

# B. M. S. College of Engineering, Bengaluru - 560019

Autonomous Institute Affiliated to VTU

## August 2024 Supplementary Examinations

**Programme: B.E.**

**Branch: Chemical Engineering**

**Course Code: 19CH7DCCTN**

**Course: Chemical Technology**

**Semester: VII**

**Duration: 3 hrs.**

**Max Marks: 100**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

### UNIT - I

1. a) Discuss the components of the flow sheet with an example. **08**
- b) Discuss about air separation technology to produce oxygen with minute impurities from a cryogenic industry. **12**

### OR

2. a) In detail, explain the concepts of Coking of Coal with a neat flow diagram. **10**
- b) Explain the Linde –Frankl's process of production of oxygen and list its limitations. **10**

### UNIT - II

3. a) Explain the major engineering problems encountered in Solvay process. **08**
- b) With a neat flow chart explain the phosphoric acid manufacturing highlighting the major engineering problems. **12**

### UNIT - III

4. a) How soaps are classified? **04**
- b) Explain the process of saponification used in the manufacture of soap. **06**
- c) With neat flow chart, explain extraction process of vegetable oil and list the major engineering problem encountered. **10**

### UNIT - IV

5. a) How effluent treatment for pulp and paper industries is carried out? Explain using a neat block diagram. **10**
- b) With a flow diagram, explain the manufacture of ethanol from molasses highlight the major Engineering problems encountered and its applications. **10**

### OR

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

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|----|----|--|-----------|
| 6. | a) | Explain the major engineering problems in fermentation industries.   | <b>08</b> |
|    | b) | With a neat flow sheet explain the production of <i>penicillin</i> . | <b>12</b> |

**UNIT - V**

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|----|----|--|-----------|
| 7. | a) | With a neat flow sheet explain the manufacture of urea production.   | <b>10</b> |
|    | b) | How is paint manufactured? What is the importance of zinc oxide and titanium dioxide in the manufacture of paint? Explain. | <b>10</b> |

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SUPPLEMENTARY EXAMS 2024