

Microbiology II 7.4.2010

1. List 4 qualities why 16S rRNA is used commonly in analysis of microbial communities?
2. True/false (explain why false)
 - Isolating bacteria & making pure cultures is not important anymore as an analysis method
 - DGGE = separation of PCR products with same length and different base composition
 - qPCR is measuring signal change from dsDNA binding dye
 - culturing methods are easy and fast
3. How living organisms are classified based on relation with temperature?
Two adaptive methods for each Membrane, Protein and DNA. (10p)
4. Explain: hypersaline environment, halotolerant micro-organisms, moderate halophile, extreme halophile. Their survival strategies (2)?
5. Essay: Biomining & bioleaching / Probiotics (either) (30p)
6. Sexually and non-sexually propagating organisms: how species are determined? DNA difference? (8p)
7. Phylogenetic tree, phylogram, cladogram? (8p)
8. Principles of pyrosequencing? (8p)
9. LAB, NSLAB? (8p)
10. Extra: (to rise points 10p): Upstream and down stream in enzyme production (Genecore excursion)