

17649

16117

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. a) **Attempt any THREE of the following:** **12**
- (i) Explain meaning of fermentation. Give two examples.
- (ii) What are bacteria? Explain their classification.
- (iii) Write maintenance aspects of yeast vessel.
- (iv) State uses of distillery waste in agriculture.
- b) **Attempt any ONE of the following:** **6**
- (i) What is acidification of yeast? Why is it essential?
- (ii) Explain with a flow diagram, batch distillation process for rum.

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- 2. Attempt any FOUR of the following:** **16**
- a) Define distillation. Give its classification.
 - b) State favourable conditions required for bacterial fermentation.
 - c) Describe sterilisation of air.
 - d) State precautions to be taken during bottling of alcohol.
 - e) Define BOD. State typical characteristics of distillery effluent.
- 3. Attempt any TWO of the following:** **16**
- a) Describe with a labelled diagram and suitable example, azeotropic distillation.
 - b) (i) Distinguish between bacteria, yeast and algae.
(ii) Describe yeast taxonomy.
 - c) Describe with reaction and flow sheet manufacture of whiskey.
- 4. a) Attempt any THREE of the following:** **12**
- (i) Differentiate between aerobic and anaerobic fermentation.
 - (ii) Describe enzyme dosing.
 - (iii) Explain the yeast morphology.
 - (iv) Describe toxicological effects of effluents from alcohol industry.
- b) Attempt any ONE of the following:** **6**
- (i) Describe acclimatisation of aerobic system.
 - (ii) 1) What are industrial spirits? **2**
2) Draw a flow diagram for the manufacture of industrial spirit. **4**

5. Attempt any FOUR of the following:**16**

- a) Describe continuous fermentation process.
- b) Explain nutritional requirements of yeast.
- c) Define acidification power. State its importance.
- d) Write Government stipulated conditions for alcohol industry waste water.
- e) Describe primary treatment of alcohol industry effluent.

6. Attempt any TWO of the following:**16**

- a) (i) Describe importance of pre fermentation propagation of yeast.
(ii) How is it carried out?
 - b) Describe with a flow sheet waste water treatment used in distillery.
 - c) Describe with reactions and flow sheet manufacture of beer.
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