

**Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous), Rajkot**  
Affiliated to Saurashtra University, Rajkot

**SEMESTER END EXAMINATION NOVEMBER 2018**

**B.Sc. Industrial Chemistry**

**16UICCC21 – INDUSTRIAL UTILITIES (SELF STUDY)**

*Duration of Exam – 3 hrs*

*Semester – V*

*Max. Marks – 70*

**Part A (10x1= 10 marks)**

Answer **ALL** questions

1. The art of measuring the moisture content of air is termed as\_\_\_\_
2. In instruments for automatic recording and controlling requires pressure of air\_\_\_\_
3. Give full form of ACGIH.
4. \_\_\_\_\_is the most useful commodity in nature.
5. How many types method is used for Cryogenic insulation?
6. Which insulation acts as fire proofing materials?
7. \_\_\_\_\_are most commonly used compressors.
8. The ratio of work-done per cycle to the stroke volume of the compressor is known as\_\_\_\_
9. How the natural draught produced for exhaust gases?
10. The boiler in which the tubes are surrounded by hot gases is called as\_\_\_\_

**Part B (5x5= 25 marks)**

Answer **ALL** questions

- 11a. Write a short note on instruments air system.  
**OR**
- 11b. Write a short note on chemical dryer with neat figure.
  
- 12a. Discuss causes of hardness in water in detail.  
**OR**
- 12b. Discuss lime soda technology along with suitable process.
  
- 13a. Discuss various grades of formed plastics for chemical industries.  
**OR**
- 13b. Discuss low temperature insulation techniques for materials.
  
- 14a. Discuss multistage compressor along with isotherm cycle in detail.  
**OR**
- 14b. Discuss various types of control of compressor.
  
- 15a. Write a short note on economizers.  
**OR**
- 15b. Write a short note on scotch boiler.

**Part C (5X7= 35 marks)**

Answer **ALL** questions

16a. Write a short note on atomic and physical properties & applications of noble gases.

**OR**

16b. Write a short note on refrigeration cycle with schematic figure.

17a. Explain in detail: Sterilization process for water with neat figure.

**OR**

17b. Explain in detail: Ion exchange process.

18a. Enlist and explain structural insulated panels in details.

**OR**

18b. Enlist and explain insulating factors details.

19a. Explain compressed air system components in detail.

**OR**

19b. Explain air compressor in detail.

20a. Discuss boiler mounting and accessories in detail.

**OR**

20b. Discuss fusible plug protective device in detail.

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