



**AU-1931**

Seat No. \_\_\_\_\_

**B. Sc. (Sem. VI) Examination**

**March / April - 2018**

**Microbiology : Paper - MI - 604**

*(Bioprocess Technology)*

Time : 3 Hours]

[Total Marks : 70

- 1 (a) Answer the following : (any two) 12
- (i) Heap and dump leaching.
  - (ii) Nutritional value of single cell protein.
  - (iii) Classification of biofertilizers and their applications.
- (b) Answer in brief : (any two) 6
- (i) In-situ bioleaching.
  - (ii) Bacterial insecticides.
  - (iii) Production of baker's yeast.
- 2 (a) Describe the following : (any two) 12
- (i) Screening methods for Antibiotic producing microorganisms from natural habitat.
  - (ii) Explain feedback concerted and cumulative types of inhibition.
  - (iii) Current advances in strain improvement of industrial microorganisms.

- (b) Discuss in brief : (any **two**) 6
- (i) Trophophase and idiophase.
  - (ii) Co-operative feedback inhibition.
  - (iii) Explain secondary metabolites and their role.
- 3 (a) Describe the following : (any **two**) 12
- (i) Scale-up steps for industrial product fermentation.
  - (ii) Biosensor.
  - (iii) Manual and automatic control system for Fermentation process.
- (b) Answer in brief : (any **two**) 6
- (i) Control of aeration and agitation in fermentation process.
  - (ii) Recent advances in fermentation process control.
  - (iii) Maintenance of sterility during fermentation process.
- 4 Write note on the following : (any **one**) 16
- What is fermentation economics ? Discuss fermentation economics with respect to strain improvement and selection of raw-materials for fermentation process.

**OR**

What is Fermentation Economics ? Discuss fermentation economics for isolation and media design.