Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov/Dec– 2018**

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| **Code :** | **15BT3019** | **Duration :** | **3hrs** |
| **Sub. Name :** | **SOIL AND AGRICULTURAL MICROBIOLOGY** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain in detail about the distribution of soil microorganisms. | CO1 | 10 |
| b. | Give a detailed account on the importance of soil microorganisms. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Justify the role of microorganisms in soil fertility. | CO1 | 10 |
| b. | Write short notes on contributions of Beijerinck, Winogradsky, Fleming and Waksman in soil microbiology. | CO1 | 10 |
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| 3. | a. | Write a note on the influence of soil and environmental factors on microflora. | CO1 | 10 |
| b. | What is the role of microorganisms in soil processes?. | CO1 | 10 |
| (OR) | | | | |
| 4. | a. | Summarize about Rhizosphere . | CO1 | 5 |
| b. | What is Rhizoplane? | CO1 | 5 |
| c. | Define Spermosphere. | CO1 | 5 |
| d. | Explain about Phyllosphere. | CO1 | 5 |
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| 5. | a. | What is Humus? Discuss in detail the steps involved in Humus formation and enumerate its importance . | CO1 | 10 |
| b. | Classify the different soil enzymes and mention the role of different soil enzymes. | CO1 | 10 |
| (OR) | | | | |
| 6. | a. | Summarize about the carbon cycle with a neat illustration. | CO1 | 10 |
| b. | Demonstrate in detail the Phytoalexins. | CO1 | 10 |
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| 7. | a. | Illustrate the process of Symbiosis, Asymbiosis and Associated Symbiosis among bacteria, cyanobacteria and actinomycetes. | CO3 | 10 |
| c. | Define Mycorrhiza. Illustrate in detail the Ectomycorrhiza and Endomycorrhiza. | CO3 | 10 |
| (OR) | | | | |
| 8. | a. | Give any two bacterial diseases in plant, host name, pathogen name,symptoms and treatment. | CO2 | 5 |
| b. | Mention any two fungal diseases in plant, host name, pathogen name, symptoms and treatment. | CO2 | 5 |
| c. | Tabulate any two viral diseases in plant, host name, pathogen name, symptoms and treatment. | CO2 | 5 |
| d. | Define Bio control Agent? Interpret the mechanism behind it and give any two examples. | CO3 | 5 |
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|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss in detail the nitrogen cycle with a clear diagram. | CO1 | 10 |
| b. | Illustrate the sulphur cycle. | CO1 | 10 |