

Ref. No. : Ex/FTBE/BS/B/T/212/2023(S)

**B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING SECOND YEAR
FIRST SEMESTER SUPPLEMENTARY EXAM– 2023**

Subject :BASICS OF MICROBIOLOGY

Time: 3hr

Full Marks: 100

Part I (Total Marks 50)

Instructions : Use Separate Answer scripts for each part

Answer any five questions from the following: 5x10=50

- 1.Explain any two methods for quantitative estimation of bacteria. 5+5=10
2. Write some beneficial effect and harmful effect of fungus. Write some characteristics of fungal cell wall. (3+3)+4=10
3. Classify bacteria on the basis of temperature requirement. 10
4. Write the difference between streak plate, pour plate and spread plate technique. 10
5. a. Write the function of the following organelle: 2.5+2.5=5
 - i. Capsule
 - ii. Pili/ Pilus
- b. Write the difference between i. Autotroph and Heterotroph ii. Phototroph and Chemotroph. 2.5+2.5=5
6. What do you mean by obligate parasites? What is the role of Peptone, Beef extract, Yeast extract and agar in bacterial medium? 2+8=10

[Turn over

**B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING SECOND YEAR FIRST SEMESTER
SUPPLEMENTARY EXAM – 2023**

Basics of Microbiology

Time: 3hours

Full Marks: 100

Part II (Marks:50)

Answer any five questions from the following:

5x10

1.Explain the following:

a) Picric acid is considered as a dye

b) symbiotic nitrogen fixation.

2x5

2. Define: chromogen, D value, nitrogen fixation, F value, bactericide.

5x2

3.What is differential staining. Give example .Composition of cell wall affects gram staining –justify. Give one example each of gm+ve and gm-ve bacteria.

2+1+5+2

4. What is sterilization? Explain working principle of Autoclave. How does moist heat act on microorganisms?

2+6+2

5.i)Differentiate between:

a) Light Microscope and Electron Microscope,

b)Simple microscope and Compound microscope,

ii)What is meant by resolution of a microscope?

iii) Write the full form of TEM and SEM.

2+2+2+2+2

6. What is disinfectant. Classify disinfectants on the basis of mechanism of action. Explain Phenol coefficient method.

1+3+6

7. Write short notes on (any two) :

2x5

a) Simple staining procedure of bacteria

b) Arnold sterilizer

c) Pasteurization