



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Eighth Semester – 2019

Paper: Microbes, Man and the Environment  
Course Code: BOT-409 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig. ....

Roll No. in Words. ....

Signature of Supdt.: .....

**ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.**

**Division of marks is given in front of each question.**

**This Paper will be collected back after expiry of time limit mentioned above.**

**Q.1. Encircle the correct option.**

**(10x1=10)**

**1. The microorganism that is mainly used as an indicator of fecal pollution in water is:**

- (a) Escherichia coli
- (b) Clostridium tetani
- (c) Clostridium botulinum
- (d) Cyanobacteria

**2. Some bacteria have complex nutritional requirements because they:**

- (a) Are composed of a large number of different types of molecules
- (b) Have many different enzymes and therefore can make many molecules
- (c) Contain unique molecules not normally found in bacterial cells
- (d) Lack many enzymes and must therefore be provided with many of the molecules they need for growth

**3. The use of living organisms to degrade environmental pollutants is known as**

- a) Microremediation
- b) Bioremediation
- c) Nanoremediation
- d) All of these

**4. Bacteria cannot be transferred by**

- a) Transformation
- b) Transduction
- c) Binary fission
- d) All of these

**5. What is Archaea?**

- (a) Archaea is a classification for organisms that have two nuclei.
- (b) Archaea is a classification for organisms that use phagocytosis.
- (c) Archaea is a classification of an organism that identifies prokaryotes that do not have peptidoglycan cell walls.
- (d) Archaea is a classification of an organism that identifies prokaryotes that have peptidoglycan cell walls.

**6. Microbial growth is measured by what parameter?**

- (a) Increased cell size
- (b) Increase in total number of cells
- (c) Increased size of cellular components
- (d) None of the above

**P.T.O.**

**7. Bacteriophages that can enter into stable, long-term relationships with their hosts are called:**

- (a) Lytic phages
- (b) Defective phages
- (c) Virulent phages
- (d) Temperate phages

**8. The form of nitrogen that is most usable in plants is:**

- (a) Nitrate
- (b) Nitrite
- (c) Molecular nitrogen
- (d) Ammonia

**9. The synthesis of ever first DNA molecule was**

- a) Inorganic evolution                      (c) Organic evolution
- b) Organismic evolution                      (d) Convergent evolution

**10. Bacteriostatic agents:**

- (a) Kills the bacteria
- (b) Stops bacteria from reproducing
- (c) Kills the bacterial spores
- (d) Are antifungal



**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

**SHORT QUESTIONS**

**20 Marks**

**Q2. Answer briefly the following questions. Each question carries two marks.**

1. Differentiate between budding and binary fission
2. What is the difference between Nitrification and Nitrogen fixation
3. Name a symbiotic association between fungus and plant.
4. Classify bacteria on the basis of their shape.
5. Differentiate between the Alcoholic and Acidic fermentation.
6. What are the three domains of life?
7. How lophotrichous bacteria different from amphitrichous bacteria?
8. What are different viral diseases of Man?
9. Write a name of two plant diseases caused by bacteria?
10. How microbial fermentation helps ruminants to digest their food?

**SUBJECTIVE QUESTIONS**

**(5x6) =30 Marks**

**Q3: What are antimicrobials? How microbes acquire resistance from them.**

**Q4: How sewage effluent can be treated with the help of microbes.**

**Q5: What are the most important microbial approaches to clean up the pollution?**

**Q6: How virus replicates in Plants?**

**Q7: Write a note on the role of microbes in Carbon cycle and Nitrogen cycle.**