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

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

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| **Code :** | **15BT3015** | **Duration :** | **3hrs** |
| **Sub. Name :** | **PHARMACEUTICAL 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. | What are antimicrobial agents? Summarize the major classes of antibiotics by citing suitable examples. | CO1 | 10 |
| b. | Discuss in detail the mode of action of antibiotics. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Outline the causes for spoilage of pharmaceutical products. | CO1 | 8 |
| b. | Explain the various sterilization techniques employed in pharma industry. |  | 12 |
|  |  |  |  |  |
| 3. |  | Criticize Immobilization. Elaborate on the immobilization procedures used for pharmaceutical applications. | CO1 | 20 |
| (OR) | | | | |
| 4. |  | “Liposomal drug delivery system is a boon for pharmaceutical industry”. Justify this statement. | CO1 | 20 |
|  |  |  |  |  |
| 5. |  | Appraise the importance of microbial enzymes in pharmaceuticals. | CO1 | 20 |
| (OR) | | | | |
| 6. |  | List out the different types of drug carriers. Explain the structure and mechanism of each of them. | CO1 | 20 |
|  |  |  |  |  |
| 7. |  | Outline the quality assurance and validatory procedures in pharma industries. | CO1 | 20 |
| (OR) | | | | |
| 8. | a. | Elaborate the need and importance of WHO, ISO and US certifications. | CO1 | 12 |
| b. | Write a detailed note on the regulatory aspects followed in quality control. | CO1 | 8 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | State the importance of GLP and GMP in pharma industries and classify the stepwise GLP in QC and activity wise GLP in QC. | CO1 | 20 |