



# UNIVERSITY OF THE PUNJAB

**B.S. 4 Years Program / Eighth Semester – 2020**

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)**

- (i) The group of organisms which are more primitive.  
(A) Cyano bacteria (C) Eubacteria  
(B) Archeobacteria (D) Gram –ve Bacteria
- (ii) The bacteria involved in symbiotic N<sub>2</sub> fixation  
(A) Pseudomonas (C) Rhizobium  
(B) E. coli (D) Salmonella
- (iii) Incorporation of Nitrogen in complex organic compounds by plants is  
(A) Nitrification (C) Assimilation  
(B) Ammonification (D) Denitrification
- (iv) Any living organism harmful to crops is  
(A) Insect (C) Parasite  
(B) Pathogen (D) Pest
- (v) During lactic acid fermentation Pyruvate is  
(A) Oxidized (C) Reduced  
(B) Produced (D) Broken
- (VI) Viruses are----- Parasites  
(A) Endonuclear (C) Extranuclear  
(B) Intracellular (D) Extracellular
- (VII) Fungi are important to sustain an ecosystem because they are  
(A) Reducer (C) Decomposer  
(B) Recycler (D) Pathogen
- (VIII) The cycle in which Viral DNA merges with bacterial Cell DNA is broken as:  
(A) Lytic cycle (B) Lysogenic Cycle  
(C) Transformation (D) Transduction  
The synthesis of ever first molecule was  
(A) Inorganic evolution (C) Organic evolution  
(B) Organismic evolution (D) Convergent evolution
- (X) Study of disease and disease causing organisms is  
(A) Virology (C) Mycology  
(B) Pathology (D) Parasitology



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

**Q#2: Answer the following questions briefly. (20marks)**

- (i) Define environment.
- (ii) Why viruses can't replicate independent of host cell?
- (iii) "All bacteria are not decomposers" comment.
- (iv) Differentiate between gross and net productivity.
- (v) How do bacteria benefit environment?
- (vi) How ecosystem involves unidirectional flow of energy?
- (vii) Name any two plant diseases cause by each viruses and bacteria.
- (viii) Fungi lack any motile cell. What's its significance?
- ~~(ix) Name any four causes of water quality deterioration.~~
- (x) Why viruses are considered living?

**Comprehensive Questions: (30marks)**

**Q#3:**

- (a) Explain waste water treatment. (5)
- (b) Explain the structure of TMV. (5)

**Q#4:**

- (a) How fungi can be used in food industry. (5)
- (b) Explain mechanism of nodule formation. (5)

**Q#5:**

- (a) Write a note on bio deterioration. (5)
- (b) Describe basic principles of disease control. (5)