



বিদ্যাসাগর বিশ্ববিদ্যালয়

VIDYASAGAR UNIVERSITY

B.Sc. (Major) Honours Examination 2021

(CBCS)

4th Semester

INDUSTRIAL CHEMISTRY

PAPER—SEC2T

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

SEC2T : CHEMICAL TECHNOLOGY & SOCIETY

Group - A

Answer any *two* questions.

2×15

1. Discuss the basic principles of distillation, solid-liquid leaching and liquid-liquid extraction. 15
2. Discuss on the scope of different types of equipment needed in chemical technology. 15
3. Write explanatory note on scaling up operations in chemical industry. 15

4. Write explanatory note on solar and renewable energy. 15

Group – B

Answer any *one* question. 1×10

5. Write explanatory note on distillation column.
6. Write explanatory note on nuclear fission.

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SEC2T : MANAGEMENT, COSTING AND PLANT DESIGN

Group – A

Answer any *two* questions. 2×15

1. What do you understand by corporate finance? Illustrate the scope of financial management. 3+12
2. (a) The following financial information is given for XYZ Ltd.

(Rs. in lakhs)

Average inventory of :	
Raw materials	800
Work-in-progress	1800
Finished goods	720
Average debtors	1400
Average creditors	600
Average daily usage of raw materials	50
Average cost of production per day	100
Average cost of goods sold per day	120
Average credit sales per day	140
Average credit purchases per day	60

Based on the information provided above you are required to determine the length of the operating cycle of the XYZ Ltd.

- (b) Give a detailed description on the determinants of working capital requirement for a firm. 5+10
3. (a) How can you differentiate between sales and marketing?
 (b) Discuss the 4Ps of marketing mix.
 (c) Why the understanding of consumer behavior is important in marketing management? 5+5+5
4. Discuss the concept and importance of plant layout. What are the factors that influence plant layout? 7+8

Group – B

Answer any *one* question. 1×10

5. Discuss in detail the various factors to be considered while deciding the location of a plant.
6. Give a detailed description on the various kinds of pricing strategies adopted by companies.

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SEC2T : CHEMICAL SENSORS & BIOSENSOR

Group – A

Answer any *two* questions. 2×15

1. Write down the basic principle and applications of potentiometry and amperometry in chemical sensing. 15
2. Write explanatory notes on calorimetric biosensors and affinity biosensors. 15
3. Write down the applications of optical sensor in atmospheric chemistry and environmental science. 15

4. Write explanatory note on immunosensors and DNA sensors. 15

Group – B

Answer any *one* question. 1×10

5. Discuss the working principle of optical spectroscopy for biosensing. 10
6. Write explanatory note on basic principle and types of ELISA. 10

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