



APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Scheme for Valuation/Answer Key

Scheme of evaluation (marks in brackets) and answers of problems/key

FIRST SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 2019

Course Code: BE101-06

Course Name: INTRODUCTION TO CHEMICAL ENGINEERING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks.

Marks

- | | | |
|---|---|-----|
| 1 | Any three examples (3*1) | (3) |
| 2 | Conversion (3) | (3) |
| 3 | Absorption (1) solubility (2) | (3) |
| 4 | Laminar flow (1.5) turbulent flow (1.5) | (3) |
| 5 | Any six parameters (6*0.5) | (3) |
| 6 | Basic concept (3) | (3) |
| 7 | Any three role (3*1) | (3) |
| 8 | Any three techniques (3*1) | (3) |

PART B

Answer eight questions, (at least one full question from each module) each carries 5 marks.

Module 1

- | | | |
|----|---|-----|
| 9 | Five different fields with their primary role (5*1) | (5) |
| 10 | Any 5 contribution (5*1) | (5) |

Module II

- | | | |
|----|---|-----|
| 11 | a) Weight percentage (2.5) | (5) |
| | b) Molarity (2.5) | (5) |
| 12 | a) Equation of state | (2) |
| | b) Vapour pressure (1.5) partial pressure (1.5) | (3) |

Module III

- | | | |
|----|---|-----|
| 13 | Extraction (1.5) leaching (1.5) example (2*0.5) | (5) |
|----|---|-----|

Module IV

- | | | |
|----|---|-----|
| 14 | Conduction (1.5) convection: forced and natural (2) radiation (1.5) | (5) |
|----|---|-----|

Module V

- | | | |
|----|--|-----|
| 15 | Representation of control valve (1) centrifugal pump (1) heat exchanger (1)
distillation (1) CSTR (1) | (5) |
| 16 | a) Principle (2) | (2) |



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PAGES: 2

- b) Need for U-tube manometer (1.5) and venturimeter (1.5)

(3)

Module VI

- 17 Any major causes (5*1)

(5)

- 18 Any five areas (5*1)

(5)

PART C

Answer six questions, (at least one full question from each module) each carries 6 marks.

Module 1

- 19 Explain any six contribution (6*1)

(6)

Module II

- 20 Mole % (2) wt % (2) molality (2)

(6)

Module III

- 21 Process (5) application (1)

(6)

- 22 a) Unit operation (1) unit process (1) example (2*0.5)

(3)

- b) Drying (1.5) evaporation (1.5)

(3)

Module IV

- 23 Six classification with example (6*1)

(6)

Module V

- 24 DCDA process (3) reaction (1) PFD (2)

(6)

Module VI

- 25 a) Physical (1) chemical (1.5) biological (1.5)

(4)

- b) Any four techniques (4*0.5)

(2)

- 26 Explanation (6)

(6)
