



# RAN-1167

## B. Sc. Microbiology SEM-VI Examination

March / April - 2019

### MB 18: Principles of Industrial Microbiology

Time: 2 Hours ]

[ Total Marks: 50

#### સૂચના : / Instructions

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.  
Fill up strictly the details of signs on your answer book

Name of the Examination:

B. Sc. Microbiology SEM-VI

Name of the Subject :

MB 18: Principles of Industrial Microbiology

Subject Code No.: 1 1 6 7

Seat No.:

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Student's Signature

#### Instruction:

1. Figures to the right indicate full marks of the question.
2. Draw neat and labeled diagrams whenever necessary

#### Q.1 Give Specific answers

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- a. What are the 5 phases/levels of cell's metabolism?
- b. What is head space in fermenter? State its importance.
- c. Give methods used for yeast cell autolysis.
- d. State 2 examples of impeller and sparger each.
- e. State 4 functions of plasmid.
- f. Explain intergeneric cross with suitable example.

#### Q.2 Explain/comment on any two of the following

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- a. Centrifugation techniques are important methods used to separate microbial biomass during product recovery.
- b. Explain glimpses of historical developments, who built foundation of industrial microbiology.
- c. Discuss importance and various aspects of scale up fermentation

**Q3. Discuss any two of the following. 16**

- a. Explain various test systems used in screening of industrially important microbes. Discuss importance of secondary screening.
- b. Explain different chromatographic techniques as a part of a product recovery.
- c. Discuss importance of mutagenesis for improvement of microbial strains in fermentation industries.

**Q.4 Write short notes on any two of the following 10**

- a. Microbe disintegration in downstream processing.
  - b. Enzyme regulation for strain improvement.
  - c. Sterilization of fermenter without production media.
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