Assignment 2

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. Due on 2019-02-13, 23:59 IST.

1) Which is/ are correct:

- Reading frame fidelity is governed by interactions between mRNA and tRNA within the ribosome. 
- There is only one start codon AUG (amino acid– ‘methionine’) but six stop codons also known as nonsense codons.
- Tertiary structure of protein depends largely on hydrophobic interactions.
- There are three correct reading frame to encode amino acids.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Tertiary structure of protein depends largely on hydrophobic interactions.

2) Which organism has a faster growth constant?
Organism A: initial cell number $10^6$ cells/ ml, after 4 hours of exponential growth final cell number increased to $2*10^9$ cells/ ml
Organism B: initial cell number $10^6$ cells/ ml, after 3 hours of exponential growth final cell number increased to $8*10^8$ cells/ ml.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Organism B
No, the answer is incorrect.
Score: 0
Accepted Answers:
1.5 and 0.66
1 and 1.66

4) Which phase is referred to as Cryptic growth:

- Exponential phase
- Lag phase
- Stationery phase
- Death phase

No, the answer is incorrect.
Score: 0
Accepted Answers:
Stationery phase

5) Match the following:

| 1. Essential elements for all micro-organisms | a. Boron |
| 2. Responsible for Quorum sensing in bacteria | b. Manganese |
| 3. Elements used for some exceptional functions in micro-organisms | c. Phosphorus, Nitrogen, Sulphur |
| 4. Activator of many enzymes in micro-organisms | d. Cadmium, Silicon, Barium |

- 1-c, 2-a, 3-d, 4-b
- 1-d, 2-b, 3-c, 4-a
- 1-d, 2-a, 3-c, 4-b
- 1-c, 2-b, 3-d, 4-a

No, the answer is incorrect.
Score: 0
Accepted Answers:
1-c, 2-a, 3-d, 4-b

6) Which is/ are correct:

- Green and purple bacteria are photo-autotrophs which do not require \( \text{H}_2\text{O} \) to reduce \( \text{CO}_2 \).
- Aseptic technique is a series of steps to prevent contamination during manipulations of cultures and sterile culture media.
- Enzymes are proteins which behave as a biological catalyst for many cellular reactions which do not proceed at significant rates by their own.
- All of the above.

No, the answer is incorrect.
7) Chemo-heterotrophs are the only type of microbes which do not require oxygen to consume organic matter.

- True
- False
- Can't be determined

No, the answer is incorrect.

Score: 0

Accepted Answers:
False

8) Role of Acetyl-S-CoA as a coenzyme;

- Increase the diversity of redox reactions possible in a cell by allowing chemically dissimilar electron donors and acceptors to interact, with the coenzyme acting as the intermediary.
- A ‘Coenzyme A’ derivative responsible for formation of ATPs from the proton motive force.
- A ‘Coenzyme A’ derivative especially important to the energetics of anaerobic microorganisms, particularly whose energy metabolism depends on fermentation.
- None of these.

No, the answer is incorrect.

Score: 0

Accepted Answers:
A ‘Coenzyme A’ derivative especially important to the energetics of anaerobic microorganisms, particularly whose energy metabolism depends on fermentation.

9) A type of respiration which takes place in mitochondria

- Aerobic
- Anaerobic
- Anoxic
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:
Aerobic

10) Characteristics of a Chemostat:

- It is a device wherein both growth rate and cell density of microorganisms can be controlled independently.
- Here cell population can be maintained in the exponential phase for long periods.
- Cell density is controlled by a limiting nutrient, just as in a batch culture.
- All of the above.

No, the answer is incorrect.

Score: 0

Accepted Answers:
All of the above.