

**M.Sc. 3rd Semester Examination, 2023**

**MICROBIOLOGY**

**PAPER—MCB-303**(*Fermentation Technology  
and Food Microbiology*)

*Full Marks : 50*

*Time : 2 hours*

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in  
their own words as far as practicable*

**Unit : MCB-303.1(Fermentation Technology)**

**GROUP – A**

Answer any two questions from the following :

2 × 2

1. What is fed-batch bioprocess ?

2. Mention the role of impeller and baffle in stirred tank bioreactor.
3. How bulk amount of media is sterilized prior fermentation ?
4. What is  $K_L a$  in submerged fermentation ?

GROUP – B

Answer any two questions from the following :

5. State the applications of continuous operation of bioprocess. What is steady state in this bioprocess ?  
 $4 \times 2$   
 $2 + 2$
6. Compare bubble column bioreactor with stirred tank bioreactor. How the productivity of a microbial strain can be increased for its industrial use ?  
 $2 + 2$