



## GIET UNIVERSITY, GUNUPUR – 765022

Ph.D. (Second Semester) Examinations, November – 2023

### WPPEBO2011 – Applied Microbiology

(Botany)

Time: 3 hrs

Maximum: 70 Marks

The figures in the right hand margin indicate marks.

**Answer ANY FIVE Questions**

**(14 x 5 = 70 Marks)**

	Marks
1.a. Summarize the different methods of fungal culture.	7
b. Give an account on the production of economically important products from algae and fungi.	7
2.a. Explain in detail on economic importance of bacteria.	7
b. Give an account of isolation and pure culture of anaerobic soil bacteria.	7
3.a. Give the outline of the steps involved in isolation of industrially important microbes from soil?	7
b. Illustrate the use of microbes in dairy industry.	7
4.a. Give a brief account on importance of microbes in food and dairy industry.	7
b. Write in detail on production of Citric acid using microbes in industry.	7
5.a. What are the advantages and disadvantages of activated sludge process?	7
b. Write in detail on microbiology of anaerobic sludge treatment.	7
6.a. Discuss in detail about the production of Effective Microorganisms (EM) for waste treatment.	7
b. Analyze in detail on microbial biosorption technology.	7
7 a. Explain the importance of isoprenoids and PUFA in industry.	7
b. Summarize the different processes used for synthesis of metallic nanoparticles.	7
8 a. Describe the different types of bioremediation processes and their ecological significance.	7
b. What are xenobiotics? Give an account of microbial degradation of xenobiotics.	7

---End of Paper---