Assignment 9

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. 

Due on 2019-04-03, 23:59 IST.

1) Say true or false:

Rapid sand filters or slow sand filters are generally used before disinfection process in drinking water treatment systems.

- True
- False

No, the answer is incorrect.

Score: 0

Accepted Answers:

True

2) Match the following:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cholera</td>
<td>A. Is a disease which transmits to human through water contact where water provides habitat to pathogens.</td>
</tr>
<tr>
<td>2. Dysentery</td>
<td>B. Is a water borne disease generally spreads through oral ingestion of pathogens in water.</td>
</tr>
<tr>
<td>3. Typhoid</td>
<td>C. Is a disease which spreads because of the ill cleaning habits or improper sanitation due to the scarcity of water</td>
</tr>
<tr>
<td>4. Malaria</td>
<td>D. Is a water related disease but doesn’t need water contact.</td>
</tr>
</tbody>
</table>

- 1-B; 2-C; 3-A; 4-D
- 1-A; 2-C; 3-B; 4-D
- 1-C; 2-B; 3-C; 4-D
- 1-B; 2-C; 3-B; 4-D

No, the answer is incorrect.

Score: 0

Accepted Answers:
4) State which of the statements are correct:  

1) A bacterium causing legionnaire’s disease is the most infamous for growth in hot water systems and requires a protozoan host to reproduce. 
2) *Mycobacterium* spp. is generally found in raw sewage and waste water systems and cause MAC disease.

- Only 1  
- Only 2  
- Both the statements are correct.  
- Both the statements are incorrect.

5) What are the disadvantages of fecal Indicators?  

- They are viable but are not able to culture (VBNC).  
- Slow and laborious (24-72 hours) in process.  
- Typically more sensitive to disinfection than pathogens.  
- All the statements are correct.

6) What are the disadvantages of PCR (polymerase chain reaction)?  

- All the statements are correct.
DNA from non-viable pathogens gets also amplified.
It takes more time (2-3 days) to obtain the results.
It is not quantitative in nature.
Problem of inhibitors and is a costly equipment.
All the statements are correct.

No, the answer is incorrect.
Score: 0

Accepted Answers:
DNA from non-viable pathogens gets also amplified.
It is not quantitative in nature.
Problem of inhibitors and is a costly equipment.

7) The three main steps occurring during real-time PCR are:

- Denaturation at 94-95°C
- Annealing at 50-65°C
- Extension/ elongation at 70-80°C

No, the answer is incorrect.
Score: 0

Accepted Answers:
Denaturation at 94-95°C
Annealing at 50-65°C
Extension/ elongation at 70-80°C

8) Which statements are correctly distinguishing TaqMan and SYBR Green qPCR?

- The dye SYBR Green binds non-specifically to double stranded DNA but not single stranded DNA or RNA.
- The dye SYBR Green doesn’t require any probe but may generate false positive signals.
- Post-PCR processing is eliminated but synthesis of different probes is required for different sequences in TaqMan chemistry.
- All the statements are correct.

No, the answer is incorrect.
Score: 0

Accepted Answers:
All the statements are correct.

9) Match the following:

<table>
<thead>
<tr>
<th>1. Biological Treatment</th>
<th>A. Allow microbial processes to take their course in a controlled fashion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Slow sand Filtration</td>
<td>B. Ozone often applied as a pre-treatment to enhance biodegradability.</td>
</tr>
<tr>
<td>3. Hybrid Bio-filtration</td>
<td>C. Use large pore media such as Fixed bed and Fluidized-bed.</td>
</tr>
<tr>
<td>4. Biofilm Pretreatment</td>
<td>D. Biological activity concentrated within a small bed depth (formation of a hypogaeal biological layer).</td>
</tr>
</tbody>
</table>
For biological denitrification of drinking water these electron donors are required: methanol, ethanol, acetate or oxygen in greater amount for efficiency.

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