



C20-CHST-503

7631

BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023

DCHST – FIFTH SEMESTER EXAMINATION

MASS TRANSFER OPERATIONS—II

Time : 3 Hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define extraction with example.
2. Draw and label the parts of spray chamber.
3. Differentiate between physical and chemical adsorption.
4. Define adsorbent.
5. State drying conditions.
6. Define constant rate period of drying.
7. State percentage humidity.
8. Write the use of psychometric chart.
9. Define crystallizer.
10. List out the methods to attain super saturation.

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **eight** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. (a) Explain the rotating disc contractors with a neat diagram.

(OR)

(b) Explain the choice of solvent for extraction operation.

12. (a) State Langmuir adsorption isotherm.

(OR)

(b) Write the characteristics of adsorbent.

13. (a) With a neat sketch explain about rotary drier.

(OR)

(b) Explain the factors influence the drying operation.

14. (a) State the importance and applications of humidification.

(OR)

(b) Explain about the air conditioning.

15. (a) Explain about Swenson Walker crystallizer.

(OR)

(b) Explain in detail nucleation and crystal growth in crystallization.

PART—C

10×1=10

- Instructions :** (1) Answer the following question.
(2) The question carries **ten** marks.
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. Explain the prevention of caking of crystals.

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