

The phenomena to treat any polluted or contaminated medium with the alteration of environmental conditions so as to trigger microbial growth hence degrade the target pollutants is known as bioremediation. The media can be a subsurface material, soil or even water. Typically, this process is economical and sustainable in comparison to other remediation techniques out there. A similar undertaking is the biological treatment which is used in treating wastes which includes industrial wastes, wastewater and also solid wastes.

**1. Bioaugmentation involves**

- (a) eliminating sludge
- (b) plants usage for bioremediation
- (c) addition of microbes to a cleanup site
- (d) bioventing

**Answer: (c)**

**2. This cleanup approach includes removal of groundwater or soil from its natural setting to permit for bioremediation**

- (a) Bioaugmentation
- (b) in situ bioremediation
- (c) ex situ bioremediation
- (d) Phytoremediation

**Answer: (c)**

**3. At this stage of wastewater treatment, methanogenic microbes are the most significant**

- (a) Sludge digestion
- (b) Primary treatment
- (c) Secondary treatment
- (d) Biological oxidation

**Answer: (a)**

**4. This bioremediation technique includes mixing contaminated water and soil, fertilizers and carbon dioxide in a bioreactor to stimulate biodegradation**

- (a) Composting
- (b) Slurry-phase bioremediation
- (c) In situ hybridization
- (d) Biopile treatment

**Answer: (b)**

**5. Bioremediation**

- (a) usage of microbes to create new organisms
- (b) usage of anaerobic bacteria to create new antibiotics
- (c) usage of microbes to destroy environmental pollutants
- (d) usage of aerobic bacteria to create new vaccines

**Answer: (c)**

**6. Ananda Chakraborty received the first U.S. patent for a GM entity. The entity was**

- (a) The GloFish
- (b) a transgenic mouse expressing the growth hormone gene
- (c) Cloned E.Coli
- (d) Pseudomonas engineered to degrade petroleum

**Answer: (d)**

**7. A process using microbes to convert toxic industrial wastes to less toxic or non-toxic compounds is**

- (a) Precipitation
- (b) Complement fixation
- (c) Bioconversion
- (d) Bioremediation

**Answer: (d)**

8. \_\_\_\_\_ bacterium can withstand the dosage of radiation, which are several times higher than what human cells can tolerate

- (a) *Escherichia coli*
- (b) *Conus magus*
- (c) *Deinococcus radiodurans*
- (d) *Staphylococcus aureus*

**Answer: (c)**

9. The bioremediation process involving the usage of plants to degrade pollutants is

- (a) Composting
- (b) Biopile
- (c) Phytoremediation
- (d) Land farming

**Answer: (c)**

10. This is not an indigenous microbe used for bioremediation

- (a) *Pseudomonas aeruginosa*
- (b) *Piscirickettsia salmonis*
- (c) *Phanerochaete sordida*
- (d) *E. coli*

**Answer: (b)**