

17649

11819

3 Hours / 100 Marks

Seat No.

--	--	--	--	--	--	--	--	--	--

- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(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**
- Explain the term ‘fermentation’. State its commercial applications.
 - State characteristics of batch fermentation.
 - Explain with examples, role of bacteria in fermentation.
 - Describe acidification of yeasts.
 - Explain meaning of ‘industrial spirit’. Where is it used?
 - Explain use of yeast in alcohol technology.
 - Define:
 - Pollutant
 - Pollution
 - Toxicology
 - Effluent

P.T.O.

- 2. Attempt any TWO of the following: 16**
- a) Compare with examples : bacteria, yeast and enzymes.
 - b) (i) Explain, necessity of using 'sterile air' in pre-fermentation.
(ii) How is air, sterilised?
 - c) Describe, contents of waste, from alcohol industry.
- 3. Attempt any TWO of the following: 16**
- a) (i) Describe 'azeotropic distillation'. 6
(ii) State uses (examples) of azeotropic distillation. 2
 - b) (i) Define 'taxonomy' - 2
(ii) Describe taxonomy of yeasts. 6
 - c) Draw the flow-sheet for manufacturing :
 - (i) Whisky
 - (ii) Malt alcohol
- 4. Attempt any TWO of the following: 16**
- a) (i) Why is pre-fermentation done? 2
(ii) Explain pre-fermentation practices for yeast propagation. 6
 - b) Describe the process for the manufacture of rum.
 - c) Describe 'biological treatment' of effluents from alcohol industry.

- 5. Attempt any TWO of the following:** **16**
- a) (i) Compare 'Boiling' and 'evaporation'. 2
 - (ii) Explain factors, affecting, evaporation rate. 6
 - b) Describe liquefaction of enzymes.
 - c) (i) Describe a yeast vessel.
 - (ii) Explain necessity of maintaining yeast vessel. How is it done?
- 6. Attempt any FOUR of the following:** **16**
- a) Explain parameters, which affects fermentation.
 - b) State nutritional values of yeasts.
 - c) Which is the favoured, material of construction for a yeast vessel? Why?
 - d) Compare : vodka and brandy.
 - e) Describe a method to determine methanol content of spirit.
 - f) Write adverse effects, caused by effluents from alcohol industry.
-