

# 17649

**21819**

**3 Hours / 100 Marks**

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.  
(2) Answer each next main Question on a new page.  
(3) Illustrate your answers with neat sketches wherever necessary.  
(4) Figures to the right indicate full marks.  
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

- 1. Attempt any FIVE of the following:** **20**
- State the necessity of yeast acidifications in fermentation process. How it is to be done?
  - Why sterile air is used in pre fermenter?
  - List the names of eight nutrients required for yeast.
  - Explain evaporation process used in chemical industry.
  - Explain the terms BOD and COD.
  - State the range of alcohol content in whisky, brandy, rum and vodka.
  - Define azeotrope and give two examples of azeotropic mixtures.
- 2. Attempt any FOUR of the following:** **16**
- List of four industrial uses of alcohol.
  - Why distillation is necessary in alcohol manufacturing?
  - Why nutrients are required for yeast during fermentation process?
  - Explain working principle of yeast propagation.
  - State pollution control board norms for alcohol industry waste water.
  - Define yeast, bacteria, enzyme and micro-organism.

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- 3. Attempt any FOUR of the following: 16**
- a) Define the terms yeast and enzyme.
  - b) State the material of construction for yeast propagation vessel. Explain how maintenance of yeast vessel is carried out.
  - c) Explain manufacturing of brandy.
  - d) Explain significance of BOD in waste water treatment.
  - e) What is malt alcohol? List its raw material.
- 4. Attempt any FOUR of the following: 16**
- a) Why distillery is attached to sugar industry? Explain in detail.
  - b) State toxicological effects of distillery waste water.
  - c) Explain manufacturing of industrial spirit.
  - d) State different pollution present in distillery waste water.
  - e) Explain pre fermentation practices adopted for yeast propagation.
- 5. Attempt any FOUR of the following: 16**
- a) Explain batch fermentation process with suitable example.
  - b) Give taxonomy of yeast with neat structure.
  - c) What are bacteria? State the effects of bacteria on fermentation process.
  - d) Explain manufacturing of rum.
  - e) List primary treatment carried out for treating distillery waste and explain any one of them.
- 6. Attempt any TWO of the following: 16**
- a) Explain morphology of basic yeast with neat diagram.
  - b) Explain continuous distillation and azeotropic distillation with suitable example.
  - c) Explain activated sludge treatment process with neat sketch.
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