproduction (times of stress) 2. Multicellularity

4. Differentiate between protozoans and algae.

Protozoans : Heterotrophic (Animal-like)

Algae : Photosynthetic (Plant-like)

II. Ameboid Movement (*Phylum Sarcodinia*) – "Protozoans"

1. Define the term pseudopod.

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Pseudopod - temporary projections of cytoplasm (used for feeding + movement)

2. Describe the ameboid movement of pseudopodia.

- Cytoplasm of a cell streams into a pseudopod.

3. List two examples of protists that use ameboid movement for locomotion.

1. Amoebas 2. Foraminiferans

4. Circle the letter of each sentence that is true about amoebas. (not shelled)

a. Amoebas are very flexible, with no cell walls or flagella.
b. They live in fresh water, ~~but not~~ and salt water. (abundant in soil)
c. Amoebas reproduce ~~sexually~~. (binary fission)
d. Many amoebas are free-living, but some are parasitic.

5. Circle the letter of each sentence that is true about foraminiferans.

Formed White Cliffs of Dover (England)

a. They live in ~~fresh~~ salt water environments.
b. Forams possess tiny, porous shells called tests.
c. Cytoplasmic extensions that extend from the pores of tests assist with movement.
d. The calcium carbonate shells accumulate on ocean floors.

Radiolarians - SiO_2 shells
- sources of flint

Name _____

III. Algae

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1. Algae can be single-celled or multicellular, but must be photosynthetic.

Chlorophyll
a+b = green
a+c = yellow-brown
a+d = red, pink, purple, or black

Circle One : (True) False

2. What two characteristics distinguish algae groups? (Accessory Pigments)

1. Type of pigment 2. Cell or Body Shape

3. Circle the letter of the sentence that is false concerning green algae.

Examples
- Ulva
- Volvox
- Spirogyra
- Chlamydomonas

a. Green algae belong to the Phylum Chlorophyta.
b. They are mainly unicellular, freshwater organisms, but large marine forms exist.
c. Green algae are a major part of microscopic marine plankton.
(d.) The pigments of green algae is ~~different~~ similar than that found in plants.

"All hail plankton"

4. Circle the letter of the sentence that is false concerning red algae.

Ex. Coralline Algae

a. Red algae belong to the Phylum Rhodophyta.
(b.) They are mainly ~~unicellular~~ multicellular, ~~freshwater~~ salt water organisms.
c. Their pigments help them absorb various wavelengths of light at deep depths.
d. Commercially used to make agar and carrageenan. lechtin
(thickening agents) → chocolate

5. Circle the letter of the sentence that is false concerning brown algae.

Examples
- Kelp
- Sargassum (Sargasso Sea)

a. Brown algae belong to the Phylum Phaeophyta.
(b.) They are multicellular, ~~freshwater~~ marine organisms.
c. Coastline kelp provides food and shelter for multiple organisms.
d. They are among the largest organisms on Earth.

IV. Diatoms (*Phylum Bacillariophyta*) – "Algae"

p. 466

1. Define the term diatoms.

Diatoms – photosynthetic unicellular protists with unique double shells

2. Circle the letter of each sentence that is ~~true~~ false concerning diatoms.

a. Diatoms are photosynthetic, unicellular protists.
b. They possess unique double shells that are shaped like a petri dish.
c. Diatoms exhibit bilateral (two-sided) or radial (wheel-like) symmetry.
(d.) They are ~~in~~capable of movement.
→ spew out chemicals through pores in shells

3. What is diatomaceous earth?

- Thick deposits of diatom shells that are mined commercially (Toothpaste, filters, insulation, abrasive, pest control)

Name _____

V. Flagellates

1. What enables flagellates and ciliates to move?

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Flagellates : Flagella (whip-like structure) Ciliates : Cilia (many tiny hairs)

2. Circle the letter of the sentence that is false concerning dinoflagellates *("Algae").*

Phylum Pyrrophyta

a. They are unicellular and possess two flagella.
b. Dinoflagellates are mainly marine organisms that make up part of plankton.
c. Some dinoflagellates produce bioluminescent, poisonous red tides. (Gonyaulax → causes shellfish poisoning)
d. They are ~~strictly~~ photosynthetic organisms. heterotrophic, or both

3. Circle the letter of the sentence that is false concerning euglenoids *("Algae").*

a. They are unicellular, freshwater organisms with two flagella.
b. Many euglena are photosynthetic and possess chloroplasts.
c. Euglena possess a pellicle, which is a ~~non~~-flexible and does ~~not~~ change shape.
d. They have an eyespot, which is sensitive to light sources.

4. Circle the letter of the sentence that is false concerning kinetoplastids *("Zooflagellates").*

Examples
- African Sleeping Sickness (Trypansoma gambiense)
- Traveler's Diarrhea (Giardia lamblia)

"Protozoans"

a. They are unicellular, heterotrophs with at least one flagellum.
b. They are closely related to Euglenoids.
c. Most usually reproduce ~~sexually~~. asexually
d. They are known to cause human diseases.

5. Circle the letter of the sentence that is false concerning ciliates *("Protozoans").*

Paramecium / Blepharisma / Stentor

a. A large number of cilia are present, which beat in rhythm to propel the organism.
b. They are complex, unicellular heterotrophs.
c. Like euglenoids, they possess a tough, flexible outer pellicle.
d. They ~~do~~ not have a nucleus. (Macronucleus, Micronucleus)

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Macronucleus – small pieces of DNA; Micronucleus – contain chromosomes

VI. Protistan Molds – "Protozoans"

1. Match the type of protistan mold with the correct definition.

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1. C	Cellular Slime Mold	A. Water molds, rusts, & mildew
2. B	Plasmodial Slime Mold	B. Mass of cytoplasm that looks like oozing slime
3. A	Oomycetes	C. Look like amoebas, develop "slug" colonies

VII. Sporozoans – "Protozoans"

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1. Circle the letter of each sentence that is true concerning sporozoans.

a. They form spores during their reproductive cycle.
b. They are non-motile, unicellular parasites.
c. Sporozoans have ~~only one~~ multiple host.s (mosquitoes, black flies, midges)
d. Diseases can be passes in food or water contaminated with infected feces.

Malaria - Plasmodium

Toxoplasmosis - Toxoplasma

Cryptosporidium – Diarrhea (Day-cares)