

M.Sc. Microbiology

Entrance Examination Sample Questions

1. Which of the following soil microorganism is involved in the reduction of sulfate to H₂S?
 - A. Thiobacillus thiooxidans
 - B. Desulfotomaculum
 - C. Rhodospirillum
 - D. Rhodomicrobium
2. Which of the following light is suitable for getting maximum resolution?
 - A. red
 - B. green
 - C. blue
 - D. orange
3. The average size of the cells during the exponential phase of growth is
 - A. greater than in the lag phase
 - B. lesser than in the lag phase
 - C. equal to that in the lag phase
 - D. none of the above
4. With respect to lac operon, if both glucose and lactose are present and concentration of glucose is low, which of the following is not true?
 - A. high CAP
 - B. increased uptake of lactose
 - C. low cAMP
 - D. Increased transcription of the lac operon
5. How many different tRNA molecules are possible if the ribosome detects a quadruplet instead of a triplet codon including the start and stop codon?
 - A. 64
 - B. 128
 - C. 20
 - D. 256
6. The cellular productivity in a continuous stirred tank fermenter (CSTF) increases with an increase in dilution rate and reaches a maximum value. If dilution rate is increases beyond the maximum point, the productivity will-
 - A. decrease abruptly
 - B. increase
 - C. increase drastically
 - D. be zero
7. Which of the following statements about electron transport chain is correct?
 - A. The electron transport chain is made of a chain of electron carriers with
 - B. decreasing electron affinity
 - C. The electron transport chain is made of a chain of electron carriers with increasing
 - D. redox potential
 - E. C. The electron transport chain is made of a chain of electron carriers with
 - F. decreasing oxidizing power
 - G. D. The electrons transferred from carrier to carrier in the electron transport chain

- H. gain energy
8. Which of the following indicates old fecal contamination of water?
- A. Escherichia coli
 - B. Campylobacter jejuni
 - C. Clostridium
 - D. Streptococcus
9. What is the concentration of hydrogen ions in moles per litre if the pH of the solution is 4?
- A. 4.0
 - B. 4.0×10^{-7}
 - C. 4.7×10^{-4}
 - D. 1.0×10^{-4}
10. The triplet code of CAT in DNA is represented as _____ in mRNA and _____ in tRNA.
- A. GAA , CAT
 - B. CAT, CAT
 - C. GUA,CAU
 - D. GTA, CAU
11. Amount of various immunoglobulin classes can be measured by
- A. Double diffusion in one dimension
 - B. Single diffusion in two dimensions
 - C. Single diffusion in one direction
 - D. Double diffusion in two dimensions
12. The organism/s responsible for the characteristic musty or earthy odour of a freshly plowed field is/ are
- A. Nocardia
 - B. Streptomyces
 - C. Micromonospora
 - D. All of the above