**B.Sc. (Honours) Agriculture Examination, 2018**
**Semester-II**
**Course No: PPC-121**
**(Agricultural Microbiology)**

Signature of Centre Superintendent

**Roll No. :** (in figure) _____ (in words) _____

Student Index No. _____ Regn. No. _____ of _____

**Time : Two Hours** **Full marks : 50**

Questions are of value as indicated in the margin

## Part - I
**(Objective and Short Answer Type)**
**(Use only ball point pen)**

**Time : 30 minutes** **Full marks : 20**

**Note:** 1. Answer in question paper itself.
2. Striking, rewriting or overwriting are not allowed in the objective type questions.

1. **Fill up the blanks with most appropriate words :** 1×5=5

(i) Fourth Koch's Postulate proposed by _____

(ii) The idea of cosmozoic theory was proposed by _____

(iii) The optimum pH for bacterial growth is _____

(iv) The process of transfer of genes from one cell to another by a bacteriophage is referred as _____

(v) Discontrinuous heating for sterilization is known as _____

2. **Tick (✓ ) the correct alternatives :** 1×5=5

(i) C:S ratio of organic fraction is approximately (a) 100 : 1 (b) 200 : 1 (c) 300 : 1 (d) 400 : 1

(ii) Teichoic acid is present in cell wall of (a) gram –ve bacteria (b) gram + ve bacteria (c) fungus (d) algae.

(iii) Movement of DNA from one bacterial to another through a tubular bridge or pilus is called (a)conjugation (b) transposition (c) transfection (d) transduction.

(iv) Mycorrhiza is the association of (a) bacteria and plant root (b) fungus and plant root (c) algae and plant root (d) none of these.

(v) Agar solidifies at (a) $25^0$C (b) $35^0$C (c) $45^0$C (d) $55^0$C

P.T.O.

3. Write short notes on the following (**any five**) : 2×5=10

(i) Biofertilizer

(ii) Sir Alexander Fleming

(iii) Antonie van Leeuwenhock

(iv) Algae

(v) Denitrification

(vi) Asexual reproduction in bacteria

(vii) Rhizosphoric microflora

(viii) Biofuel

# B.Sc. (Honours) Agriculture Examination, 2018

## Semester-II

## Course No: PPC-121

## (Agricultural Microbiology)

## Part – II

### (Descriptive Type)

**Time : 90 Minutes** **Full marks : 30**

Questions are of value as indicated in the margin

**Answer *any three* questions**

4. a) What do you mean by spontaneous generation theory and germ theory regarding origin of life? 4

   b) Describe Koch's postulate 3

   c) Cite one important contribution of (i) Louis Pasteur (ii) H.C.J. Gram (iii) S.A. Waksman 3

5. a) Differentiate between prokaryotic and eukaryotic cell. 3

   b) Draw a labelled diagram of a typical bacterial cell 4

   c) What do you mean by lysogenic lifecycle of bacteriophage. 3

6. a) Classify bacteria according to their shape and flagellar arrangement with diagram. 5

   b) Differentiate between gram +ve and gram –ve bacteria. 3

   c) What is the difference between pasteurization and tyndalization 2

7. What do you mean by mineralization? Discuss the N-cycle with the microorganisms associated at different stages. 2+8=10

8. a) What do you mean by sulphur cycle? 2

   b)How the biological transformation of sulphur and sulphur compound occurs in nature? 8

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